

# AMCER

## ADVANCED MONITORING AND COORDINATION OF EU R&D POLICIES AT REGIONAL LEVEL

Targeted Analysis 2013/2/18

Regional report - EAST ENGLAND

Annex to  
Final Report | Version 10/12/2012



This report presents the interim results of a Targeted Analysis conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

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## Synthesis of the territorial and R&D system

The East of England's regional GDP per capita is below the British but above the European mean. The East of England has a research landscape of great excellence and international relevance attracting many MNEs. The RTDI indicators of East of England are well above the national and EU level. However, large disparities within the region can be observed.

The economy of East of England exhibits some intra-regional disparities as indicated through the coefficient of variation of several indicators stated in Tab. 4. The economically stronger regions which are above the regional average are Luton and Hertfordshire to the southeast, Cambridgeshire in the centre, and Peterborough to the west. The economic centres are Cambridge and the south-western regions. The latter are benefiting from both Cambridge's strong research landscape and the proximity to London. Further, especially the south-eastern parts are increasingly linked with London and the South East in terms of labour and housing markets. Particularly weak are the regions Norfolk and Suffolk to the north and northeast, respectively, and Southend-on-Sea as well as Thurrock to the southeast. The economically powerful regions in East of England extend from the centre to the west and southwest. The reasons for this divergence are complex, such as industrial restructuring, access to large markets, proximity to London, and differences in employment rates and skills. Growth dynamics are much more uneven distributed. In general, the economically better-positioned regions have higher growth rates. In fact, the highest growth rate is realised in Cambridgeshire. However, the south-eastern regions have higher growth rates than the likewise weak regions in the north and northeast. Regarding the unemployment among the regions, it could be observed that it is much more pronounced in the south-eastern parts than in the rest of East of England. Concerning the natural population development, the lowest growth figures dominate in the southwest, followed by the southeast and the north-eastern regions. The highest population growth can be found in Cambridgeshire and Peterborough, the economically strongest regions, which have excellent infrastructure, which has led to steady levels of job creation over the past two decades (cf. Eurostat 2011; Rim 2011c).

### Intra-regional socio-economic disparities in East of England (selected Indicators)

Coefficient of variation of GDP per capita 2008 (in %)	Coefficient of variation of the yearly average GDP per capita growth rate 1998-08 (in %)	Coefficient of variation of the unemployment rate 2009 (in %)	Coefficient of variation of the population dynamics 2002-08 (in %)
20.25	48.08	20.48	43.02

Remark: disparity calculations based on NUTS-3 level data

(Source: own creation and calculations; based on data from EUROSTAT 2011)

The main R&D sectors of East of England are in the fields of pharmaceuticals, life sciences and biotechnology, aerospace industries, computing/ICT, renewable energy technologies, creative industries, and food technologies. These research fields are often high-tech-oriented and mostly dominated by the business sector, although especially the higher education sector (e.g. Cranfield University and the University of Cambridge) plays a significant role for both realization of and co-operation in R&D activities. Moreover, the top universities play an important role in the education and training of young talents (cf. EEAD 2009a, 2009b).

The RTDI-related parameters are not uniform across regional areas within East of England as indicated through the coefficient of variation of several indicators stated in Tab. 5. There are

substantial differences within the region in terms of both innovation capacity and performance, most notably in skills and education performance and the density of knowledge-intensive businesses within the sub-regions. Some local areas within the region have especially weak levels of qualifications attainment which limit their capacity for innovation (EEDA 2009a:3). In general, the regions Bedfordshire and Hertfordshire, and East Anglia are the leading regions with regard to RTDI aspects ahead of the region Essex. Qualitative data indicates that there are sectoral hotspots with Cambridge, Stevenage and Harlow being held as leaders in business and innovation. There is a strong presence of enterprise centred on agricultural research and agricultural science throughout Norfolk and Cambridgeshire. In addition, throughout East Norfolk, Suffolk and Essex innovation initiatives are focused on developments in renewable energy (cf. EUROSTAT 2011).

#### Intra-regional RTDI disparities in East of England (selected indicators)

Coefficient of variation of high-tech employment (hightech-employment as percentage of total employment) 2009 (in %)	Coefficient of variation of knowledge workers (HRSTC employment of the economically active population) 2009 (in %)	Coefficient of variation of R&D employment (R&D employment as a percentage of total employment) 2008 (in %)	Coefficient of variation of the persons with a tertiary education attainment (as percentage of total population) 2010 (in %)	Coefficient of variation of the patent applications at the EPO per million inhabitants 2004-2007 (in %)
40.77	23.01	36.01	18.30	34.40

Remark: disparity calculations based on NUTS-2 level data

(Source: own creation and calculations; based on data from EUROSTAT 2011)

The region's innovativeness in relation to the other regions and nations within the UK, measured by the number of patents applied at the EPO, ranks in the 2nd place after the South East. Moreover, even in European terms the region is a strong player with respect to patenting. In 2007, the employment in R&D (FTE) was equivalent to 14.2% of the overall British R&D personnel. The R&D personnel (FTE) per 1,000 employees amount to 18.1. This figure is well-above the UK value (12.1) and the EU-27 average (11.0). Regarding the business orientation of the R&D expenditures and the R&D personnel (FTE) (82.3%, 65.7%), the region's RTDI sector is clearly more business-oriented than Britain (62.5%, 45.8%) and the EU-27 (63.7%, 52.1%). (cf. EUROSTAT 2011).

In 2007, the region had the largest per capita spending on R&D among the UK regions, and a R&D intensity of 4.4%, thus being far better than both the national (1.78%) and the EU-27 average (1.85%). However, the region's R&D productivity amounts to merely 0.14, thus being below the British (0.17) and the EU-27 average (0.27) (cf. EUROSTAT 2011).

## Impact evaluation

### Main findings

The following section analyses the research profile of the region by considering the capability to attract research funding in the Seventh Framework Program and the characteristics of the network generated by the programs. Moreover, we also consider the employment profile of the Region in the period 2004-2009, by paying particular attention to knowledge intensive and research dynamic sectors, as well as the patents produced in the region in the period 2002-2007.

As specified in the methodological section, it is not possible to assess the impact of European funding on the region. Nevertheless, programs, patenting and employment represents different and complementary stages in which research activity is developed and exploited. Thus, by using this data, it is possible to i) assess the coherence existing at the regional level among these different phases and ii) identify the most promising sectors.

East England is highly attractive of FP 7 funds, when compared to the national and European average, both in terms of number of projects and the amount of funds attracted. Essex is the most attractive area, with over half of the participation, followed by East Anglia (one third). The participants are mostly Higher Education Institutions (63%), followed by Research organizations (21%) and private for profit (14%). The regional actors are particularly attractive in the themes “Health”, “Food, Agriculture and Biotechnology”, “Nanosciences, Nanotechnologies, Materials and new Production Technologies” and “Environment”. Most partners are located in Germany (15%), United Kingdom (12,4%) and France (10,4%). The most connected and central organizations in the regional FP7 network are the University of Cambridge, the Cranfield University and the University of Essex.

The region is mostly specialized in medium knowledge and technology sectors, which sum up 62% of the employed, and which have grown 18.5 thousands units in the considered period. High knowledge intensive sectors have lost almost 6 thousands employees, mostly in Financial services (-7'783), whereas “Education and knowledge creation” grew considerably, by 4.4 thousands units.

The patenting activity is rather modest, and mostly in Chemistry and Instruments.

In sum, East England has a high research potential and knowledge intensive profile. However, few sectors show a strong specialization all across the different domains. In particular, the region is highly attractive in “Food, Agriculture and Biotechnology” and it is strongly specialized in the Biotech sector, which has grown (+544) in the period, but this sector still represents a marginal share of the employees (0,6%). The region is also highly attractive in “Health”, but when compared to Europe, the level of specialization in related sectors, such as Medical devices and Pharmaceutical, is lower, and the latter sector has lost over 2 thousands employees.



## General statement of the regional participation in the FP7

### Headquarter effect

The headquarter effect analysis revealed 109 ingoing participations in the region, and three outgoing participations. No headquarter effect was identified for 90% of regional participations. Most of the ingoing participations were subtracted from Swindon (35 participations) and Heidelberg (20 participations).

The majority of ingoing participations (66%) came from Research Organisations, while Private Commercial and Public bodies both accounted for 14% of ingoing participations. All other types of actors are generally not affected by the headquarter effect.

### Rate of participation of the region in the FP 7

Regional actors in East of England accounted for a total of 1054 participations in FP7, 369 coordinations and 419mln€ in EC funding (12%, 15% and 13% respectively of the national total). The weight of the region in total national FP7 funding (13%) is considerably lower than its weight in the Gross domestic expenditure on R&D (20%). During the 2007 – 2011 period, Brittany received a yearly average of 83€mln year in FP7 funding, representing approximately 1.4% of the region's yearly R&D effort (6bn€ in R&D).

Overall, the rate of participation, the leadership rate<sup>1</sup> and the contribution received are aligned with the European average and superior to the United Kingdom standard (Table 1).

Table 1 –Participation in the FP 7: comparison with country and European average

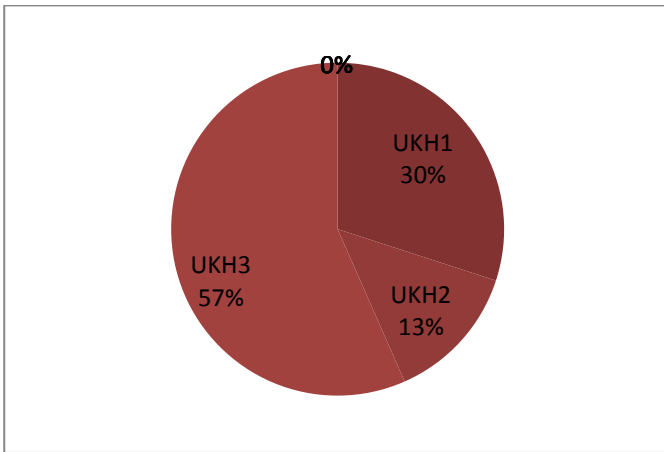
	EAST ENGLAND	UNITED KINGDOM	EUROPE
leadership rate	35%	27%	19%
collaborations per 100.000 population	26.4	14.0	17.4
coordination per 100.000 population	6.4	3.8	3.2
€ contribution per inhabitant	72.4	52.8	55.5
average funding per project	398166	375889	318255

### Distribution of funding at infra-regional level

The majority of regional participations and coordinations are located in Essex (52% and 61% respectively) and East Anglia (30% and 29%). As seen in the following table, the infra-regional distribution of FP7 funding is equal to that of participations and coordinations. Essex receives 57% of the total regional FP7 funding, followed by East Anglia (30%) and Bedfordshire and Hertfordshire (13%).

<sup>1</sup> It represents an estimation of the strength of the regional actors, it is given by the ratio between the number of projects in which the regional actors play the role of coordinator and the number of projects in which the regional actors are in the position of partner.

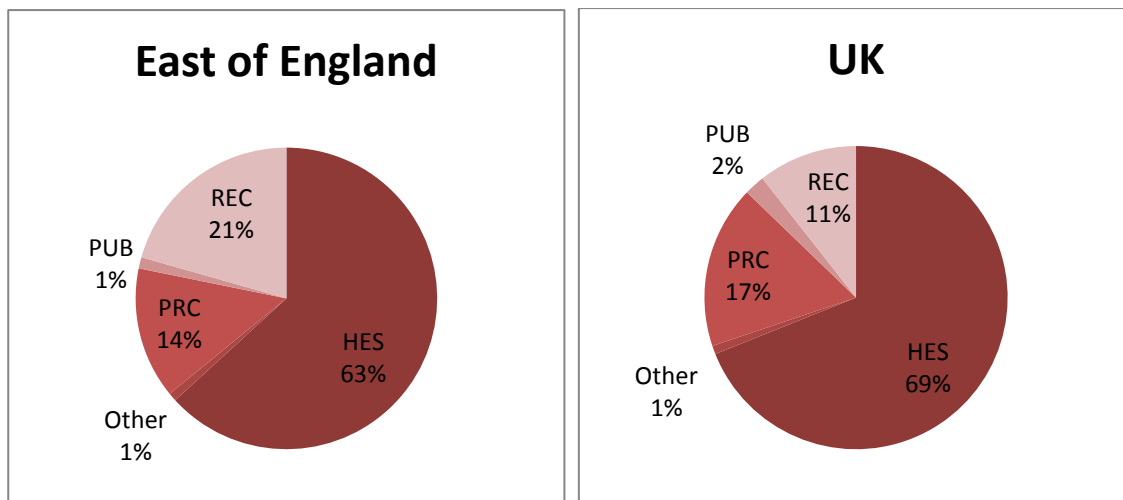
Figure 1: EC funding distribution within the region



### Distribution of funding by participant type

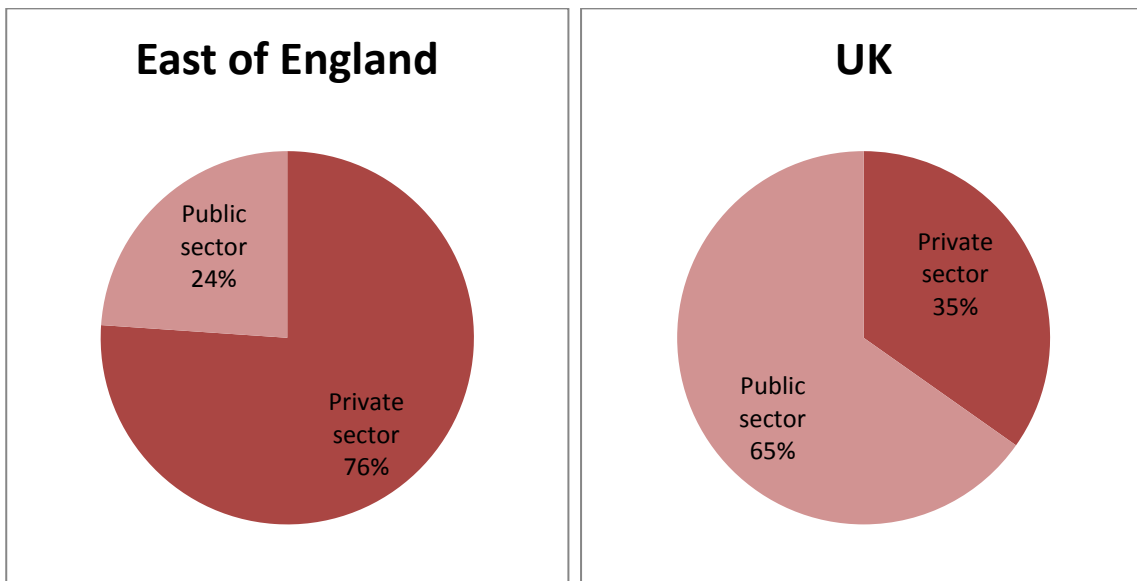
The structure of participation varies to some extent between the regional and national level as illustrated by the following figures. While the share of Higher of secondary education establishments is similar at the regional and national level (63% vs. 69%), East of England has a higher number of participations linked to Research Organisations than the UK (21% vs. 11%).

Figure 2: Participation typology: a comparison between regional and national level



At the regional level, the share of participations coming from private organisations (commercial and non profit) is higher than from public organisations (76% vs. 24%). At the national level however, the distribution of participations between public and private organisations stands at 40% for private and 60% for public. The following figures present the distribution of FP7 funding among both types of organisations at the regional and national level.

Figure 2b: Distribution of participations according to legal type: a comparison between regional and national level

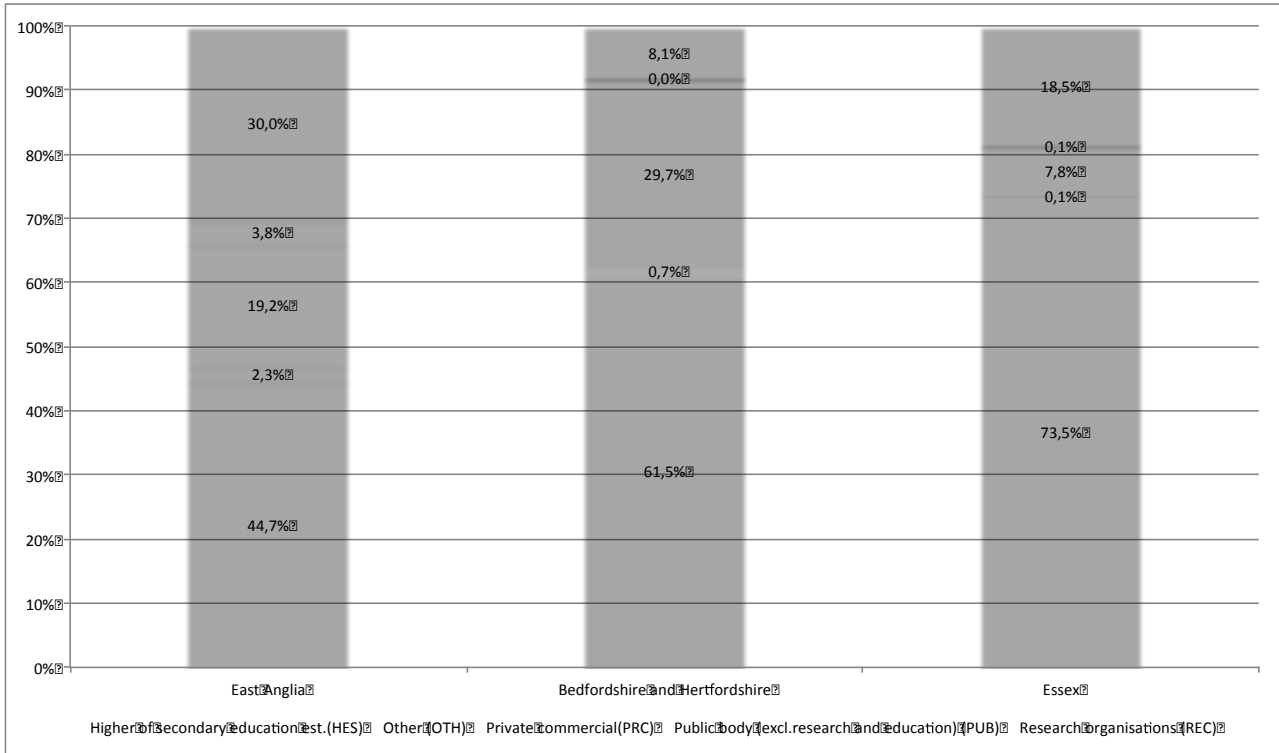


In terms of FP7 funding, Higher of secondary education establishments tend to outperform other types of participants. At the regional level, this group accounted for 55% of participations, while receiving 63% of the total FP7 regional funding. Private commercial organisations on the other hand account for 22% of participations, while only benefiting from 14% of the total regional FP7 funding.

