

Appendix IV: Summary of Engineering Units of Assessment in comparison to all EPS Units of Assessment in the 2008 RAE results

This document contains a variety of data drawing comparisons between various Engineering and Physical Sciences (EPS) 'units of assessment' (UoA) from the outputs of the 2008 RAE. Considered Units of Assessment are shown in the table below:

#	Name
18	Chemistry
19	Physics
20	Pure Mathematics
21	Applied Mathematics
22	Statistics and Operational Research
23	Computer Science and Informatics
24	Electrical and Electronic Eng.
25	General Eng. and Mineral & Mining
26	Chemical Eng.
27	Civil Eng.
28	Mech., Aero. & Manufacturing Eng.
29	Metallurgy and Materials
30	Architecture and the Built

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1. Engineering and Physical Science Landscape

Figure 1: The size of the various EPS units of assessment

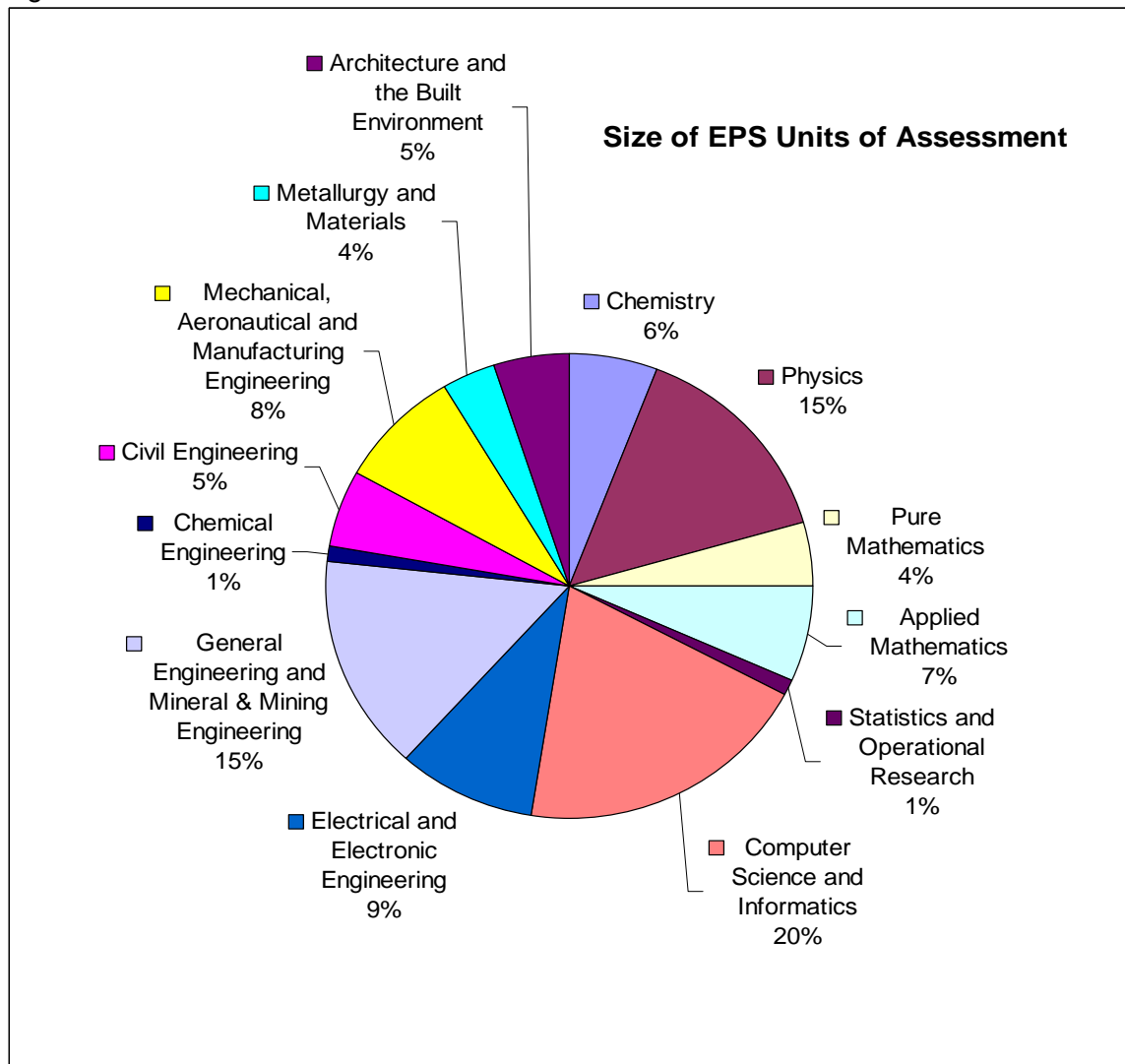


Table 1: The number and size of research groups submitted to each UoA

Unit of Assessment	Number of Research Groups Submitted	Average Headcount of Category A-D per group
Chemistry	68	19.2
Physics	171	12.7
Pure Mathematics	50	16.8
Applied Mathematics	78	13.1
Statistics and Operational Research	12	38.3
Computer Science and Informatics	227	9.9
Electrical and Electronic Engineering	108	9.6
General Engineering and Mineral & Mining Engineering	173	10.9
Chemical Engineering	14	21.5