### **Distribution of funding by participant type at infra-regional level**

The distribution of FP7 funding by participant type at the infra-regional is similar. East Anglia has a higher of funding destined to Research Organisations (30%) than the rest of the region. Bedfordshire and Hertfordshire and Essex have a higher share of funding within Higher of secondary education establishments (68% in average vs. 44% in East Anglia).

Figure 3 Distribution of funding by type of participant at the infra-regional level

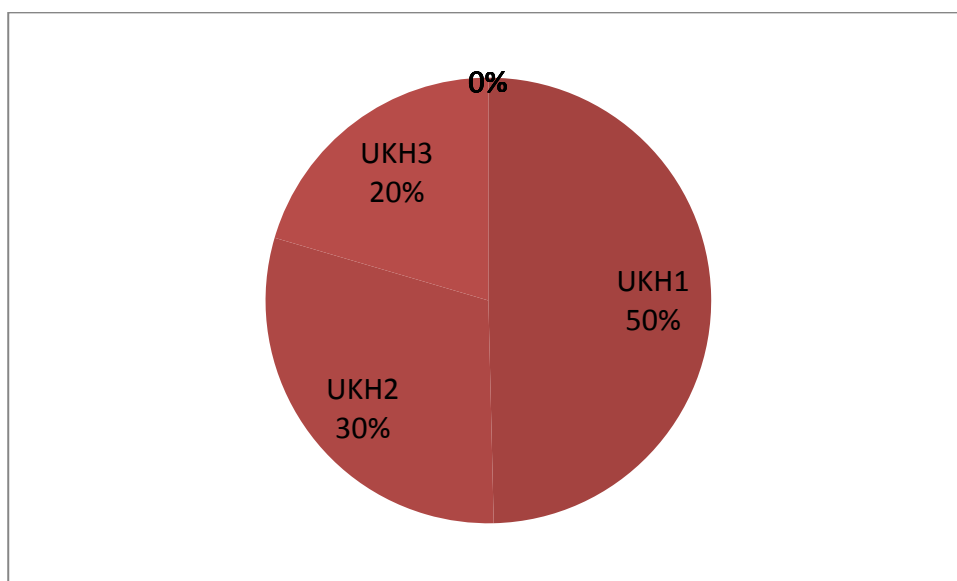


### SMES' participation in FP7

During the 2007-2011 period, SMEs in East of England accounted for 146 participations in FP7 projects and 39mIn€ in funding (10% of the national total). This is slightly below the regional share of overall participations in the UK (12% - see above). As is the case at the national level, private commercial SME participations represent the total of SME participations in the region (there are no public SMEs).

The following figure presents the infra-regional distribution of SME funding in FP7. SMEs in East Anglia account for 50% of the total SME funding in the region, followed by Bedfordshire and Hertfordshire (30%) and Essex (20%).

Figure 4: EC contribution for SMEs within the region



### Distribution of funding by programme and by theme

COOPERATION programs represent the largest share of funding (205mil) and projects (548), followed by IDEAS (121 mil, 82 projects), PEOPLE - Marie Curie actions (64 mil, 281 projects,) and CAPACITIES (27 mil and 132 projects). In terms of thematic specialization within the COOPERATION program, the themes attracting more funding are *Health* (30%), *Information and communication technologies* (24%), and *Nanosciences* (12%). The relative weight of each thematic area largely reflects the amount of funding pre-allocated by the European Union to each Theme. The comparison with country and European attractiveness of funds per inhabitant provides a better insight as to the regional scientific specialization<sup>2</sup>: East England is more attractive in almost all types of programs, and particularly in Food, Nanoscience and Health.

A more detailed description of the thematic specialization in the FP 7 is presented in section 2.4.

Table 2 – Thematic distribution of projects and funding

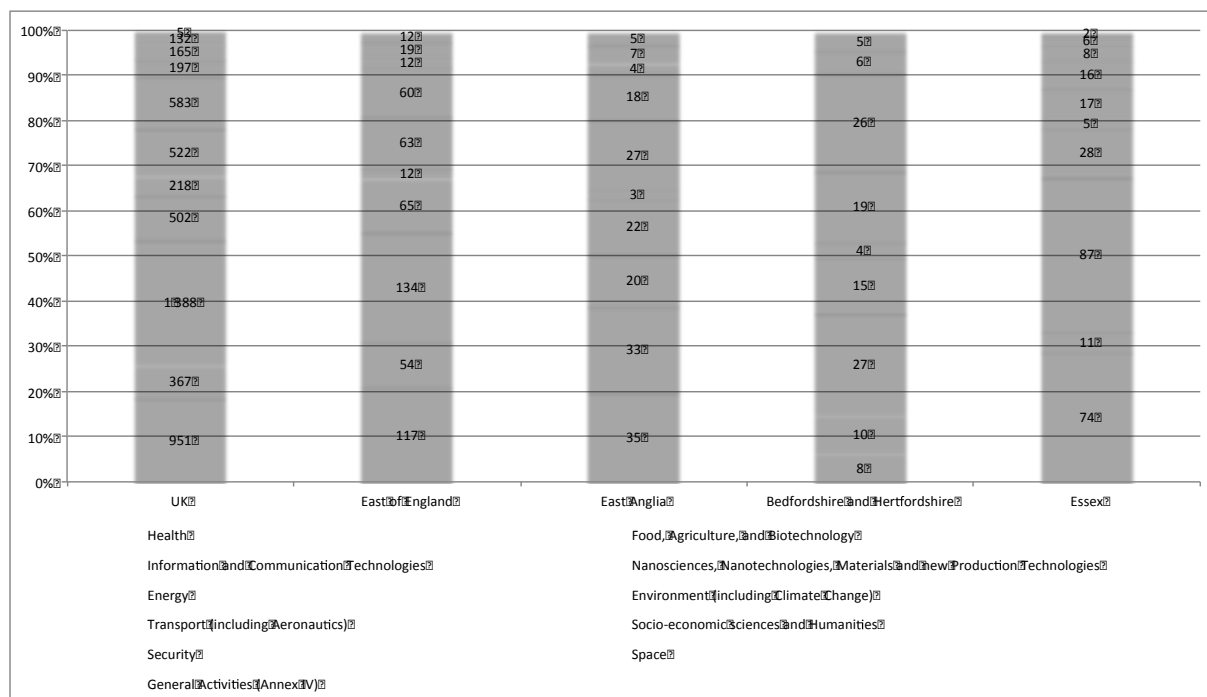
num	PROG SPEC	Theme	nbr	REGION		Attractiveness compared (contribution)	
				EC contribution		COUNTRY	EU
1	COOPERATION	Health	117	60'920'032	30%	1.57	2.14
2	COOPERATION	Food, Agriculture, and Biotechnology	54	17'300'103	8%	1.74	1.89
3	COOPERATION	Information and Communication Technologies	134	48'645'052	24%	1.02	0.95
4	COOPERATION	Nanosciences, Nanotechnologies, Materials and new Production Technologies	65	24'947'919	12%	1.74	1.50

<sup>2</sup> A ratio above or below 1 points out a higher/lower attractiveness.

5	COOPERATION	Energy	12	4'797'738	2%	0.72	0.52
6	COOPERATION	Environment (including Climate Change)	63	17'577'743	9%	1.46	1.60
7	COOPERATION	Transport (including Aeronautics)	60	20'336'663	10%	1.33	1.30
8	COOPERATION	Socio-economic sciences and Humanities	12	2'676'079	1%	0.64	0.89
9	COOPERATION	Security	19	3'368'498	2%	0.67	0.60
10	COOPERATION	Space	12	4'289'073	2%	1.19	0.98
11	COOPERATION	General Activities (Annex IV)			0%	0.00	0.00
	COOPERATION	TOTAL	548	204'858'900		1.30	1.31
12	IDEAS	European Research Council	82	121'475'672			
13	PEOPLE	Marie-Curie Actions	281	64'560'141			
14	CAPACITIES	Research Infrastructures	35	16'707'534	61%	0.93	1.32
15	CAPACITIES	Research for the benefit of SMEs	83	9'032'469	33%	1.15	1.42
16	CAPACITIES	Regions of Knowledge	1	80'183	0%	0.29	0.14
17	CAPACITIES	Research Potential	1	0	0%	0.00	0.00
18	CAPACITIES	Science in Society	11	1'716'313	6%	1.05	1.10
19	CAPACITIES	Coherent development of research policies	1	71'096	0%	1.04	0.33
20	CAPACITIES	Activities of International Cooperation			0%	0.00	0.00
	CAPACITIES	TOTAL	132	27'607'594		0.99	1.14
21	Euratom	Fusion Energy	1	13'200			
22	Euratom	Nuclear Fission and Radiation Protection	10	1'151'621			
			<b>1'734</b>	<b>652'133'623</b>			

The following figure presents the distribution of participations at the infra-regional level, by FP7 theme (only for COOPERATION). East Anglia has a high number of participations in the Food, Agriculture and Biotechnology sub-theme; while Essex concentrates a higher number of participations in Health, compared to the regional average. In Bedfordshire and Hertfordshire, Transports comes out as one of the leading sub-themes in light of the national and regional sub-theme distributions.

Figure 4: Infra-regional distribution of participations by COOPERATION sub-theme



## Networking: collaboration in the FP 7

### Main partner countries of the region

Regional actors tend to cooperate mostly with other organizations outside the region. This is comprehensible, given the orientation of the FP towards international cooperation. Even though, when compared to similar region, the share of partners in the region is much smaller (3% vs. 10%), nationals is larger (16% vs. 10%), and 81% are located in other European countries and regions. The most important countries in terms of collaborations are Germany and UK, whereas if single regions are considered, the most important is the Ile de France<sup>3</sup> (Table).

Table 3 – Spatial distribution of collaborations

Partner countries	N	% of total	Partner region	N	% of total
DE	1271	15.0%	Ile de France	452	5.3%
UK	1050	12.4%	LONDON	253	3.0%
FR	886	10.4%	BADEN-WÜRTTEMBERG	240	2.8%
IT	759	8.9%	NORDRHEIN-WESTFALEN	233	2.7%
ES	584	6.9%	SOUTH EAST (ENGLAND)	208	2.4%
NL	547	6.4%	BAYERN	208	2.4%
BE	350	4.1%	Cataluña	196	2.3%
SE	343	4.0%	Lombardia	178	2.1%
CH	285	3.4%	Comunidad de Madrid	171	2.0%
EL	249	2.9%	VLAAMS GEWEST	158	1.9%
DK	187	2.2%	Attiki	157	1.8%
NO	176	2.1%	Lazio	148	1.7%
FI	172	2.0%	Zuid-Holland	140	1.6%
AT	163	1.9%	Etelä-Suomi	137	1.6%
PL	151	1.8%	RÉGION DE BRUXELLES-CAPITALE	134	1.6%

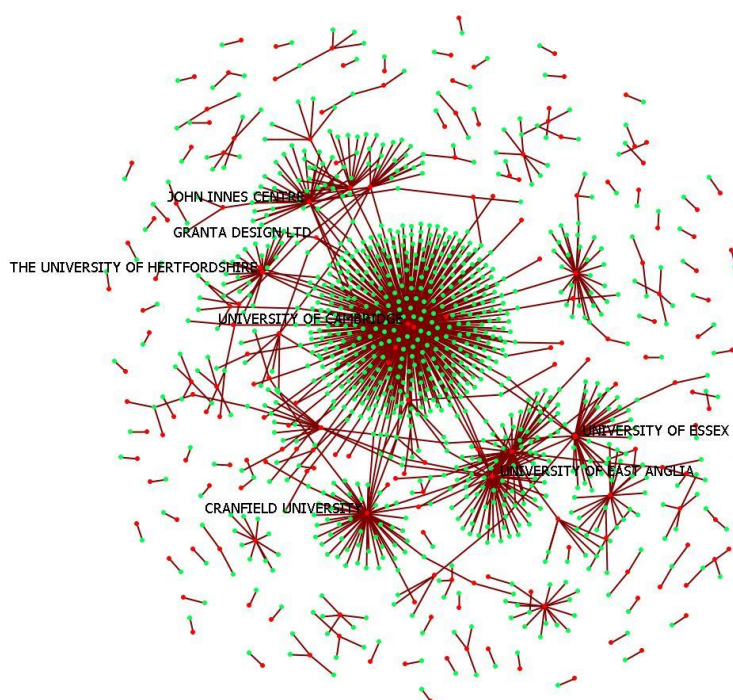
### Network of the regional collaborations in the FP7

Figure 1 visually represents the network of regional collaborations in the FP 7. The names of the most important actors are underlined. The network appears structured around the key role of the University of Cambridge, and other four universities play also a major role. In turn, East England FP7 network appear dominated by HE organizations, which can also explain the previous figure on the relatively low share of regional collaboration.

<sup>3</sup> The strong position of the Ile de France is not surprising as it may look at a first glance ; in fact it is the most populated region in Europe, strongly research oriented ; moreover, the headquarter effect have not been treated in this figure, so that the share of Ile de France may be further inflated.

Figure 7–FP 7 network and its main features

Meta Network



powered by ORA, CASOS Center @ CMU

Measure	Value
Number of nodes (organizations)	190
Number of edges (cooperations)	270
Density	0.015
Components of 1 node (isolates)	111
Components of 2 nodes (dyadic isolates)	7
Components of 3 or more nodes	2
Characteristic path length	3.741
Clustering coefficient	0.376
Network levels (diameter)	9
Network fragmentation	0.9
Krackhardt connectedness	0.1
Krackhardt efficiency	0.884

## Main regional actors involved in FP7 networks

The next chart shows which organizations are repeatedly top-ranked in a series of centrality measures<sup>4</sup>. The value shown is the percentage of measures for which it was ranked in the top three. The following table represents three key measures to approximate the importance of the actors in the network<sup>5</sup>.

<sup>4</sup> Total degree centrality, In-degree centrality, Out-degree centrality, Eigenvector centrality, Eigenvector centrality per component, Closeness centrality, In-Closeness centrality, Betweenness centrality, Hub centrality, Authority centrality, Information centrality, Clique membership count, Simmelian ties, Clustering coefficient.

<sup>5</sup> For a definition of these measure see the methodological section.



Figure 8 –More central organizations in the regional FP7 network

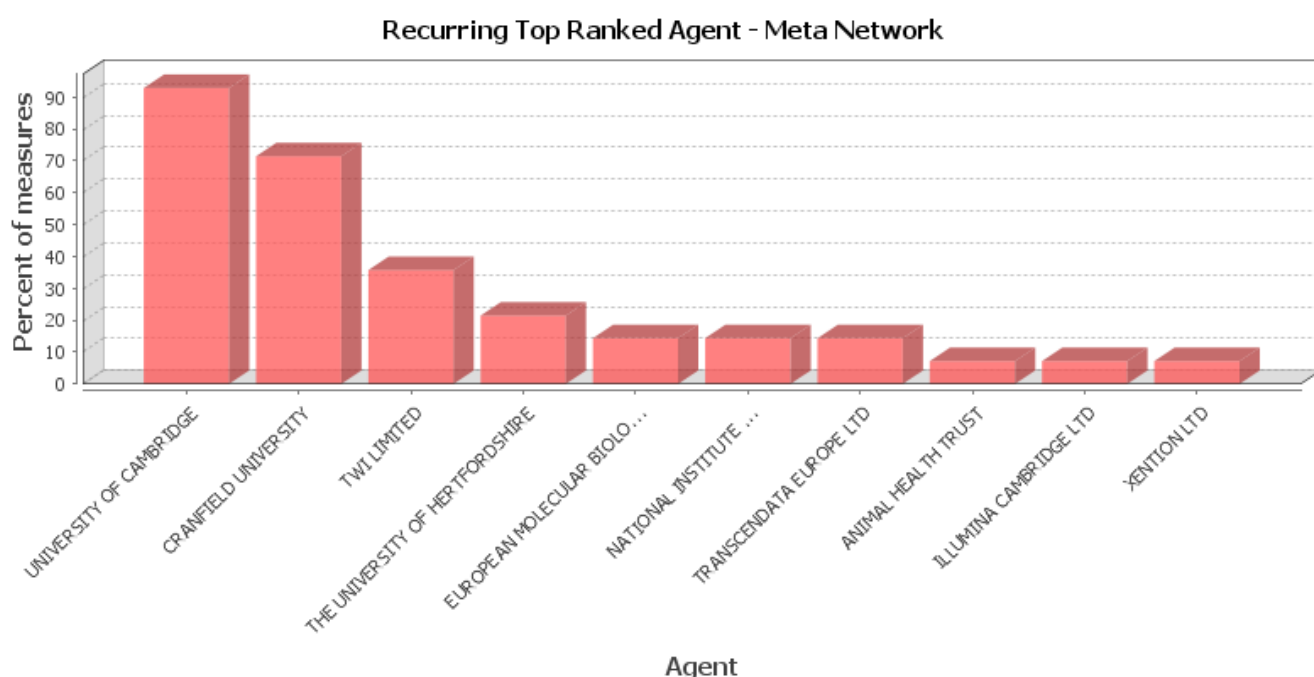


Table 4 – Centrality measures: top actors in the FP 7

Rank	HUB centrality		Betweenness centrality		Total degree centrality	
1	UNIVERSITY OF CAMBRIDGE	1.41	UNIVERSITY OF CAMBRIDGE	1494	UNIVERSITY OF CAMBRIDGE	446
2	CRANFIELD UNIVERSITY	0.02	CRANFIELD UNIVERSITY	308	CRANFIELD UNIVERSITY	67
3	THE UNIVERSITY OF HERTFORDSHIRE	0.01	UNIVERSITY OF ESSEX	303	TWI LIMITED	56
4	GRANTA DESIGN LTD	0.01	EUROPEAN MOLECULAR BIOLOGY LABORATORY	277	UNIVERSITY OF EAST ANGLIA	52
5	UNIVERSITY OF EAST ANGLIA	0.01	TRANSCENDATA EUROPE LTD	240	UNIVERSITY OF ESSEX	41
6	UNIVERSITY OF ESSEX	0.01	UNIVERSITY OF EAST ANGLIA	204	JOHN INNES CENTRE	38
7	JOHN INNES CENTRE	0.01	THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS	168	MEDICAL RESEARCH COUNCIL	31
8	EUROPEAN MOLECULAR BIOLOGY LABORATORY	0.01	MEDICAL RESEARCH COUNCIL	115	THE UNIVERSITY OF HERTFORDSHIRE	28
9	THE BABRAHAM INSTITUTE	0.01	Synome Ltd	114	EUROPEAN MOLECULAR BIOLOGY LABORATORY	27
10	THE CENTRE FOR INTEGRATED PHOTONICS LIMITED	0.01	BIRDLIFE INTERNATIONAL	114	INSTITUTE OF FOOD RESEARCH	21

### Main actors in the region in terms of leading collaboration

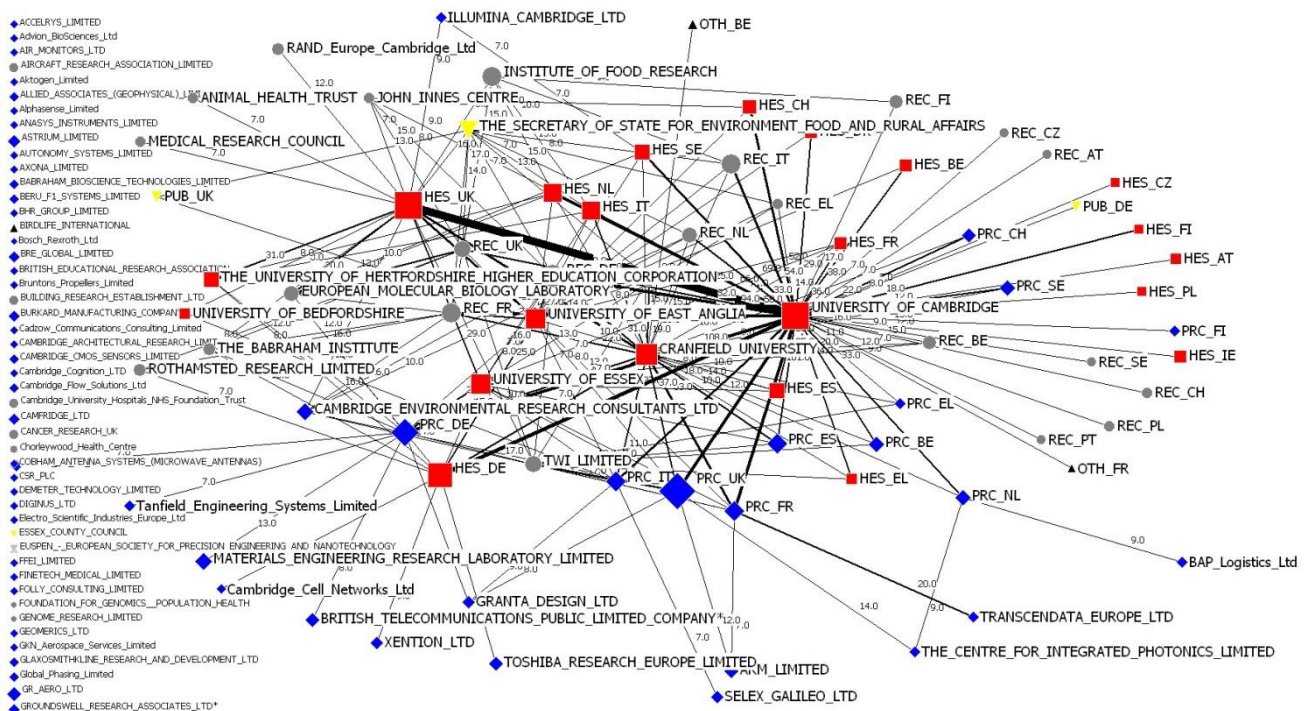
The three main actors in terms of leading collaboration are the University of Cambridge, the TWI limited and the John Innes Centre. In terms of participation as partner, the University of Cambridge, Cranfield University and the University of East Anglia.

Table 5 – Top three organizations for projects led and participation as partner

Type	focus on the top three coordinators			Location of Partners		
	leader	n° as leader	as partner	Region	Country	EU
HES	UNIVERSITY OF CAMBRIDGE	197	198	8	25	172
REC	TWI LIMITED	29	23	2	59	170
REC	JOHN INNES CENTRE	22	10	2	1	25

Type	focus on the top three partners			Location of Leaders		
	leader	n° as partner	as leader	Region	Country	EU
HES	UNIVERSITY OF CAMBRIDGE	198	197	5	27	166
HES	CRANFIELD UNIVERSITY	49	6	1	7	41
HES	UNIVERSITY OF EAST ANGLIA	37	7	2	5	30

The following Social Network Analysis reveals the links between the main research players in the region and their partners in Europe. European partners are not displayed individually, but have instead been regrouped by type of organisation and country of origin. The shape of the nodes indicates the type of organisation represented (circles = research organisations, squares = higher education establishments, rhombus = private commercial organisations, triangles = other). The figure only displays the most important collaboration patterns, while excluding collaborations that are too weak to be significant<sup>6</sup>. The size of the nodes indicates the importance of the player in terms of centrality (number of participations linking them to other partners); and the width of lines represents the intensity of collaboration between the partners represented in the figure.



<sup>6</sup> This has been determined using a minimum value of frequency of collaborations (>6).

## Outputs – employment and patenting in the region

### Employment

In this section we examine the distribution of employment in the region across sectors with special attention on identifying sectors where the region has a particular specialisation and/or where there are trends of growth and decline in employment. Figure 9 makes a basic breakdown of employment into sectors that can be classified as ‘high’, ‘medium’ and ‘low’ technology and knowledge intensive using the Eurostat and OECD’s classification of sectors into technology and knowledge intensive groups (see annex 1). Further, Table 6 shows figures on employment growth and relative specialisation with respect to United Kingdom and Europe for each of these broad groupings.

Figure 9 - Share of regional employment 2009

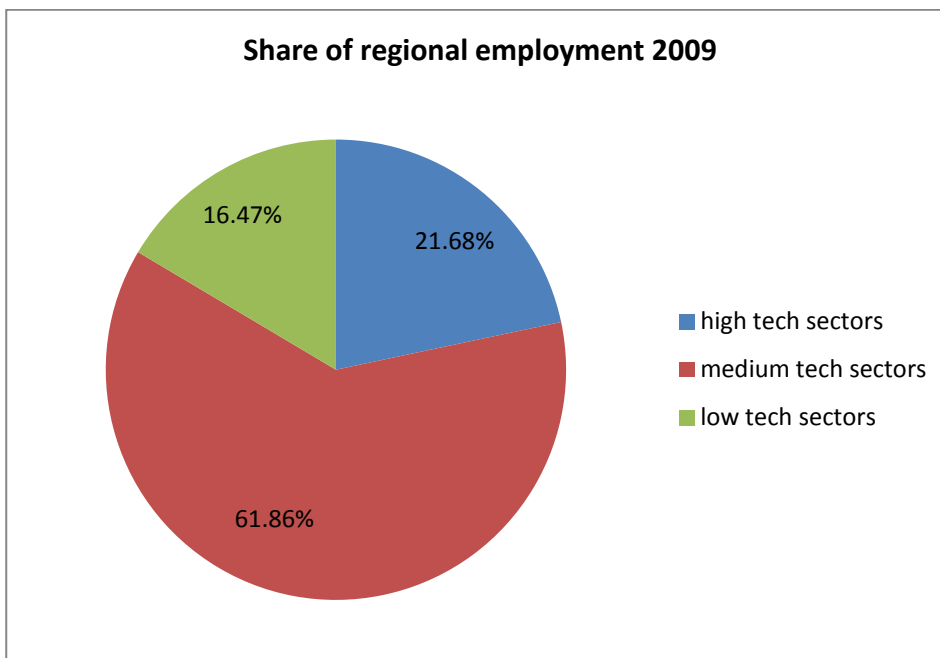


Table 6 –Employment and specialization (2009)

	Share of regional employment 2009	Variation in the share of employment 2009-2004 <sup>7</sup>	Employment 2009 - 2004	Specialization with respect to Europe (2009) <sup>8</sup>	Specialization with respect to UK (2009) <sup>9</sup>
<b>high tech sectors</b>	21.68%	-3.28%	-5746	1.31	0.90
<b>medium tech sectors</b>	61.86%	3.93%	18512	1.03	1.06
<b>low tech sectors</b>	16.47%	-0.38%	-496	0.70	0.94

Employment in East England is dominated by medium R&D and knowledge sectors (62%), with low and high R&D and knowledge sectors accounting for 16% and 22% of employment respectively. In terms of trends, employment in medium sectors has grown and has decreased in high and low tech sectors. The specialisation figures tell the most interesting story because they show how East England is positioned relative to United Kingdom and Europe. Here we see that East England is relatively more specialised in high tech sectors with respect to Europe, but not UK. In medium tech sectors the region show a similar level of specialization to Europe and United Kingdom. In low-tech sectors, East England is less specialised than Europe and United Kingdom. In Table 7 this analysis is deepened.

Table 7 – Employment specialization by sector and Knowledge intensity (2009)

	Share of regional employment 2009	Employment 2009 - 2004	Specialization with respect to Europe (2009)	Specialization with respect to BE (2009)	Technology and knowledge intensity
Education and knowledge creation	8.97%	4416	1.91	1.01	<b>HIGH TECHNOLOGY AND KNOWLEDGE INTENSITY</b>
Financial services	7.77%	-7783	0.81	0.73	
IT	2.82%	-566	1.06	1.02	
Pharmaceuticals	0.95%	-2097	0.84	1.35	
Aerospace	0.62%	-260	1.07	0.67	
Biotech	0.55%	544	3.08	2.24	
Business services	17.70%	12281	1.7	1.04	<b>MEDIUM TECHNOLOGY AND KNOWLEDGE INTENSITY</b>
Transportation and logistics	9.48%	4164	1.1	1.07	
Construction materials	8.03%	2357	0.67	1.15	
Processed food	5.24%	-1592	0.71	1.14	
Telecom	3.75%	1897	1.1	1.17	
Entertainment	3.47%	2320	1.85	1.08	
Metal manufacturing	3.40%	-890	0.56	0.95	
Automotive	2.15%	-2179	0.57	0.94	

<sup>7</sup> The variation in the share employments has been calculated as: (n° employees in the region in 2009 – n° employees in the region in 2004)/ (n° employees in the region in the year 2004)

<sup>8</sup> Specialization index with respect to Europe shows whether the region concentrates more or less employment in a certain sector(s) than the European average being 1 this average.

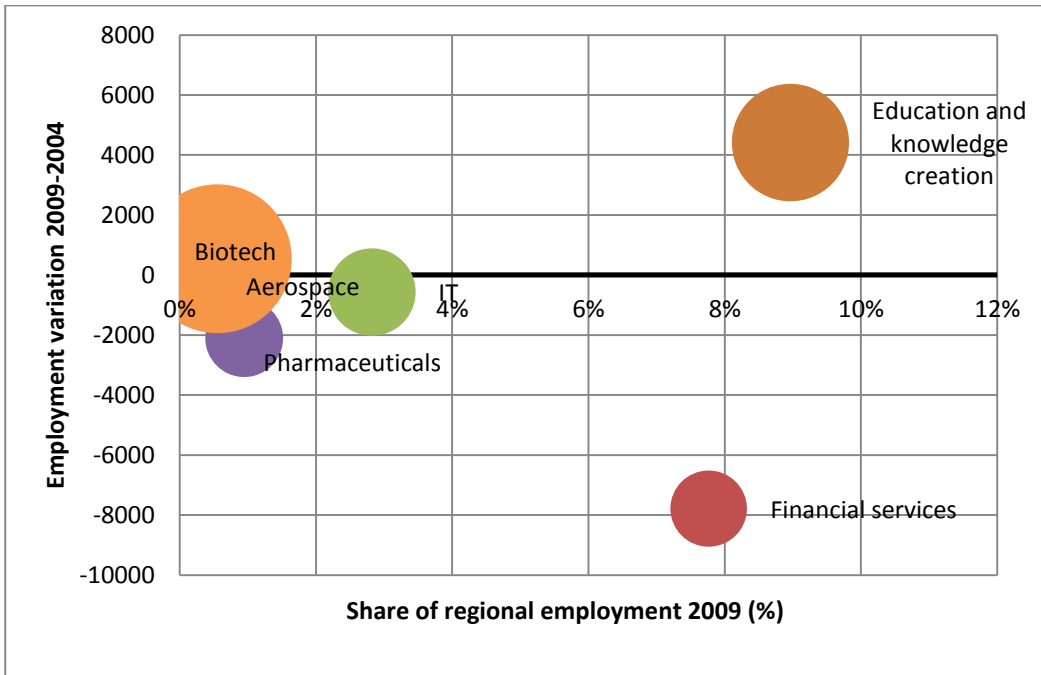
<sup>9</sup> *Ibid* with respect to United Kingdom

Building fixtures, equipment and services	1.86%	-990	0.53	0.86		
Production technology	1.36%	857	0.49	1.17		
Plastics	1.13%	-490	0.78	1.04		
Heavy Machinery	0.88%	342	0.68	1.37		
Instruments	0.87%	188	1.45	1.41		
Construction	0.64%	-342	0.49	0.68		
Medical devices	0.62%	692	0.77	1.45		
Lighting and electrical equipment	0.56%	282	0.76	1.01		
Chemical products	0.20%	-287	0.3	0.88		
Maritime	0.19%	282	0.23	0.43		
Sporting, recreational and children's goods	0.17%	-487	0.49	1.34		
Power generation and transmission	0.17%	107	0.36	0.69		
Tourism and hospitality	4.62%	-1971	0.92	0.79		LOW TECHNOLOGY AND KNOWLEDGE INTENSITY
Media and publishing	4.48%	1088	1.33	1.11		
Distribution	3.12%	1317	0.86	0.97		
Paper products	1.84%	-78	0.8	1.26		
Furniture	0.75%	-73	0.46	1.03		
Agricultural products	0.45%	0	0.24	1.37		
Farming and animal husbandry	0.41%	37	0.16	2.31		
Textiles	0.31%	-259	0.18	0.45		
Apparel	0.28%	-469	0.11	0.50		
Jewellery and precious metals	0.07%	55	0.27	0.69		
Footwear	0.05%	12	0.08	0.95		
Oil and gas	0.04%	-114	0.07	0.24		
Stone quarries	0.02%	-43	0.16	0.35		
Tobacco	0.01%	0	0.03			
Leather products	0.01%	2	0.04	0.33		

The detail of the previous table can be also found in the following figures, in which we can see the absolute employment growth (y axis), the relative weight on the regional total employed (x axis) and the regional specialization with respects to Europe (the size of the bubbles).

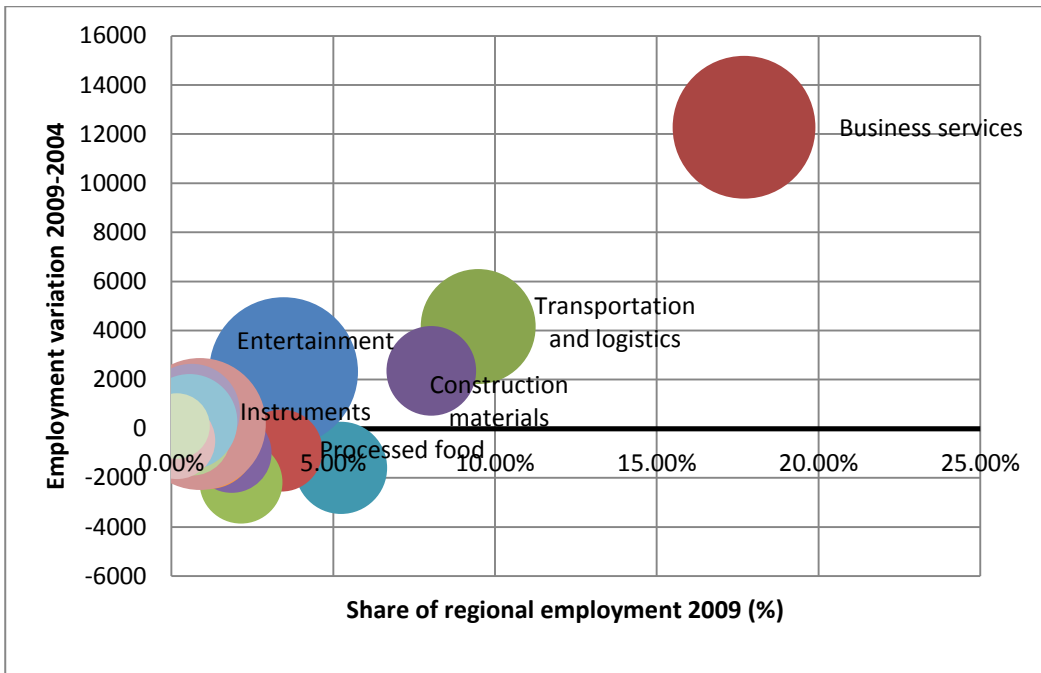
Figure 9 shows that the sector of "Education and knowledge" is growing and the region is quite specialised with respect to Europe. On the contrary, an important sector such as those of the "Financial services" has declined in the 2004-2009 period. "Biotech" emerges as a sector of strong specialization, even if the weight in terms of employment is rather limited.