Civil Engineering	61	10.6
Mechanical, Aeronautical and Manufacturing Engineering	95	12.5
Metallurgy and Materials	43	11.9
Architecture and the Built Environment	57	13.3
EPS Total	1157	12.4

Table 2: Headcounts in the EPS units of assessment

Unit of Assessment	Category A Headcount	Category A FTE	Category B Headcount	Category C Headcount	Category D Headcount	Research Assistants FTE	Technicians FTE	Other Support Staff FTE
Applied Mathematics	830	814.59	164	25	3	210.66	14.95	22.41
Architecture and the Built Environment	642	599.73	93	23	0	270.77	44.8	30.18
Chemical Engineering	243	235.28	49	6	3	269.53	83.26	23.1
Chemistry	1041	1022.61	192	61	10	1299.41	415.99	84.12
Civil Engineering	531	513.16	100	13	0	294.87	146.12	30.07
Computer Science and Informatics	1891	1838.66	323	19	3	1352.28	132.82	159.59
Electrical and Electronic Engineering	866	841.3	148	15	2	913.22	221.71	86.44
General Engineering and Mineral & Mining Engineering	1511	1454.62	320	58	3	1258.16	392.24	135.07
Mechanical, Aeronautical and Manufacturing Engineering	1054	1023.68	99	30	3	927.52	356.06	93.04
Metallurgy and Materials	393	374.64	101	18	1	432.65	173.93	30.77
Physics	1731	1685.57	372	62	2	1626.22	644.53	205.54
Pure Mathematics	666	644.25	149	19	4	79	3.07	7.02
Statistics and Operational Research	368	358.78	83	8	0	103.83	3.68	12.4
EPS Total	11767	11406.87	2193	357	34	9038.12	2633.16	919.75