Figure 9 – High tech and knowledge sectors: evolution 2004- 2009



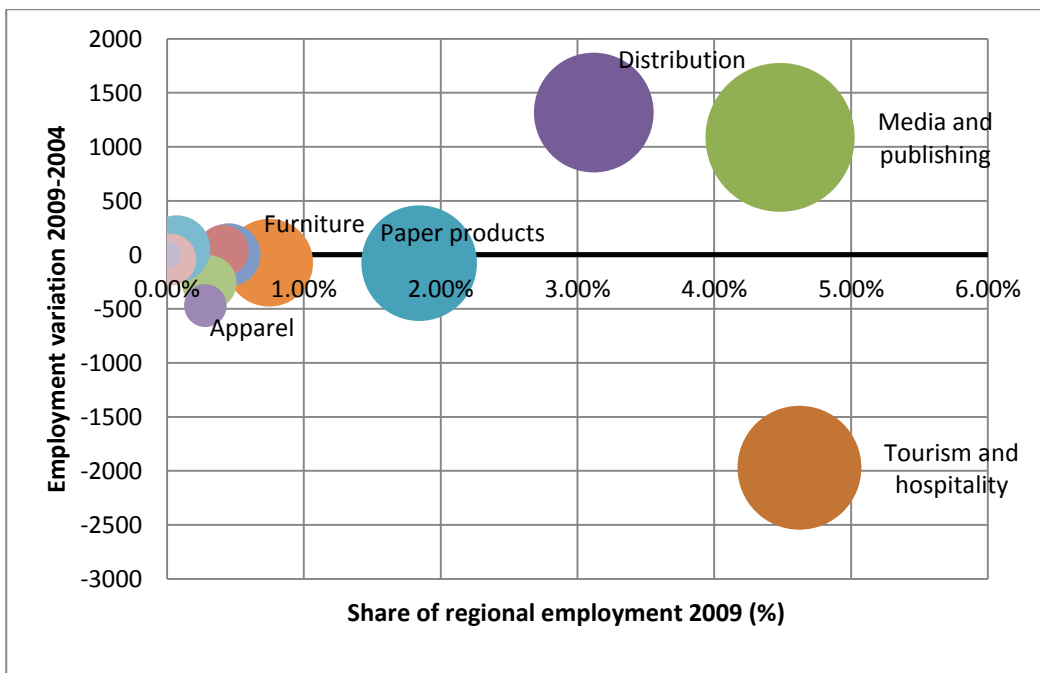
With regards to medium tech sectors we see that “Business services” is growing, and the region is strongly specialised in it. It also shows some other growing sectors, such as “Transportation and logistics” and “Construction materials”.

Figure 10 – Medium tech and knowledge sectors: evolution 2004- 2009



With regards to low-tech sectors the next figure shows “Media and publishing” and “Distribution” are important and growing; the region is highly specialised in “Tourism and hospitality”, although has strongly declined.

Figure 11 – Low tech and knowledge sectors: evolution 2004- 2009



## Patents

Table 8 and figures 12 and 13 show the degree of specialization by sector of patenting, for EPO applications from 2002 to 2007. Patents are regrouped by domain and sub-field. Fractional counting is used for distributing patents across fields.

East England is mostly specialized in Chemistry and Instruments; considering that the region sum up almost 105 of the UK population, the patenting activity is rather modest and around 2-3% of the country total. Probably, this is due to the lack of multinational companies with intensive patenting activity, which on the contrary tend to raise figures for other regions.

Table 8 – patents by domain and sub-field

dm	lib_domaines	n	lib_fields	n° patents	field weight*	country weight**	specialisation index ***
1	Electrical engineering	1	Electrical machinery, apparatus, energy	8.42	1.66%	0.63%	0.39
1	Electrical engineering	2	Audio-visual technology	12.17	2.40%	1.24%	0.76
1	Electrical engineering	3	Telecommunications	39.08	7.72%	1.94%	1.19
1	Electrical engineering	4	Digital communication	26.87	5.31%	2.52%	1.55
1	Electrical engineering	5	Basic communication processes	6.75	1.33%	1.51%	0.93
1	Electrical engineering	6	Computer technology	78.31	15.48%	2.58%	1.59
1	Electrical engineering	7	IT methods for management	8.25	1.63%	1.64%	1.01
1	Electrical engineering	8	Semiconductors	9.20	1.82%	2.69%	1.66
2	Instruments	9	Optics	8.57	1.69%	1.43%	0.88
2	Instruments	10	Measurement	37.00	7.31%	2.44%	1.50
2	Instruments	11	Analysis of biological materials	6.26	1.24%	4.27%	2.63
2	Instruments	12	Control	8.19	1.62%	0.92%	0.57
2	Instruments	13	Medical technology	37.69	7.45%	2.64%	1.62
3	Chemistry	14	Organic fine chemistry	7.32	1.45%	3.75%	2.31
3	Chemistry	15	Biotechnology	9.28	1.83%	5.59%	3.44
3	Chemistry	16	Pharmaceuticals	34.93	6.90%	7.91%	4.87
3	Chemistry	17	Macromolecular chemistry, polymers	3.64	0.72%	3.17%	1.95
3	Chemistry	18	Food chemistry	11.67	2.31%	3.17%	1.95
3	Chemistry	19	Basic materials chemistry	4.83	0.96%	1.22%	0.75
3	Chemistry	20	Materials, metallurgy	2.64	0.52%	1.64%	1.01
3	Chemistry	21	Surface technology, coating	5.75	1.14%	2.11%	1.30
3	Chemistry	22	Micro-structural and nano-technology	0.07	0.01%	0.57%	0.35
3	Chemistry	23	Chemical engineering	10.42	2.06%	1.87%	1.15
3	Chemistry	24	Environmental technology	2.00	0.40%	0.52%	0.32
4	Mechanical engineering	25	Handling	16.28	3.22%	1.29%	0.80
4	Mechanical engineering	26	Machine tools	6.83	1.35%	0.99%	0.61
4	Mechanical engineering	27	Engines, pumps, turbines	22.98	4.54%	2.00%	1.23
4	Mechanical engineering	28	Textile and paper machines	9.07	1.79%	3.26%	2.01
4	Mechanical engineering	29	Other special machines	7.54	1.49%	0.69%	0.42
4	Mechanical engineering	30	Thermal processes and apparatus	5.60	1.11%	1.28%	0.78
4	Mechanical engineering	31	Mechanical elements	12.90	2.55%	1.14%	0.70
4	Mechanical engineering	32	Transport	15.00	2.96%	0.90%	0.55
5	Other fields	33	Furniture, games	8.73	1.73%	0.42%	0.26
5	Other fields	34	Other consumer goods	8.75	1.73%	0.63%	0.39
5	Other fields	35	Civil engineering	13.00	2.57%	0.50%	0.31

\* ratio: (n° of patents of the region in field x) / (total patents of the region)

\*\* ratio: (n° of patents of the region in field x) / (n° of patents of the country in field x)

\*\*\* ratio: (patenting weight of field x in the region) / (patenting weight of field x in the country)



Figure 12 – Patenting by domain: total share

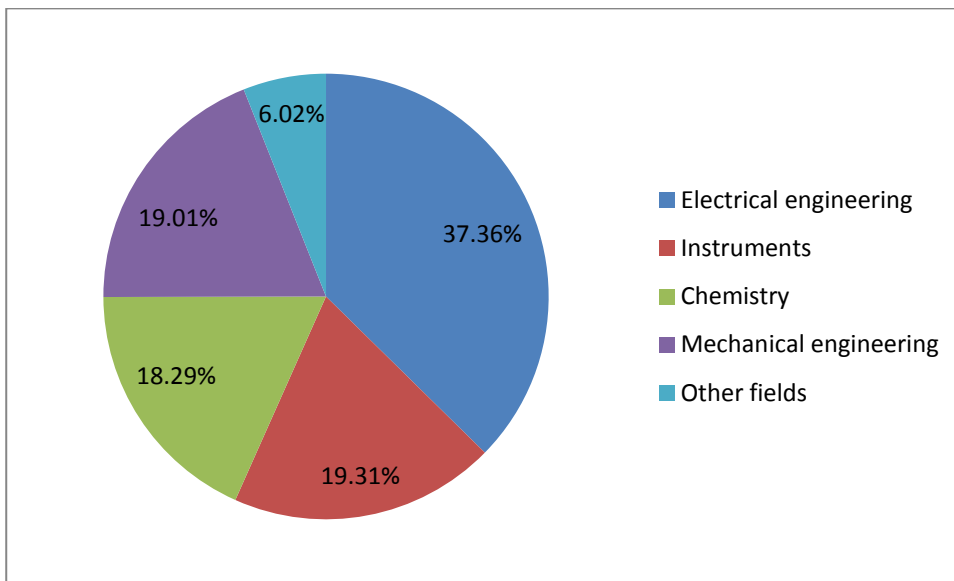


Figure 13 - Patenting by domain: specialization

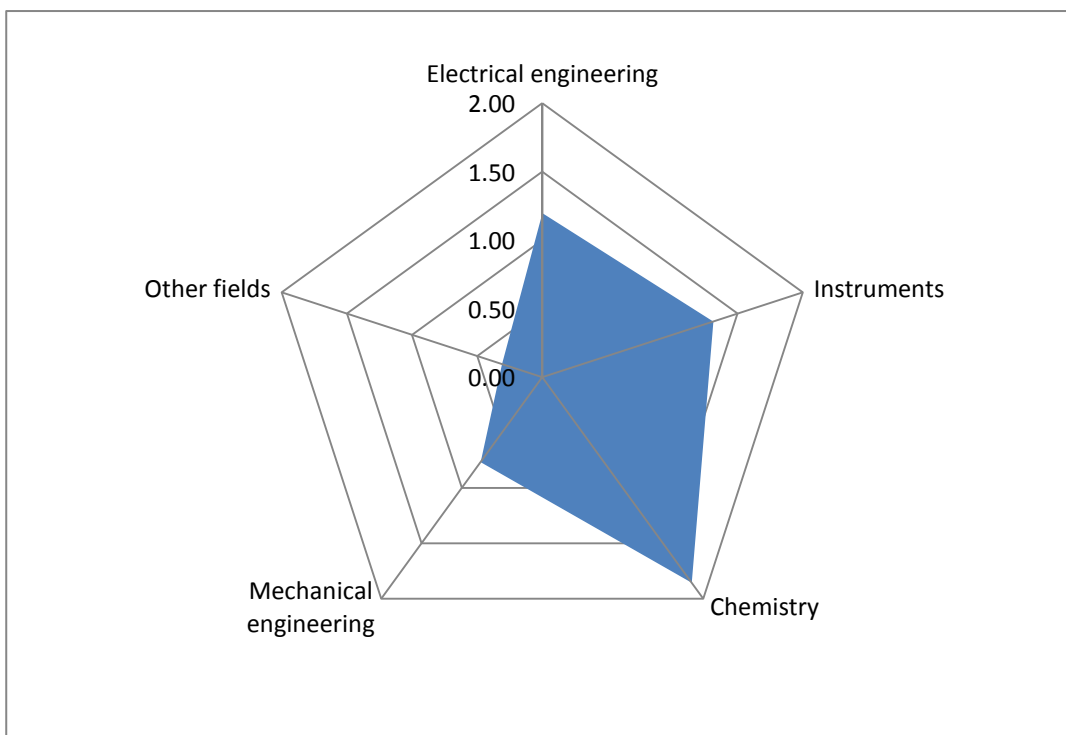


Table 9 shows the most important patenting subjects.

Table 9 – Most important applicants

name	count
ADVANCED RISC MACH LTD	26
MICROSOFT CORP	26
HITACHI LTD	16
KWANG YANG MOTOR CO	16
AUTOMATION PARTNERSHIP CAMBRID	15

BRITISH TELECOMM	15
VECTURA DELIVERY DEVICES LTD	13
PSYTECHNICS LTD	10
NOKIA CORP	10
UNILEVER NV	9

## Annex 1 - Regional Research and technological specialisation in FP7

### Context

FP7 allocates a total of EUR 32 413 million s to the Cooperation specific programme. This funding is mainly aimed at supporting cooperation between universities, industry, research centres and public authorities through collaborative research projects. As of October 2011, 3 725 projects were funded through the FP7 cooperation programme representing a total of 14.5€bn.

The FP7 cooperation programme covers 11 themes (Cf. [Box 1](#)) which themselves cover a number of research areas. For the purposes of this study, 188 research areas have been selected in order to perform a regional specialization analysis of each theme.

#### Box 1 The 11 themes of the FP7 cooperation programme (and the number of research areas for each of them)

- Health (13 research areas)
- Food, Agriculture, and Biotechnology (17 research areas)
- Information and Communication Technologies (12 research areas)
- Nanosciences, Nanotechnologies, Materials and new Production Technologies (16 research areas)
- Energy (8 research areas)
- Environment (including Climate Change) (9 research areas)
- Transport
  - Aeronautics (17 research areas)
  - Surface transport (15 research areas)
- Socio-economic sciences and Humanities (18 research areas)
- Space (5 research areas)
- Security (7 research areas)

### Methodological aspects

The specialization analysis aims to establish regional profiles based on thematic participation in the cooperation programme of FP7. The principle of the specialization analysis is to compare, within a theme, the budget breakdown into research areas between the European, national and regional levels.

The perimeter of the analysis only concerns research activities. In order to improve the relevance of the specialization analysis, cross-cutting activities, support actions to improve international collaborations, to promote SMEs or for NCP activities are not taken into account.

The specialization analysis is conditioned by the creation of a clean and reliable regional monitoring tool which takes into account headquarter effects. This was done during as part of the second component of the AMCER, which allowed validating the FP participations of each of the nine regions covered by the project.

The specialization analysis has been carried out for each theme of the cooperation programme. As an underlying hypothesis, we consider there is no asymmetry of information within a theme. This means that

we consider national and regional stakeholders to be equally informed about all the research areas and funding opportunities covered in the theme.

In order to avoid the appearance of a mass effect of some research areas against others, the share (weight) of the area within the theme is not considered in the specialization profile. Instead, the European profile is considered as the baseline (Base 100) for regional and national comparisons. The specialization profile is established by measuring the spread between the EU baseline and national or regional EC funding distribution among the research areas.

In other words, this methodology allows identifying which research areas are over-represented and under-represented among all research areas. This provides information regarding the preferences of national and regional research communities in terms of priority research areas. It should be taken into account however, that the analysis does not consider the possible existing competition between European, national and regional funding opportunities at the stakeholder level.

## **Remarks on the specialisation indexes**

The analysis does not constitute a performance indicator. Instead, it presents the differences in terms of distribution of funding among research areas at the national and regional level, compared to the FP standard, and regardless of the total funding weight of each research area. A comparison between the national profile and the EU profile illustrates the national and regional specialization trends. A comparison can also be carried out between national and regional specialization profiles, allowing to know if the regional specialization profile follows the national profile. The difference between profiles can be unlighted by national or regional experts aware of the territorial.

In order to identify areas of specialization, readers must identify the specialization index provided for each research area. If the 'specialisation index' is above the European 100 base, it can be stated that the region or country is specialized in that particular research area. On the other hand, if the specialization index stands below 100, the area is underrepresented and there is no indication of specialization in this area.

For each theme covered by the FP7 cooperation programme, the three following sets of information are provided:

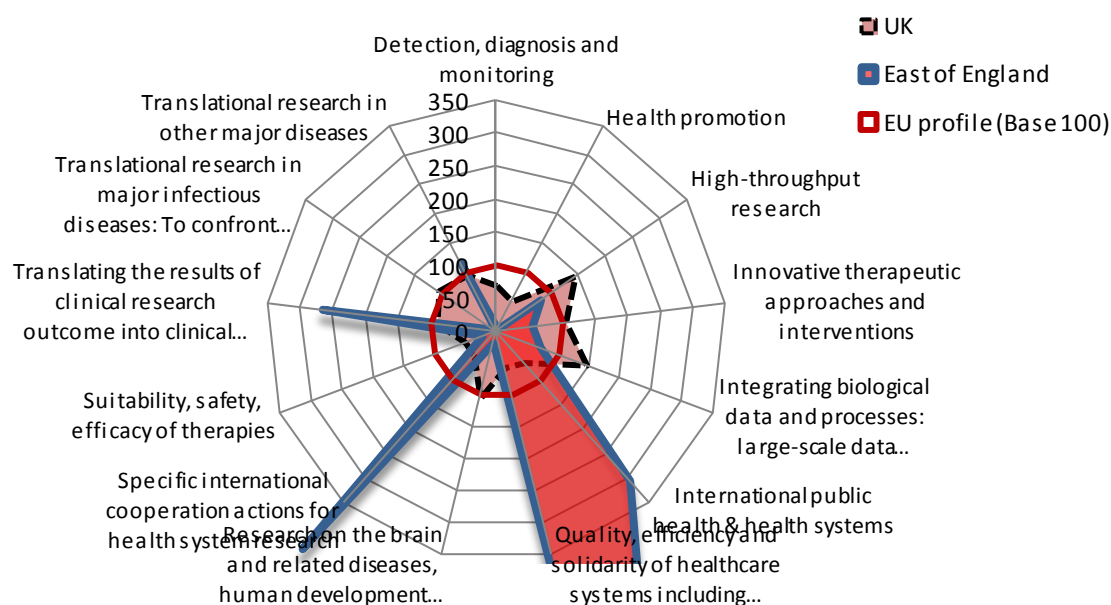
- i) The overall EU budget distribution by research area
- ii) The specialisation profile at the national and regional level, providing a picture of specialisation trends for the two levels. A comparison between the two levels can give information on regional specialisation trends (and highlight strategic initiatives taken at regional level).
- iii) The ranking of research areas at the national and regional levels, according to their specialisation scores. The table ranks the research areas according to their specialization score (in base 100) at the national and regional level (left and right column respectively). If the score is above 100, the area is over represented in comparison to the European standard, providing an indication on the specialization trend of the country or the region.

# Health

**Table 1 Budget breakdown in research areas at the FP cooperation specific-programme level**

Rk	Research area	%
1	Translational research in other major diseases	21.6%
2	Translational research in major infectious diseases: To confront major threats to public health	19.1%
3	Integrating biological data and processes: large-scale data gathering, systems biology	17.6%
4	Innovative therapeutic approaches and interventions	10.0%
5	Research on the brain and related diseases, human development and ageing	8.3%
6	Detection, diagnosis and monitoring	6.7%
7	High-throughput research	4.0%
8	Translating the results of clinical research outcome into clinical practice including better use of medicines, and appropriate use of behavioural and organisational interventions and new health therapies and technologies	2.9%
9	International public health & health systems	2.6%
10	Quality, efficiency and solidarity of healthcare systems including transitional health systems	2.6%
11	Health promotion	2.1%
12	Suitability, safety, efficacy of therapies	1.3%
13	Specific international cooperation actions for health system research	1.1%

**Figure 5 Specialisation profiles of UK and East of England**



The following table ranks the research areas according to their specialization score (in base 100) at the national and regional level (left and right column respectively). If the score is above 100, the area is over represented in comparison to the European standard, providing an indication on the specialization trend of the country or the region.

**Table 2 Specialisation ranking for UK and East of England**

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Detection, diagnosis and monitoring	147	1	Detection, diagnosis and monitoring	1158
2	Suitability, safety, efficacy of therapies	145	2	Health promotion	443
3	Quality, efficiency and solidarity of healthcare systems including transitional health systems	107	3	High-throughput research	305
4	Innovative therapeutic approaches and interventions	106	4	Innovative therapeutic approaches and interventions	265
5	Integrating biological data and processes: large-scale data gathering, systems biology	105	5	Integrating biological data and processes: large-scale data gathering, systems biology	117
6	High-throughput research	95	6	INTERNATIONAL PUBLIC HEALTH & HEALTH SYSTEMS	81
7	INTERNATIONAL PUBLIC HEALTH & HEALTH SYSTEMS	92	7	Quality, efficiency and solidarity of healthcare systems including transitional health systems	71
8	Research on the brain and related diseases, human development and ageing	68	8	Research on the brain and related diseases, human development and ageing	55
9	Health promotion	64	9	Specific international cooperation actions for health system research	22
10	Specific international cooperation actions for health system research	57	10	Suitability, safety, efficacy of therapies	19
11	Translational research in major infectious diseases: To confront major threats to public health	52	11	Translating the results of clinical research outcome into clinical practice including better use of medicines, and appropriate use of behavioural and organisational interventions and new health therapies and technologies	5
12	Translating the results of clinical research outcome into clinical practice including better use of medicines, and appropriate use of behavioural and organisational interventions and new health therapies and technologies	51	12	Translational research in major infectious diseases: To confront major threats to public health	2
13	Translational research in major infectious diseases: To confront major threats to public health	50	13	Translational research in major infectious diseases: To confront major threats to public health	1

## Food, Agriculture, and Biotechnology

**Table 3 Budget breakdown in research areas**

Rk	Research area	%
1	Increased sustainability of all production systems (agriculture, forestry, fisheries and aquaculture); plant health and crop protection	18.4%
2	Socio-economic research and support to policies	9.8%
3	Nutrition	8.8%
4	Optimised animal health production and welfare across agriculture, fisheries and aquaculture	8.8%
5	Marine and fresh-water biotechnology (blue biotechnology)	8.1%

6	Food processing	7.1%
7	Food quality and safety	6.4%
8	Novel sources of biomass and bioproducts	6.3%
9	Enabling Research	6.0%
10	Industrial biotechnology: novel high added-value bio-products and bio-processes	5.4%
11	Environmental impacts and total food chain	4.2%
12	Consumers	3.3%
13	Environmental biotechnology	3.0%
14	Emerging trends in biotechnology	2.3%
15	The Ocean of Tomorrow	1.5%
16	Biorefinery	0.5%
17	Energy Efficiency in Agriculture	0.1%

Figure 6 Specialisation profiles of UK and East of England

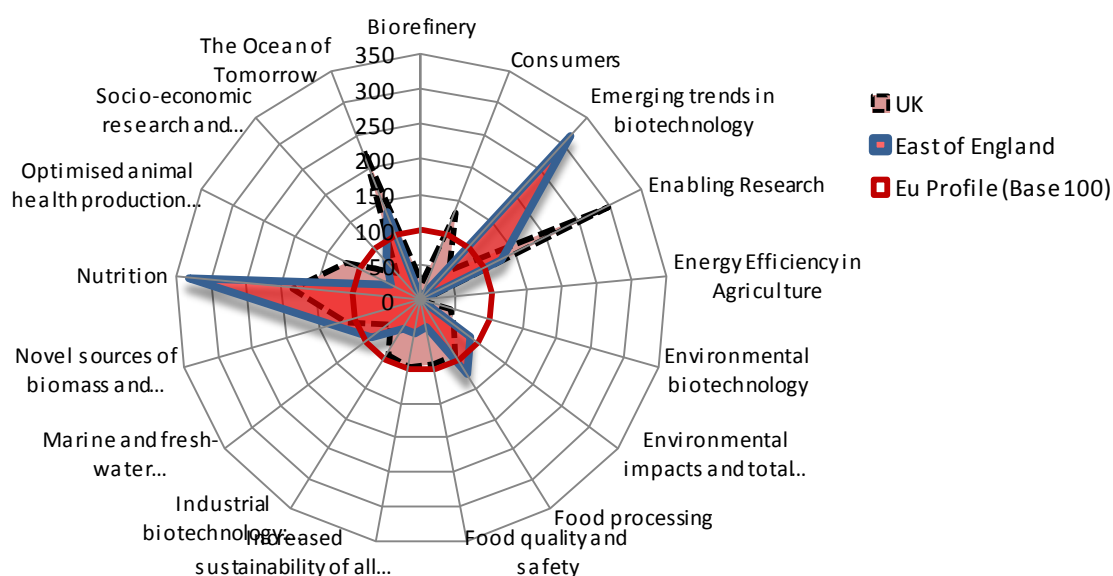


Table 4 Specialisation ranking for UK and East of England

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Enabling Research	297	1	Nutrition	332
2	The Ocean of Tomorrow	228	2	Emerging trends in biotechnology	315
3	Nutrition	185	3	The Ocean of Tomorrow	134
4	Consumers	133	4	Novel sources of biomass and bioproducts	131
5	Optimised animal health production and welfare across agriculture, fisheries and aquaculture	121	5	Enabling Research	127
6	Novel sources of biomass and bioproducts	112	6	Food processing	124
7	Increased sustainability of all production systems (agriculture, forestry, fisheries and aquaculture); plant health and crop protection	95	7	Marine and fresh-water biotechnology (blue biotechnology)	89
8	Food quality and safety	91	8	Environmental impacts and total food chain	87

9	Industrial biotechnology: novel high added-value bio-products and bio-processes	90	9	Socio-economic research and support to policies	74
10	Food processing	90	10	Increased sustainability of all production systems (agriculture, forestry, fisheries and aquaculture); plant health and crop protection	49
11	Emerging trends in biotechnology	58	11	Industrial biotechnology: novel high added-value bio-products and bio-processes	48
12	Environmental impacts and total food chain	57	12	Optimised animal health production and welfare across agriculture, fisheries and aquaculture	48
13	Marine and fresh-water biotechnology (blue biotechnology)	56	13	Food quality and safety	39
14	Socio-economic research and support to policies	53	14	Consumers	7
15	Environmental biotechnology	43			
16	Biorefinery	25			

## Information and Communication Technologies

Table 5 Budget breakdown in research areas

Rk	Research area	%
1	Pervasive and Trustworthy network and service infrastructures	26.4%
2	Components, systems, engineering	21.6%
3	Towards sustainable and personalised healthcare	9.2%
4	Cognitive systems, interaction, robotics	9.0%
5	Digital libraries and content	8.8%
6	ICT for mobility, environmental sustainability and energy efficiency	8.5%
7	Future and emerging technologies	8.3%
8	ICT for Independent Living, Inclusion and Governance	3.1%
9	Smart Factories/virtual factories	2.4%
10	Future Internet experimental facility and experimentally-driven research	1.1%
11	ICT for the Fully Electric Vehicle	1.0%
12	Exa-scale computing, software and simulation	0.4%



Figure 7 Specialisation profiles of UK and East of England

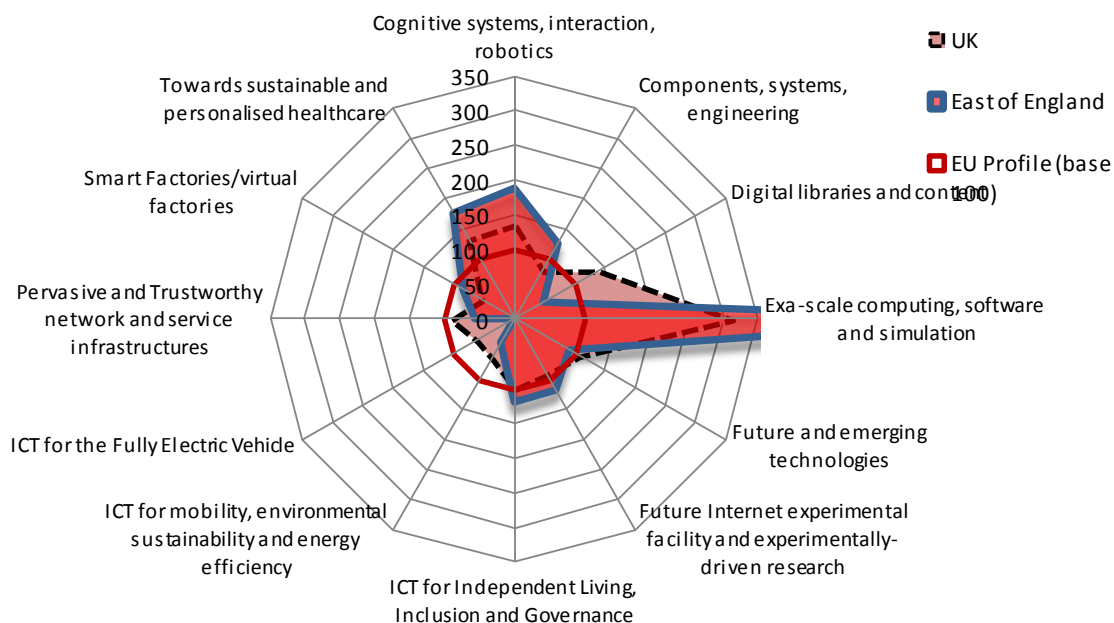


Table 6 Specialisation ranking for UK and East of England

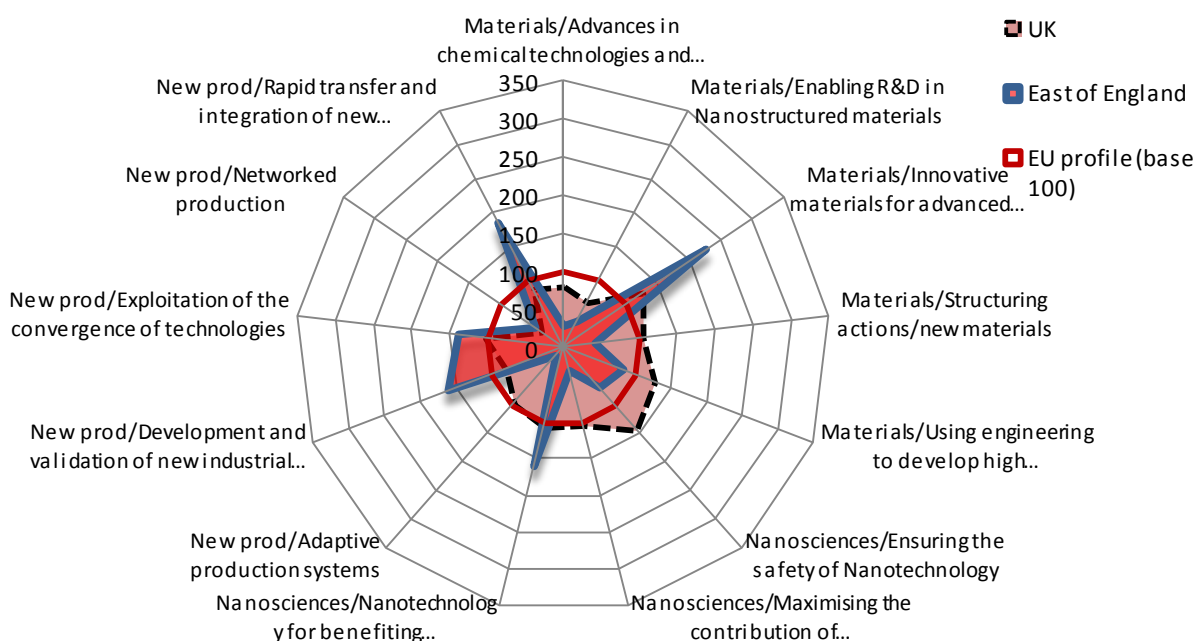
Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Digital libraries and content	312	1	Exa-scale computing, software and simulation	711
2	Components, systems, engineering	140	2	Cognitive systems, interaction, robotics	188
3	Smart Factories/virtual factories	133	3	Towards sustainable and personalised healthcare	176
4	Exa-scale computing, software and simulation	106	4	Components, systems, engineering	125
5	Towards sustainable and personalised healthcare	100	5	ICT for Independent Living, Inclusion and Governance	120
6	Future Internet experimental facility and experimentally-driven research	100	6	Future Internet experimental facility and experimentally-driven research	119
7	Future and emerging technologies	91	7	Future and emerging technologies	90
8	ICT for the Fully Electric Vehicle	91	8	Smart Factories/virtual factories	85
9	Cognitive systems, interaction, robotics	81	9	Pervasive and Trustworthy network and service infrastructures	57
10	ICT for Independent Living, Inclusion and Governance	65	10	Digital libraries and content	48
11	ICT for mobility, environmental sustainability and energy efficiency	62	11	ICT for mobility, environmental sustainability and energy efficiency	39
12	Pervasive and Trustworthy network and service infrastructures	55	12	ICT for the Fully Electric Vehicle	0

# Nanosciences, Nanotechnologies, Materials and new Production Technologies

Table 7 Budget breakdown in research areas

Rk	Sub theme	Research area	%
1	Nanosciences	Nanotechnology for benefiting environment, energy and health	12.9%
2	New production	Adaptive production systems	12.1%
3	Nanosciences	Maximising the contribution of Nanotechnology on sustainable development	9.4%
4	Materials	Innovative materials for advanced applications	8.5%
5	New production	Rapid transfer and integration of new technologies into the design and operation of manufacturing processes	7.8%
6	Materials	Using engineering to develop high performance knowledge-based materials	7.6%
7	New production	Exploitation of the convergence of technologies	7.6%
8	New production	Development and validation of new industrial models and strategies	6.0%
9	Materials	Enabling R&D in Nanostructured materials	5.8%
10	Materials	Advances in chemical technologies and materials processing	5.7%
11	Materials	Structuring actions/new materials	4.6%
12	Nanosciences	Ensuring the safety of Nanotechnology	4.1%
13	New production	Networked production	3.7%
14	Integration	Substantial innovation in the European medical industry: development of nanotechnology-based systems for in-vivo diagnosis and therapy (in coordination with topic HEALTH-2007-2.4.1-7 and HEALTH-2007-1.2-3 in Theme 1 Health)	2.6%
15	Integration	Smart materials for applications in the sectors of construction and of machinery and production equipment	0.8%
16	Integration	Sustainable new products and markets through bioproduction of green forest-based chemicals and materials	0.7%