Figure 2: Staff summary for EPS Units of Assessment

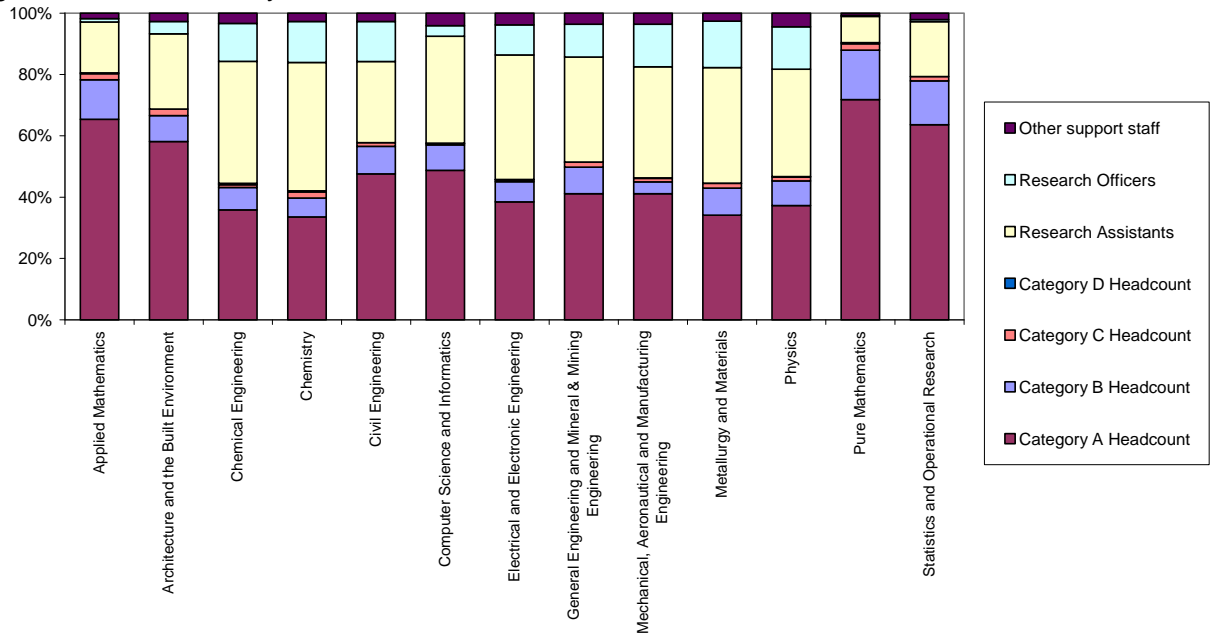


Figure 3: RAE scores across all of the EPS UoAs

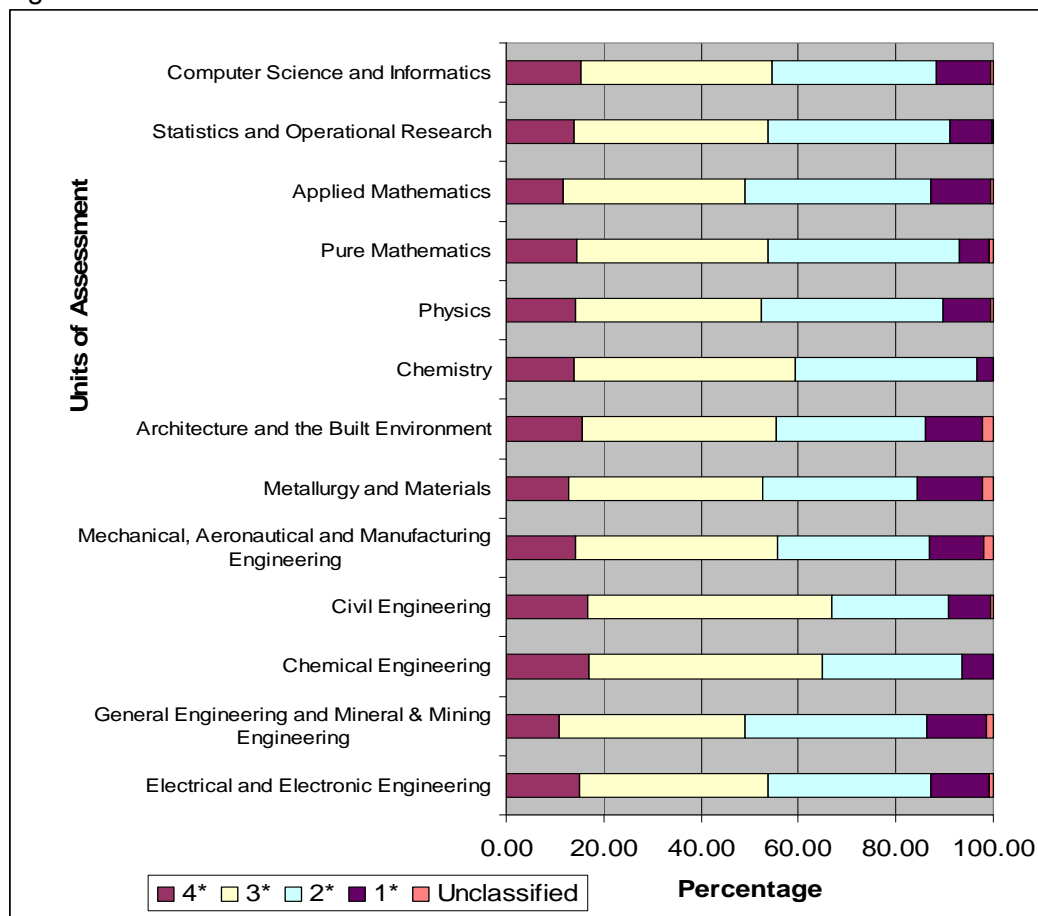
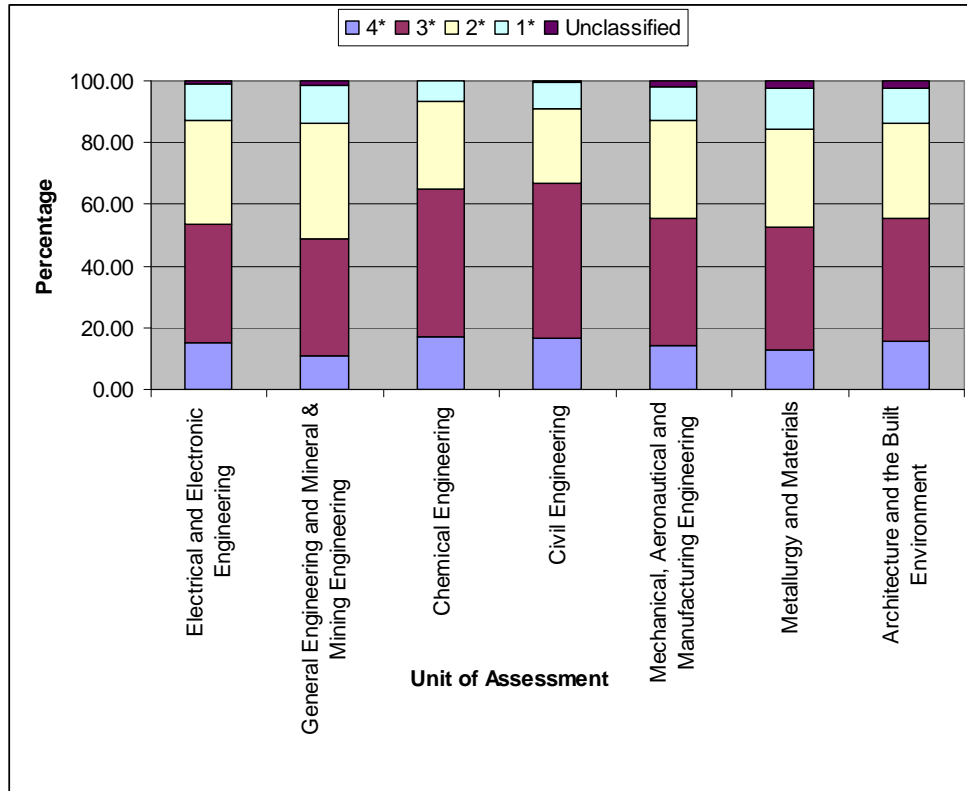


Figure 4: RAE scores across traditional engineering disciplines



2. Research Income

Figure 5: Total external research income across EPS UoAs (excluding physics which dominates graph)

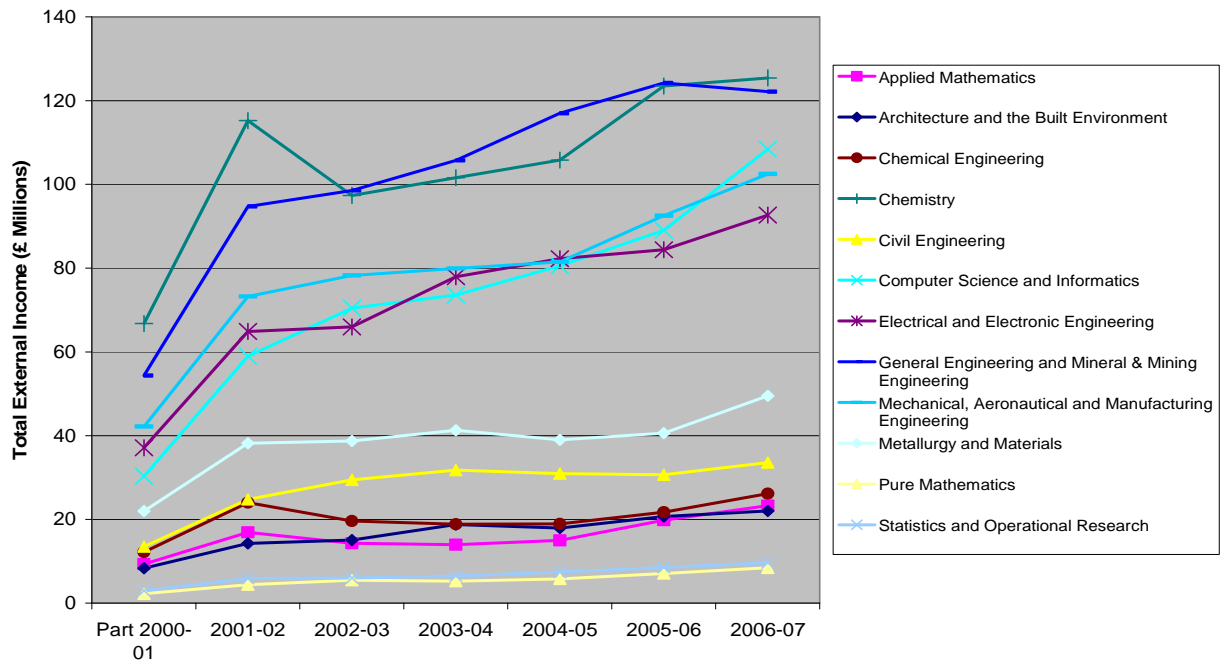


Figure 6: Research Council income for EPS UoAs

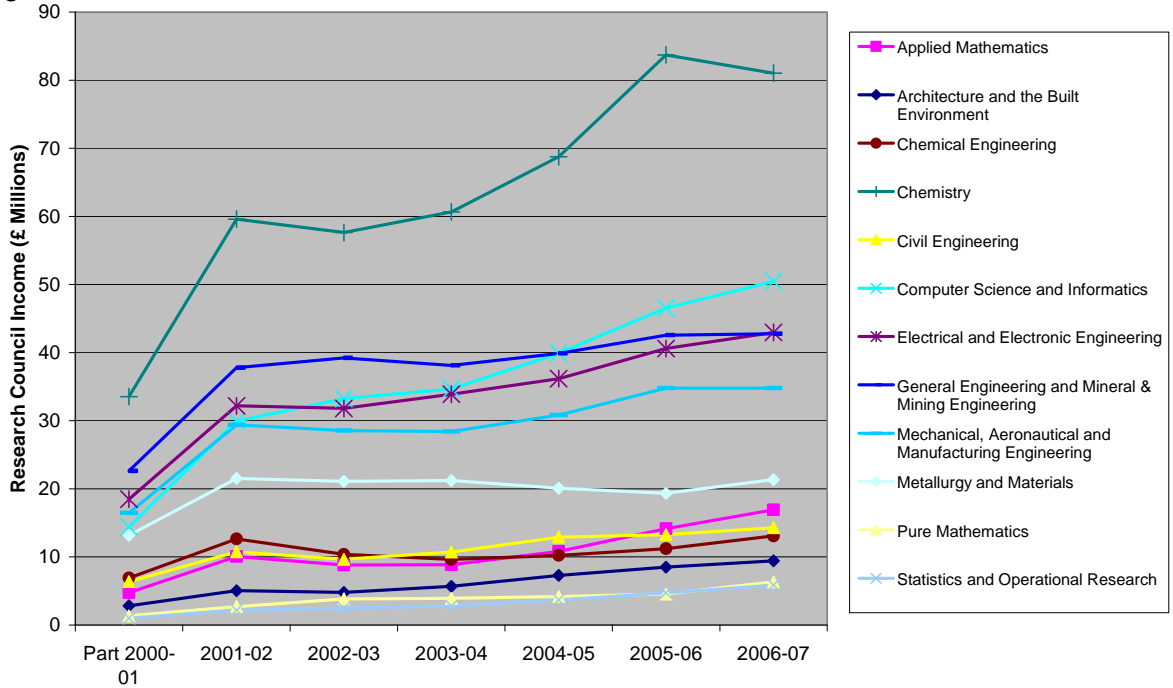