Figure 8 Specialisation profiles of UK and East of England



**Table 8 Specialisation ranking for UK and East of England**

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Nanosciences/Ensuring the safety of Nanotechnology	143	1	Materials/Innovative materials for advanced applications	226
2	Materials/Using engineering to develop high performance knowledge-based materials	127	2	New prod/Rapid transfer and integration of new technologies into the design and operation of manufacturing processes	184
3	Materials/Innovative materials for advanced applications	126	3	Nanosciences/Nanotechnology for benefiting environment, energy and health	161
4	Nanosciences/Nanotechnology for benefiting environment, energy and health	107	4	New prod/Development and validation of new industrial models and strategies	161
5	Materials/Structuring actions/new materials	105	5	New prod/Exploitation of the convergence of technologies	138
6	New prod/Exploitation of the convergence of technologies	105	6	Materials/Using engineering to develop high performance knowledge-based materials	83
7	Nanosciences/Maximising the contribution of Nanotechnology on sustainable development	104	7	Nanosciences/Ensuring the safety of Nanotechnology	71
8	New prod/Adaptive production systems	99	8	New prod/Networked production	45
9	New prod/Rapid transfer and integration of new technologies into the design and operation of manufacturing processes	86	9	Materials/Structuring actions/new materials	41
10	New prod/Development and validation of new industrial models and strategies	81	10	Materials/Enabling R&D in Nanostructured materials	38
11	Materials/Advances in chemical technologies and materials processing	80	11	Nanosciences/Maximising the contribution of Nanotechnology on sustainable development	32
12	Materials/Enabling R&D in Nanostructured materials	66	12	Materials/Advances in chemical technologies and materials processing	27
13	New prod/Networked production	36	13	New prod/Adaptive production systems	15

## Energy

**Table 9 Budget breakdown in research areas**

Rk	Research area	%
1	Renewable electricity generation	31.5%
2	Renewable fuel production	21.0%
3	Smart energy networks	13.7%
4	Energy efficiency and savings	13.3%
5	CO2 capture and storage technologies for zero emission power generation	9.4%
6	Clean coal technologies	5.9%

7	Hydrogen and fuel cells	3.1%
8	Knowledge for energy policy making	2.1%

Figure 9 Specialisation profiles of UK and East of England

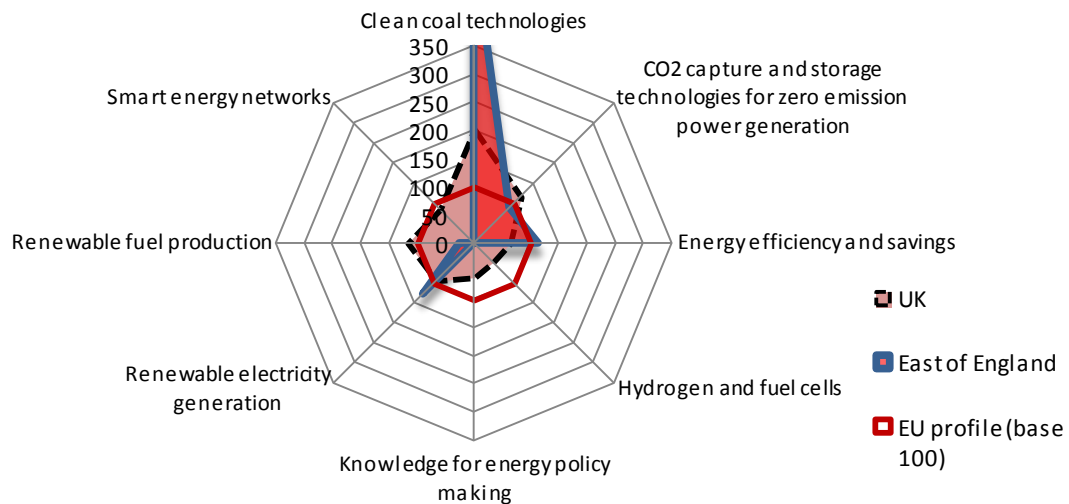


Table 10 Specialisation ranking for UK and East of England

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Clean coal technologies	203	1	Clean coal technologies	524
2	CO2 capture and storage technologies for zero emission power generation	116	2	Renewable electricity generation	127
3	Energy efficiency and savings	63	3	Energy efficiency and savings	114
4	Hydrogen and fuel cells	47	4	CO2 capture and storage technologies for zero emission power generation	89
5	Knowledge for energy policy making	61	5	Renewable fuel production	25
6	Renewable electricity generation	95			
7	Renewable fuel production	117			
8	Smart energy networks	85			

## Environment (including Climate Change)

Table 11 Budget breakdown in research areas

Rk	Sub theme	Research area	%
1	Climate change, pollution, and risks	Pressures on environment and climate	19.5%
2	Sustainable management of resources	Conservation and sustainable management of natural and man-made resources and biodiversity	17.4%
3	Environmental technologies	Environmental technologies for observation, simulation, prevention, mitigation,	17.1%

		adaptation, remediation and restoration of the natural and man-made environment	
4	Climate change, pollution, and risks	Environment and Health	10.4%
5	Earth observation and assessment tools for sustainable development	Earth and ocean observation systems and monitoring methods for the environment and sustainable development	9.7%
6	Sustainable management of resources	Management of marine environments	9.0%
7	Climate change, pollution, and risks	Natural hazards	7.0%
8	Earth observation and assessment tools for sustainable development	Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation	6.8%
9	Environmental technologies	Protection, conservation and enhancement of cultural heritage, including human habitat	3.2%

Figure 10 Specialisation profiles of UK and East of England

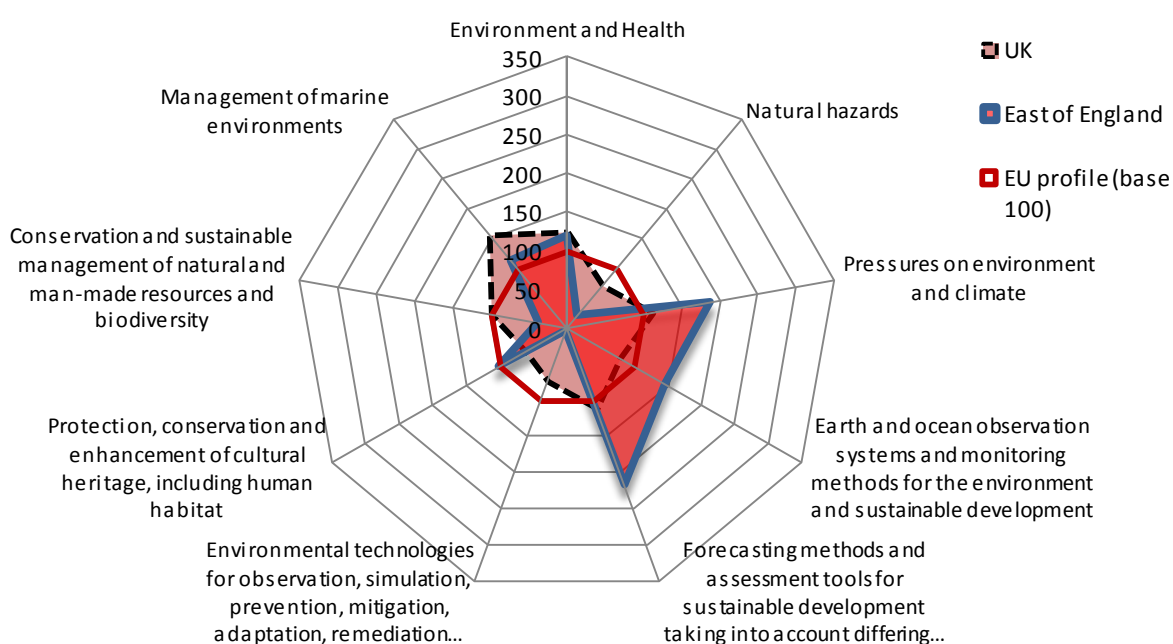


Table 12 Specialisation ranking for UK and East of England

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Management of marine environments	156	1	Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation	218
2	Environment and Health	123	2	Pressures on environment and climate	188
3	Pressures on environment and climate	111	3	Earth and ocean observation systems and monitoring methods for the environment and sustainable development	146
4	Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation	110	4	Environment and Health	119
5	Conservation and sustainable management of	99	5	Management of marine environments	113

	natural and man-made resources and biodiversity			
6	Earth and ocean observation systems and monitoring methods for the environment and sustainable development	78	6	Protection, conservation and enhancement of cultural heritage, including human habitat
7	Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment	73	7	Conservation and sustainable management of natural and man-made resources and biodiversity
8	Natural hazards	70	8	Natural hazards
9	Protection, conservation and enhancement of cultural heritage, including human habitat	62	9	Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

## Transport (Aeronautics)

Table 13 Budget breakdown in research areas

Rk	Research area	%
1	Propulsion	21.9%
2	Aerostructures	15.1%
3	Design Systems and Tools	8.8%
4	Systems and Equipment	8.6%
5	Production	7.0%
6	Flight Physics	6.5%
7	Avionics	4.2%
8	Maintenance	3.9%
9	Novel Air Transport Vehicles	3.9%
10	Airports	3.8%
11	Human Factors	3.5%
12	Green Air Transport Operations	3.3%
13	Guidance and Control	2.6%
14	Systems	2.3%
15	Personal air transport systems	2.0%
16	Lift	1.7%
17	Interior space	1.0%

Figure 11 Specialisation profiles of UK and East of England

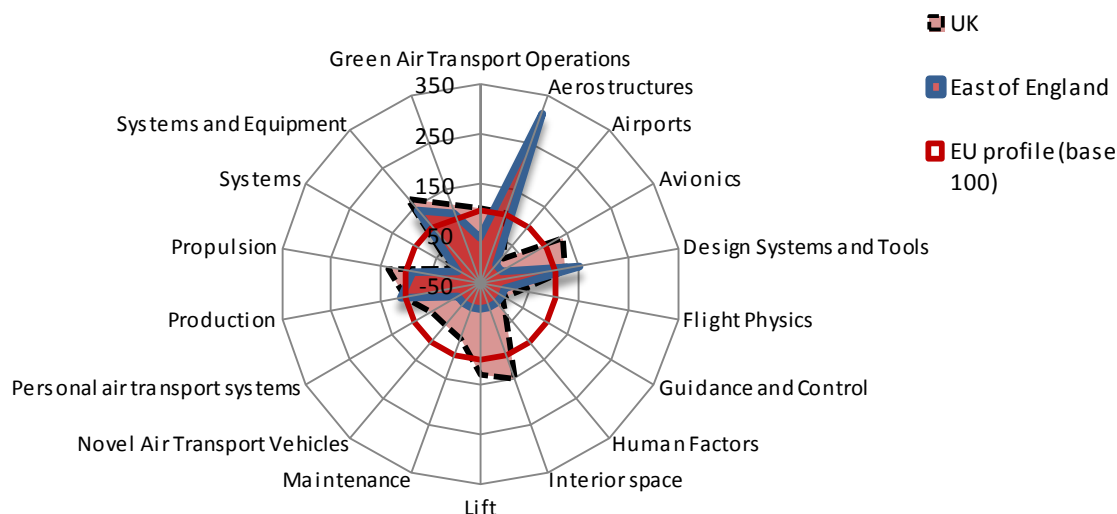


Table 14 Specialisation ranking for UK and East of England

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Systems and Equipment	175	1	Aerostructures	312
2	Interior space	148	2	Design Systems and Tools	151
3	Avionics	138	3	Systems and Equipment	142
4	Propulsion	136	4	Production	109
5	Lift	128	5	Propulsion	85
6	Design Systems and Tools	120	6	Green Air Transport Operations	42
7	Green Air Transport Operations	103			
8	Aerostructures	103			
9	Production	100			
10	Maintenance	64			
11	Personal air transport systems	60			
12	Novel Air Transport Vehicles	56			
13	Human Factors	27			
14	Flight Physics	24			
15	Airports	19			
16	Systems	16			

## Transport (Surface transport)

Table 15 Budget breakdown in research areas

Rk	Research area	%
1	The greening of products and operations	24.0%
2	Integrated safety and security for surface transport systems	21.2%
3	Competitive surface transport products and services	12.1%
4	Innovative strategies for clean urban transport (CIVITAS Plus II)	10.8%
5	Logistics and intermodal transport	7.7%
6	New transport and mobility concepts	7.4%
7	Interoperability and Safety	4.1%
8	Environment-friendly and efficient industrial processes	3.0%

9	Maritime and inland waterway transport	2.9%
10	High quality public transport	2.7%
11	Policy support	1.6%
12	Integrated electric auxiliaries and on-board systems	1.0%
13	Socio-economic issues	0.8%
14	Electrical machines	0.4%
15	Optimised thermal engine development and integration	0.4%

Figure 12 Specialisation profiles of UK and East of England

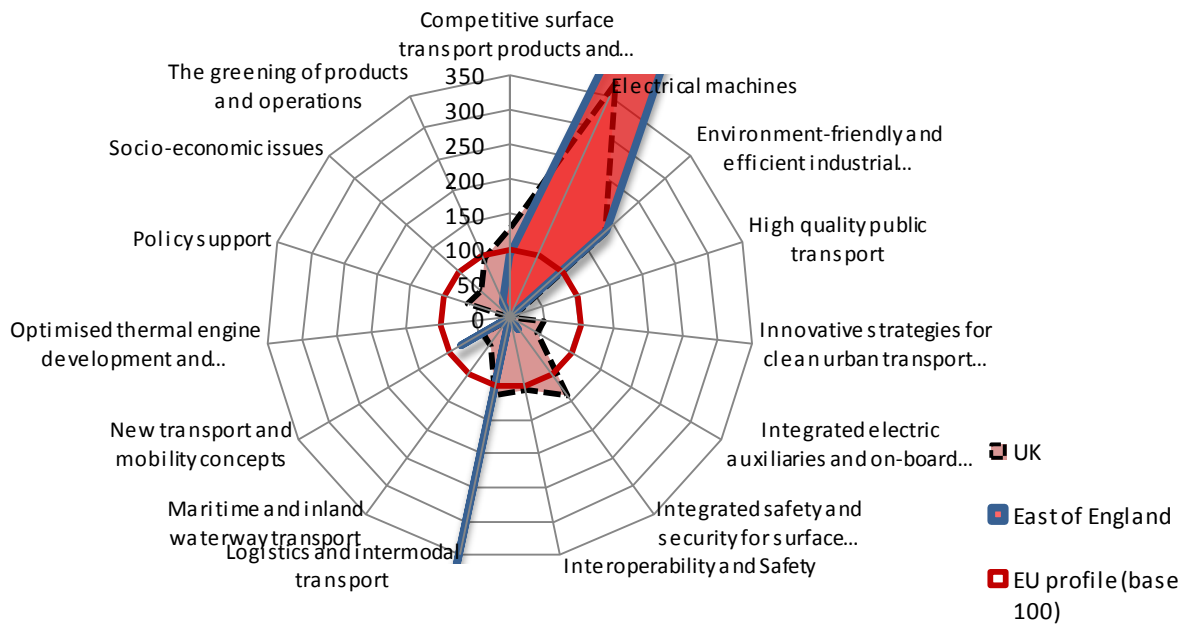


Table 16 Specialisation ranking for UK and East of England

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Electrical machines	371	1	Electrical machines	2493
2	Environment-friendly and efficient industrial processes	183	2	Logistics and intermodal transport	746
3	Integrated safety and security for surface transport systems	138	3	Environment-friendly and efficient industrial processes	187
4	Competitive surface transport products and services	132	4	Competitive surface transport products and services	90
5	Logistics and intermodal transport	114	5	New transport and mobility concepts	80
6	Interoperability and Safety	106	6	The greening of products and operations	24
7	The greening of products and operations	95	7	Integrated safety and security for surface transport systems	21
8	Policy support	67	8	High quality public transport	0
9	Socio-economic issues	59	9	Innovative strategies for clean urban transport (CIVITAS Plus II)	0
10	Maritime and inland waterway transport	50	10	Integrated electric auxiliaries and on-board systems	0



11	Innovative strategies for clean urban transport (CIVITAS Plus II)	47	11	Interoperability and Safety	0
12	New transport and mobility concepts	47	12	Maritime and inland waterway transport	0
13	Integrated electric auxiliaries and on-board systems	43	13	Optimised thermal engine development and integration	0
14	High quality public transport	1	14	Policy support	0
15	Optimised thermal engine development and integration	0	15	Socio-economic issues	0

## Socio-economic sciences and Humanities

Table 17 Budget breakdown in research areas

Rk	Research area	%
1	Socio-economic development trajectories	16.1%
2	Participation and Citizenship in Europe	9.0%
3	Interactions and interdependences between world regions and their implications	9.0%
4	Societal trends and lifestyles	8.2%
5	Diversities and Commonalities in Europe	7.8%
6	Changing role of knowledge throughout the economy	6.5%
7	Regional, territorial and social cohesion	6.5%
8	Conflicts, peace and human rights	6.1%
9	Structural changes in the European knowledge economy and society	5.9%
10	Cultural interactions in an international perspective	5.2%
11	Demographic changes	3.7%
12	Foresight activities	3.7%
13	Strengthening policy coherence and coordination in Europe	3.0%
14	Europe's changing role in the world	2.8%
15	Developing better indicators for policy	2.5%
16	Provision of underlying official statistics	1.7%
17	Use of indicators and related approaches for the evaluation of research policies and programmes	1.2%
18	Current use of indicators in policy	1.1%

Figure 13 Specialisation profiles of UK and East of England

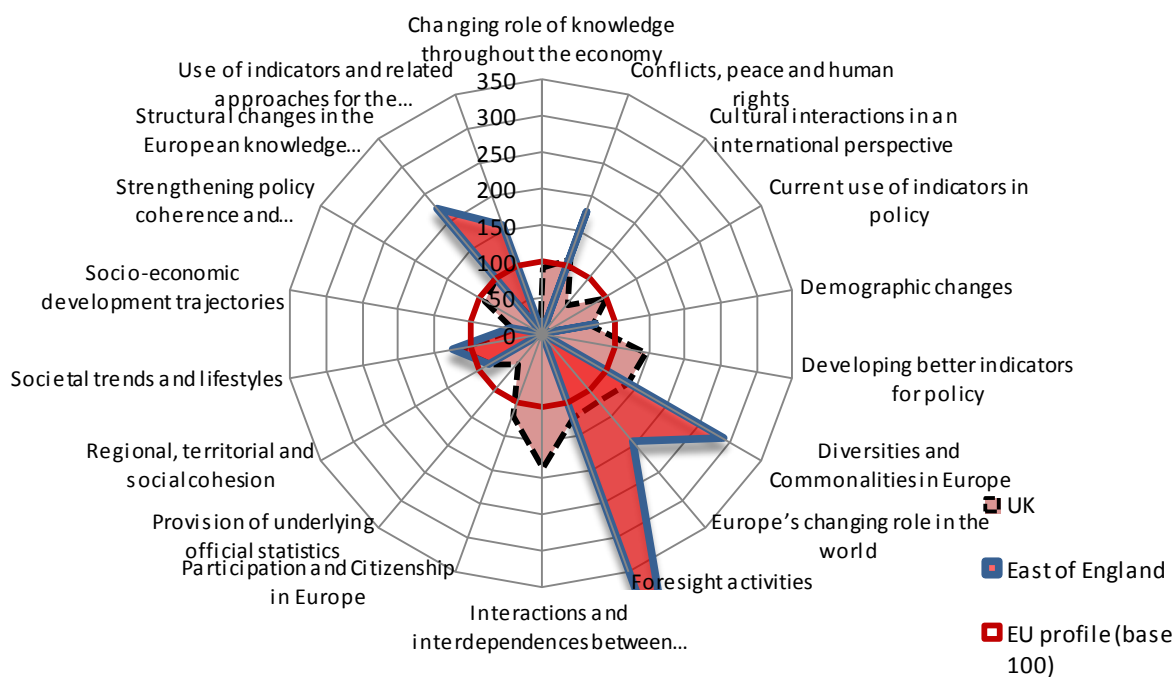


Table 18 Specialisation ranking for UK and East of England

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Cultural interactions in an international perspective	184	1	Foresight activities	544
2	Changing role of knowledge throughout the economy	144	2	Diversities and Commonalities in Europe	289
3	Regional, territorial and social cohesion	135	3	Structural changes in the European knowledge economy and society	225
4	Structural changes in the European knowledge economy and society	122	4	Europe's changing role in the world	194
5	Conflicts, peace and human rights	120	5	Conflicts, peace and human rights	179
6	Demographic changes	120	6	Use of indicators and related approaches for the evaluation of research policies and programmes	159
7	Europe's changing role in the world	117	7	Societal trends and lifestyles	125
8	Participation and Citizenship in Europe	111	8	Regional, territorial and social cohesion	85
9	Societal trends and lifestyles	102	9	Demographic changes	74
10	Use of indicators and related approaches for the evaluation of research policies and programmes	100	10	Socio-economic development trajectories	44
11	Socio-economic development trajectories	93	11	Participation and Citizenship in Europe	2
12	Provision of underlying official statistics	93			
13	Strengthening policy coherence and coordination in Europe	82			

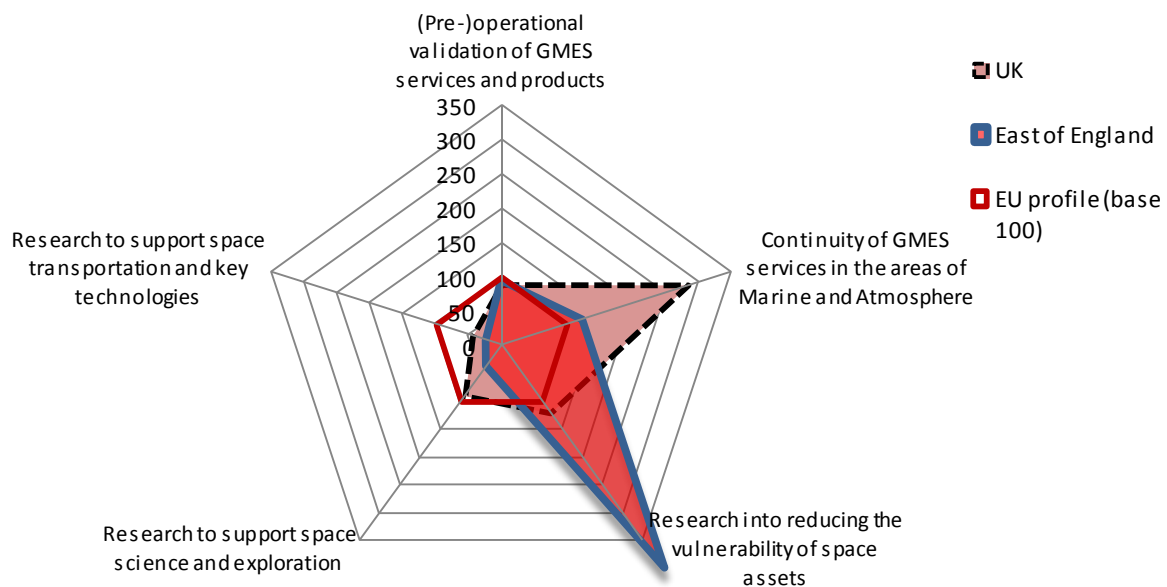
14	Diversities and Commonalities in Europe	69
15	Interactions and interdependences between world regions and their implications	54
16	Foresight activities	53
17	Developing better indicators for policy	41
18	Current use of indicators in policy	10

## Space

**Table 19 Budget breakdown in research areas**

Rk	Research area	%
1	(Pre-)operational validation of GMES services and products	56.2%
2	Research to support space science and exploration	14.9%
3	Research to support space transportation and key technologies	13.9%
4	Continuity of GMES services in the areas of Marine and Atmosphere	8.0%
5	Research into reducing the vulnerability of space assets	7.0%

**Figure 14 Specialisation profiles of UK and East of England**



**Table 20 Specialisation ranking for UK and East of England**

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Research to support space science and exploration	283	1	Research into reducing the vulnerability of space assets	401
2	Research to support space transportation and key technologies	120	2	Continuity of GMES services in the areas of Marine and Atmosphere	123
3	Continuity of GMES services in the areas of Marine and Atmosphere	90	3	(Pre-)operational validation of GMES services and products	95
4	(Pre-)operational validation of GMES services and products	88	4	Research to support space science and exploration	37
5	Research into reducing the vulnerability of space assets	44	5	Research to support space transportation and key technologies	23

## Security

**Table 21 Budget breakdown in research areas**

Rk	Research area	%
1	Intelligent surveillance and enhancing border security	23.3%
2	Restoring security and safety in case of crisis	22.2%
3	Increasing the Security of citizens	19.4%
4	Increasing the Security of infrastructures and utilities	17.9%
5	Security and society	8.6%
6	Security Research coordination and structuring	4.3%
7	Security systems integration, interconnectivity and Interoperability	4.2%

Figure 15 Specialisation profiles of UK and East of England

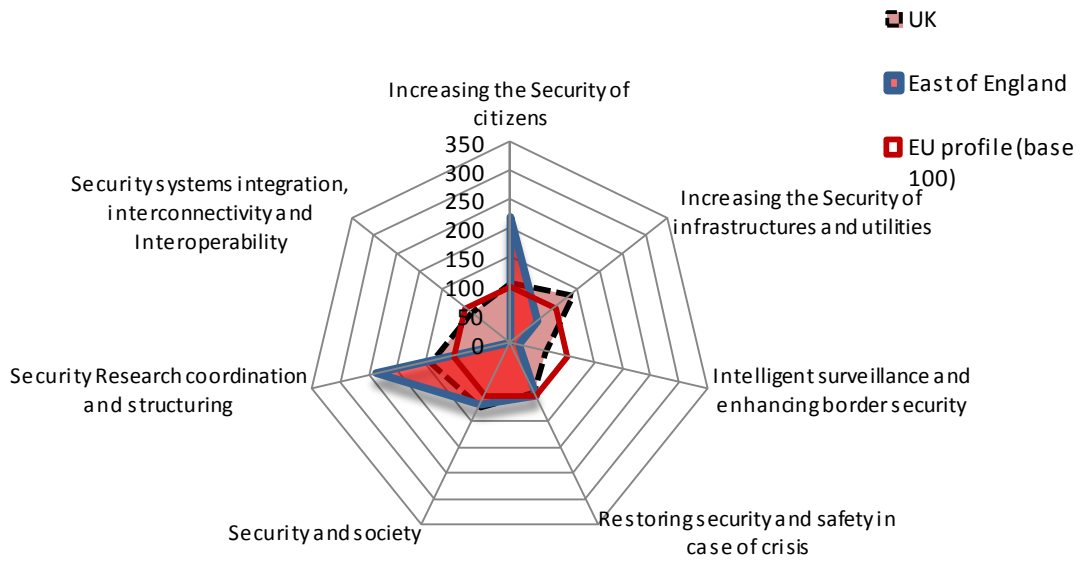


Table 22 Specialisation ranking for UK and East of England

Rk	UK	Index base 100	Rk	East of England	Index base 100
1	Security Research coordination and structuring	142	1	Security Research coordination and structuring	238
2	Increasing the Security of infrastructures and utilities	137	2	Increasing the Security of citizens	218
3	Security and society	120	3	Security and society	120
4	Increasing the Security of citizens	107	4	Restoring security and safety in case of crisis	102
5	Restoring security and safety in case of crisis	91	5	Increasing the Security of infrastructures and utilities	60
6	Security systems integration, interconnectivity and Interoperability	88	6	Intelligent surveillance and enhancing border security	15
7	Intelligent surveillance and enhancing border security	61	7	Security systems integration, interconnectivity and Interoperability	0

## Annex 2 – FP7 participation scoreboard

This section covers all the indicators produced for the FP7 after validation of the list of participations and contains the following parts:

- i. Headquarter analysis
- ii. Main regional indicators
- iii. Intraregional indicators
- iv. International cooperation

### Headquarter analysis

This section presents the results of the headquarter effect analysis for the focused region. The following table presents number of modified participations of the region, after elimination of the existing headquarter effect. The total number of participations in the region is estimated by adding the total number of participations with no headquarter effect, to the ingoing participations (participations previously attributed to an outside region<sup>10</sup>, but now attributed to the focused region).

1- Table 23 Overall result of the Headquarter analysis

Type of participation	Nbr of participations
(1) Nbr of participation with no headquarter effect	945
(2) Nbr of ingoing participations	109
(3) Nbr of outgoing participations	3
Total nbr of participations (1)+(2)	1054

The following table presents a breakdown of the previous table by geographical origin of participations. The second and third columns indicate the NUTS II territory from which the participation is added or subtracted. In the case of incoming participations, the focused region<sup>11</sup> gains a participation, while the impacted region loses one. The opposite is true of outgoing participations.

2- Table 24 Participation localisation detail (ingoing participations, outgoing participations and static participations)

Participation flow	Regions with participations to subtract	Regions with participation to add	Number of participations concerned	Total	%
in	UKI11	UKH1	15	109	10,3%
in	UKJ24	UKH1	1		
in	UKI11	UKH2	6		
in	UKI23	UKH2	2		
in	UKJ34	UKH2	1		
in	CH011	UKH3	2		
in	DE125	UKH3	20		
in	DEA22	UKH3	1		
in	KE	UKH3	1		
in	UKD22	UKH3	1		

<sup>10</sup> Impacted region.

<sup>11</sup> The region being analysed in the current scoreboard.

in	UKI11	UKH3	1		
in	UKI12	UKH3	15		
in	UKI23	UKH3	2		
in	UKJ11	UKH3	2		
in	UKJ14	UKH3	1		
in	UKJ23	UKH3	2		
in	UKJ24	UKH3	1		
in	UKK14	UKH3	35		
out	UKH23	BE10	1		
out	UKH12	CH04	1		
out	UKH12	ITC4	1	3	0,3%
no Headquarter effect			945	945	89,7%
Total (after correction)				1054	100,0%

The following table presents the distribution of participations (ingoing, outgoing, no headquarter effect) by participant typology (HES, OTH, PRC, PUB, REC).

**Table 25 Typology of Ingoing, Outgoing and Static participations**

Organisation type	Ingoing participations		Outgoing participations		Static participations	
HES	7	6,4%	4	23,5%	573	60,6%
OTH		0,0%	1	5,9%	8	0,8%
PRC	15	13,8%	6	35,3%	212	22,4%
PUB	15	13,8%		0,0%	1	0,1%
REC	72	66,1%	6	35,3%	151	16,0%
	109	100,0%	17	100,0%	945	100,0%

## Regional indicators

This section presents a set of indicators allowing to compare and characterise the participation of the region in FP7, in light of national indicators. It also presents the distribution of EC funding at an infra-regional level (N-1 if the focus region is considered as N).

### *East of England in the FP7*

The following table gives an overview of the weight of the region at national level in terms of number of participations, number of coordinations and volume of funding received. It allows to compare regional figures (and their weight at the national level), to national figures (and their weight at the European level).

**Table 26 Share of the region at national level**

	UKH	UK	FP	% UKH in UK	% UK in FP
Nbr of participations in projects	1054	8702	69719	12,1%	12,5%
Nbr of coordinations	369	2377	12929	15,5%	18,4%
EC contribution	419 667 128	3 270 987 651	22 188 391 959	12,8%	14,7%

## Participant Typology

The following table presents the distribution of participations, coordinations and EC contributions according to the different types of participants. A comparison of the distribution of participants between the regional and national level allows to identify the particularities of the focused region.

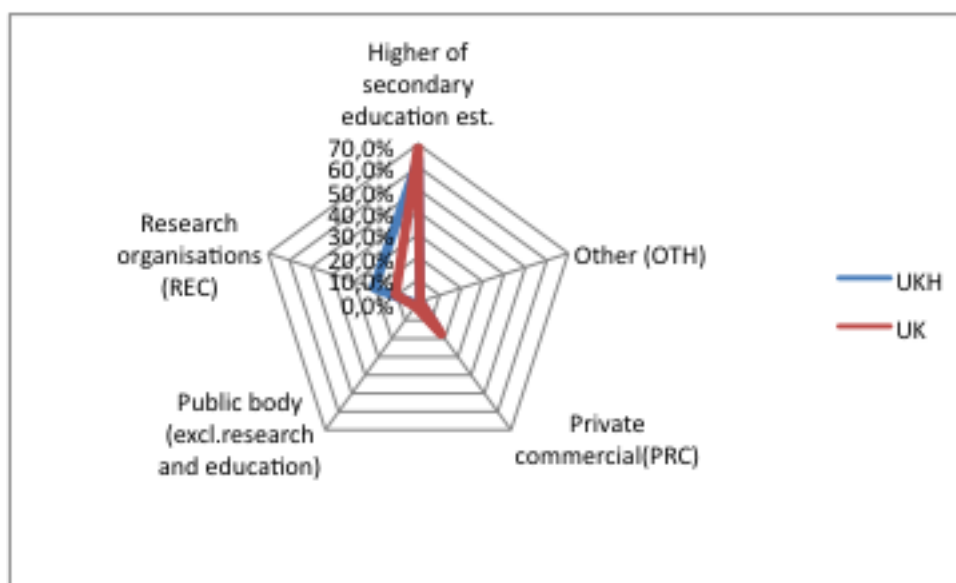
**Table 27 Participation typology-comparison between regional and national level**

	East of England				UK			
	Nbr of participations in projects	Nbr of coordinations	EC contribution	%	Nbr of participations in projects	Nbr of coordinations	EC contribution	%
Higher of secondary education est.(HES)	580	243	265 397 53	63,2%	5276	1934	2 255 851 345	69,0%
Other (OTH)	8		3 619 700	0,9%	152	11	28 388 212	0,9%
Private commercial(PRC)	227	16	59 266 996	14,1%	2028	129	569 306 960	17,4%
Public body (excl.research and education) (PUB)	16	3	4 972 173	1,2%	293	44	72 212 082	2,2%
Research organisations (REC)	223	107	86 410 706	20,6%	953	259	345 229 053	10,6%
Total	1054	369	419 667 128	100,0%	8702	2377	3 270 987 651	100,0%

The following diagram compares the weight of the different types of participants in the region to the national average.



Figure 16 Participation typology-graphical comparison between national and regional profile (acc. EC contrib. distribution)



The table below presents the distribution of participants by legal type (private/public).

Table 28 Distribution of participations according the legal type-comparison between regional and national level

		East of England		England	
		Nbr	EC contrib	nbr	EC contrib
Private	Private organisations				
	PRC	227	59 266 996	2049	579 492 847
	PNP	570	260 035 978	1455	558 174 453
	total private	797	319 302 974	3 504	1 137 667 299
Public	Commercial			153	50 410 672
	PNP	257	100 364 154	5049	2 082 909 680
	total public	257	100 364 154	5 202	2 133 320 352
	TOTAL	1054	419 667 128	8 706	3 270 987 651

### SME participation

This section aims to give an overview on the participation of SMEs in the FP7. The following table presents the levels of participation of SMEs at the infra-regional, regional, national and European level.

Table 29 Number of funded SME

	Total East of England	Total UK	Total FP	UKH1	UKH2	UKH3	UKH4
Nbr of participations in projects	146		11 545	83	33	30	
EC contribution	39 415 000	396 556 732	2 873 556 998	19 556 438	11 795 114	8 063 448	

The table below presents the distribution of SME participations according to their legal status (private profit and non-profit organisations).

Table 30 Distribution of SME among private profit and private non profit organisations

	East of England		UK	
	Nbr	Ec Contrib		
PRC	137	37 877 711	1223	359 981 237
PNP	9	1 537 289	159	36 575 495
TOTAL	146	39 415 000	1382	396 556 732

## Regional participation among themes and activities of the programme

This section aims at providing information regarding the specialisation of the regions according to participations across FP7 themes. The level of specialisation of the region can be measured by comparing the levels of participation for each theme to the national and European averages.

**Table 31 Participations among FP7 themes and activities-comparison of the distribution at Programme level, national level and regional level**

N°	PROG SPEC	Theme	FP		UK		East of England	
			nbr	EC contrib	nbr	EC contrib	nbr	EC contrib
1	COOPERATION	Health	6 580	38 311 701 807	951	444 370 170	117	60 920 032
2	COOPERATION	Food, Agriculture, and Biotechnology	3 611	12 817 896 001	367	114 469 909	54	17 300 103
3	COOPERATION	Information and Communication Technologies	13 492	58 405 354 567	1 388	547 590 692	134	48 645 052
4	COOPERATION	Nanosciences, Nanotechnologies, Materials and new Production Technologies	4 881	23 146 425 481	502	164 180 608	65	24 947 919
5	COOPERATION	Energy	2 378	11 337 341 986	218	76 324 540	12	4 797 738
6	COOPERATION	Environment (including Climate Change)	4 592	17 622 383 238	522	138 098 412	63	17 577 743
7	COOPERATION	Transport (including Aeronautics)	5 445	33 527 717 656	583	175 603 523	60	20 336 663
8	COOPERATION	Socio-economic sciences and Humanities	1 515	3 354 155 783	197	47 956 424	12	2 676 079
9	COOPERATION	Security	1 590	8 610 533 867	165	58 113 496	19	3 368 498
10	COOPERATION	Space	1 449	8 715 567 065	132	41 547 676	12	4 289 073
11	COOPERATION	General Activities (Annex IV)	148	518 736 687	5	4 178 788		
12	IDEAS	European Research Council	2 269	3 639 388 962	485	693 139 589	82	121 475 672
13	PEOPLE	Marie-Curie Actions	9 470	10 482 594 761	1 783	420 905 987	281	64 560 141
14	CAPACITIES	Research Infrastructures	3 921	24 495 071 212	452	205 886 467	35	16 707 534
15	CAPACITIES	Research for the benefit of SMEs	4 485	5 835 382 440	658	90 307 283	83	9 032 469
16	CAPACITIES	Regions of Knowledge	588	807 707 785	26	3 191 588	1	80 183
17	CAPACITIES	Research Potential	239	263 079 464	3	142 637	1	0
18	CAPACITIES	Science in Society	1 125	1 997 280 671	126	18 729 186	11	1 716 313
19	CAPACITIES	Coherent development of research policies	100	107 921 641	9	782 488	1	71 096
20	CAPACITIES	Activities of International Cooperation	584	1 038 085 306	14	1 947 845		
21	Euratom	Fusion Energy	64	129 596 277	8	1 075 875	1	13 200
22	Euratom	Nuclear Fission and Radiation Protection	1 236	4 136 186 414	112	22 444 470	10	1 151 621
			69 762	22 189 556 770	8 706	3 270 987 651	1 054	419 667 128

## Intraregional indicators

This section presents an overview the participation of infra-regional territories in FP7.

The following table presents a general overview of the distribution of participations, coordinations and EC contribution within the region (at Nuts n-1). The higher concentration of participation within specific territories usually reflects the presence of a stronger number of research organisations.

**Table 32 distribution of the funded participations and EC contribution within the territory**

	UKH1	%	UKH2	%	UKH3	%	UKH4	%	Total UKH	%
Nbr of participations in projects	324	30,7%	182	17,3%	548	52,0%		0,0%	1054	100,0%
Nbr of coordinations	107	29,0%	35	9,5%	227	61,5%		0,0%	369	100,0%
EC contribution (€Mln)	125 862 554	30,0%	56 401 692	13,4%	237 402 883	56,6%		0,0%	419667128	100,0%

The following table gives presents a break-down of infra-regional participations according to participant types (HES, OTH, PRC, PUB, REC).

**Table 33 Intra regional participations and participation profile according the activity type**

Participant type	UKH1			
	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	76	32	56 214 018	44,7%
OTH	3		2 907 610	2,3%
PRC	103	7	24 132 839	19,2%
PUB	14	3	4 796 653	3,8%
REC	128	65	37 811 434	30,0%
Total	324	107	125 862 554	100,0%
Participant type	UKH2			
	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	102	28	34 693 262	61,5%
OTH	4		420 340	0,7%
PRC	56	6	16 724 228	29,7%
PUB				0,0%
REC	20		4 563 861	8,1%
Total	182	34	56401691,52	100,0%
Participant type	UKH3			
	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES	402	1	174 490 273	73,5%
OTH	1	183	291 750	0,1%
PRC	68	3	18 409 928	7,8%
PUB	2		175 520	0,1%
REC	75	41	44 035 412	18,5%
Total	548	228	237402882,8	100,0%
Participant type	UKH4			
	Nbr of participations in projects	Nbr of coordinations	EC contribution (in €Mln)	%
HES				#DIV/0!
OTH				#DIV/0!
PRC				#DIV/0!
PUB				#DIV/0!
REC				#DIV/0!
Total	0	0	0	#DIV/0!

The following table presents the distribution of infra-regional participations by FP7 themes.

Table 34 Participations among FP7 themes and activities at intra regional level (Nuts n-1)

Num	PROG SPEC	Theme	UKH1		UKH2		UKH3		UKH4	
			nbr	EC contrib	nbr	EC contrib	nbr	EC contrib	nbr	EC contrib
1	COOP	Health	117	60 920 032	35	14 435 690	8	2 236 257	74	44 248 085
2	COOP	Food, Agriculture and Fisheries, and Biotechnology	54	17 300 103	33	11 172 646	10	2 343 831	11	3 783 626
3	COOP	Information and Communication Technologies	134	48 645 052	20	5 849 795	27	13 174 074	87	29 621 183
4	COOP	Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP	65	24 947 919	22	6 606 972	15	7 379 819	28	10 961 128
5	COOP	Energy	12	4 797 738	3	1 250 816	4	1 907 605	5	1 639 317
6	COOP	Environment (including Climate Change)	63	17 577 743	27	7 528 881	19	5 109 696	17	4 939 166
7	COOP	Transport (including Aeronautics)	60	20 336 663	18	7 710 271	26	7 191 276	16	5 435 116
8	COOP	Socio-economic sciences and Humanities	12	2 676 079	4	906 470			8	1 769 609
9	COOP	Space	19	3 368 498	7	1 445 695	6	482 062	6	1 440 741
10	COOP	Security	12	4 289 073	5	1 374 953	5	1 808 600	2	1 105 520
11	COOP	General Activities								
12	CAPACITIES	Research Infrastructures	82	121 475 672	31	49 593 540	1	823 150	50	71 058 981
13	CAPACITIES	Research for the benefit of SMEs	281	64 560 141	51	10 036 887	36	11 751 943	194	42 771 311
14	CAPACITIES	Regions of Knowledge	35	16 707 534	5	806 922	3	363 249	27	15 537 362
15	CAPACITIES	Research Potential	83	9 032 469	55	5 498 802	15	1 418 847	13	2 114 820
16	CAPACITIES	Science in Society	1	80 183	1	80 183				
17	CAPACITIES	Support for the coherent development of research policies	1	0	1	0				
18	CAPACITIES	Activities of International Cooperation	11	1 716 313	4	1 154 510	3	197 736	4	364 067
20	PEOPLE	Marie-Curie Actions	1	71 096			1	71 096		
21	IDEA	European Research Council								
22	EURATOM	Fusion Energy	1	13 200			1	13 200		
23	EURATOM	Nuclear Fission and Radiation Protection	10	1 151 6	2	409 520	2	129 250	6	612 851

				21						
			1 054	419 667 128	324	125 862 554	182	56 401 692	548	237 402 883

## International cooperation

This section aims at giving an overview of the main partners and collaboration themes of the focused region at the European level. The following indicators have been calculated on the basis of all projects including at least one participant from the focused region.

The following table presents the partner regions of the focused region.

**Table 35 Partner regions**

<b>Partner region</b>	<b>Nb of participations</b>	<b>% of total</b>
Ile de France	452	5,3%
LONDON	253	3,0%
BADEN-WÜRTTEMBERG	240	2,8%
NORDRHEIN-WESTFALEN	233	2,7%
SOUTH EAST (ENGLAND)	208	2,4%
BAYERN	208	2,4%
Cataluña	196	2,3%
Lombardia	178	2,1%
Comunidad de Madrid	171	2,0%
VLAAMS GEWEST	158	1,9%
Attiki	157	1,8%
Lazio	148	1,7%
Zuid-Holland	140	1,6%
Etelä-Suomi	137	1,6%
RÉGION DE BRUXELLES-CAPITALE / BRUSSELS HOOFDSTEDE	134	1,6%

The table below presents the main partner organisations of the focused region.

**Table 36 Partner organisations**

<b>Partner organisation</b>	<b>Nb participations</b>	<b>% of total</b>
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	98	1,2%
MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	64	0,8%
FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V	57	0,7%
COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES	55	0,6%
CONSIGLIO NAZIONALE DELLE RICERCHE	54	0,6%
AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	46	0,5%
THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	41	0,5%
UNIVERSITY COLLEGE LONDON	38	0,4%
KATHOLIEKE UNIVERSITEIT LEUVEN	38	0,4%
IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	38	0,4%
DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV	37	0,4%
Eidgenössische Technische Hochschule Zürich	37	0,4%
TEKNOLOGIAN TUTKIMUSKESKUS VTT	36	0,4%
DANMARKS TEKNISKE UNIVERSITET	35	0,4%
INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE (INSERM)	33	0,4%

The following table provides the most frequent European coordinators of participants from the focused region in FP7.

**Table 37 The main coordinators of regional participants**

<b>FREQUENT COORDINATORS</b>	<b>Nb coordinations</b>
TEKNOLOGIAN TUTKIMUSKESKUS VTT	11
FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V	8
DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV	8
	6
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	
VERENIGING VOOR CHRISTELIJK HOGER ONDERWIJS WETENSCHAPPELIJK ONDERZOEK EN PATIENTENZORG	6
	6
INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	
MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V.	6
IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	5
CONSIGLIO NAZIONALE DELLE RICERCHE	5
KATHOLIEKE UNIVERSITEIT LEUVEN	5
	5
ALMA MATER STUDIORUM-UNIVERSITA DI BOLOGNA	
KAROLINSKA INSTITUTET	5
THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	4
STICHTING KATHOLIEKE UNIVERSITEIT	4
UNIVERSITEIT GENT	4





### Annex 3 – CIP ICT participation scoreboard

I. UKH in CIP ICT PSP	UKH	UK	CIP ICT	% of UKH in UK	% of UK in CIP ICT
Nbr of participations in projects	9	171	2141	5,3%	8,0%
Nbr of coordinations	0	6	128	0,0%	4,7%
EC contribution	678 861	20 692 850	304 167 499	3,3%	6,8%

II. Participant Typology/or organisation type	UKH				UK				CIP ICT PSP			
	Nbr of participations in projects	Nbr of coordinations	EC contribution	%	Nbr of participations in projects	Nbr of coordinations	EC contribution	%	Nbr of participations in projects	Nbr of coordinations	EC contribution	%
HES	1		118985	17,5%	38	2	4 097 406	19,8%	345	14	48 931 144	16,1%
OTH				0,0%	22	2	1 788 096	8,6%	230	14	33 768 401	11,1%
PRC	2		119843	17,7%	66		8 188 668	39,6%	835	78	116 503 789	38,3%
PUB	1		166077	24,5%	32	2	4 976 280	24,0%	425	26	67 392 659	22,2%
REC	5		273956	40,4%	13		1 642 400	7,9%	306	22	37 571 506	12,4%
Total	9	0	678861	100%	171	6	20692850	100%	2141	154	304167499	100%

III. Participant Typology/Public-Private organisations	UKH			UK			CIP ICT PSP		
	Nbr of participations in projects	EC contribution	%	Nbr of participations in projects	EC contribution	%	Nbr of participations in projects	EC contribution	%
Private commercial (PRC)	2	119 843	17,7%	66	8 188 668	39,6%	842	117 814 939	38,7%
Private non Profit (PNP)	6	392 941	57,9%	33	2 630 568	12,7%	442	56 873 668	18,7%
Total Private organisations	8	512784	75,5%	99	10 819 236	52,3%	1 284	174 688 607	57,4%
Public Commercial (PUC)	1	166 077	24,5%	6	694 144	3,4%	120	15 166 682	5,0%
Governmental (GOV)			0,0%	66	9 179 470	44,4%	737	114 312 210	37,6%
Total Public organisations	1	166077	24,5%	72	9 873 614	47,7%	857	129 478 892	42,6%
Total	9	678861	100,0%	171	20 692 850	100,0%	2 141	304 167 499	100,0%

IV SME/ legal type	UKH			UK			CIP ICT PSP		
Private commercial (PRC)	0	0	#DIV/0!	37	5 352 093	87,5%	344	49 185 099	76,9%
Private non Profit (PNP)	0	0	#DIV/0!	9	765 213	12,5%	59	14 769 538	23,1%
Total	0	0	#DIV/0!	46	6 117 306	100,0%	403	63 954 637	100,0%

## Annex 4 – CIP IEE participation scoreboard

I. FR82 in CIP IEE	UKH	UK	CIP IEE	% of UKH in UK	% of UK in CIP IEE
Nbr of participations in projects	10	174	2443	5,7%	7,1%
Nbr of coordinations	0	22	235	0,0%	9,4%
EC contribution	1 277 635	22 382 958	241 453 630	5,7%	9,3%

## Annex 5 – ERDF participation scoreboard

<b>I general information</b>		
	<b>ERDF allocated</b>	<b>ERDF comitted</b>
Total in euros :	100 553 267	44 476 067
Innovation and research axis only (n°1) :	37 293 431	12 751 554
Total projects co-funded :		32
Innovation and research axis only (n°1) :		10

<b>II Distribution of ErDF fundings within areas related to research and innovation</b>				
<b>Themes</b>	<b>FOI codes</b>	<b>Measures</b>	<b>EC contrib.</b>	<b>EC contrib.</b>
RTDI and linked activities	1	R&TD activities in research centres :	0	0
	2	R&TD infrastructure and centres of competence in a specific technology :	0	0
	5	Advanced support services for firms and groups of firms	9 311 600	331 152
	7	Investment in firms directly linked to research and innovation	4 000 000	0

		(...):		
	74	Developing human potential in the field of research and innovation, in particular through post-graduate studies (...):	0	0
Innovation support for SMEs	3	Technology transfer and improvement of cooperation networks (...):	7 458 686	5 475 674
	4	Assistance to R&TD, particularly in SMEs (including access to R&TD services in research centres):	7 458 686	3 852 938
	6	Assistance to SMEs for the promotion of environmentally-friendly products and production processes (...):	13 958 071	9 989 278
	9	Other measures to stimulate research and innovation and entrepreneurship in SMEs:	23 708 500	4 604 029
	14	Services and applications for SMEs (e-commerce, education and training, networking, etc.):	0	0
	15	Other measures for improving access to and efficient use of ICT by SMEs:	0	48 348
	ICT and related services	11	Information and communication technologies (...):	3 729 343
12		Information and communication technologies (TEN-ICT):	0	0
13		Services and applications for citizens (e-health, e-government, e-learning, e-inclusion, etc.):	0	0
Other	8	Other investment in firms:	8 000 000	16 214 955

<b>IV Impact and output (innovation and research only) :</b>			<u>Amount foreseen</u>	<u>Amount realised</u>
Unit	Type of indicators			
	Output	P103 - Number/type of SMEs receiving Priority 1 assistance - non innovation	390	3
	Output	p101 - Number of start-up business receiving Priority 1 assistance	1670	2
	Output	p102 - number/type of SMEs receiving Priority 2 assistance -innovation	1550	67
	Output	p104 - No of businesses assisted to improve performance through ICT initiatives	400	0
	Output	p105 - Number/type of low carbon construction enterprise hubs	5	0
	Output	p106 - No of businesses within the region engaged in new collaboration with the new knowledge base	150	68
	Impact	p118 - Increase in the GVA as a result of the Programme	67	0
	Impact	p119 - No of net jobs created	1015,00	0
	Impact	p120 - No of net jobs safeguarded	217,00	0
	Impact	p121 - Net additional number of businesses (by sector, size and location)	700	0
	Impact	p122 - Net additional number of knowledge intensive firms	65	0
	Result	p107 - No of jobs created	1611	2.2

Result	p108 - No of jobs safeguarded	301	8.2
Result	p109 - Number/type of successful innovation related initiatives in SMEs	678	0
Result	p110 - Number/type of successful non innovation related initiatives in SMEs	170	0
Result	p111 - Number/type of successful environmental related initiatives in SMEs	122	61
Result	p112 - Number/type of successful start-up businesses	866	0
Result	p113 - Leverage of private sector funding	7	0
Result	p114 - Leverage of public sector funding	49	0
Result	p115 - Occupancy rate of new or upgraded specialist premises 3yrs after opening (%)	85	0
Result	p116 - Number of new or existing businesses locating to eco-efficient, high quality work spaces	20	0
Result	p117 - Number of businesses integrating new products, processes or services	30	35

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The ESPON 2013 Programme is part-financed by the European Regional Development Fund, the EU Member States and the Partner States Iceland, Liechtenstein, Norway and Switzerland. It shall support policy development in relation to the aim of territorial cohesion and a harmonious development of the European territory.

ISBN 978-2-2919777-27-3