Figure 7: Proportion of income provided by research councils across EPS UoAs

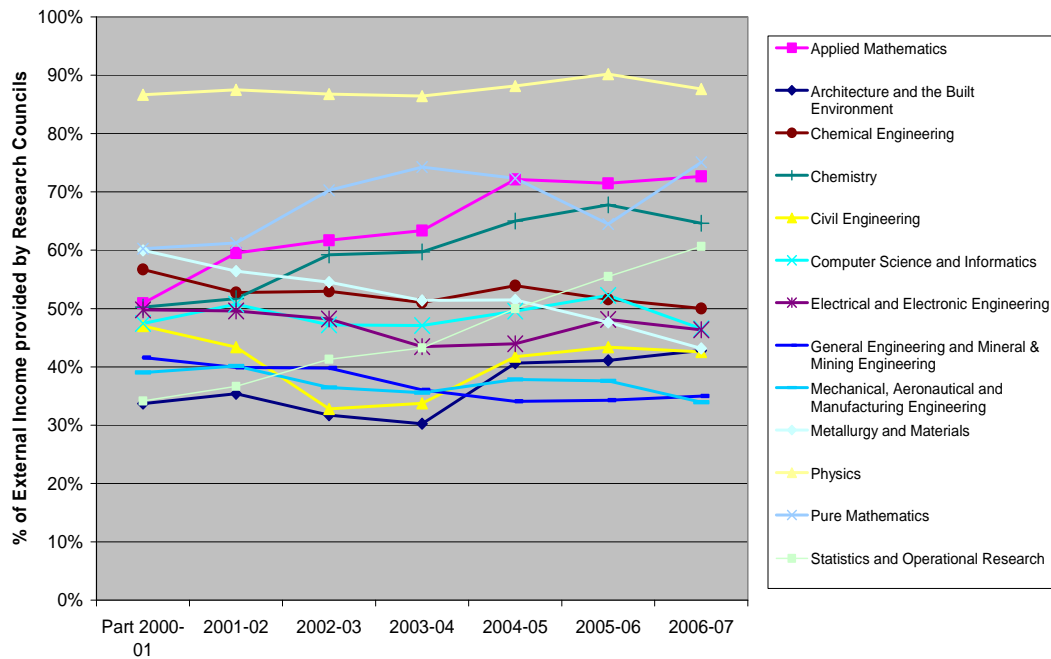
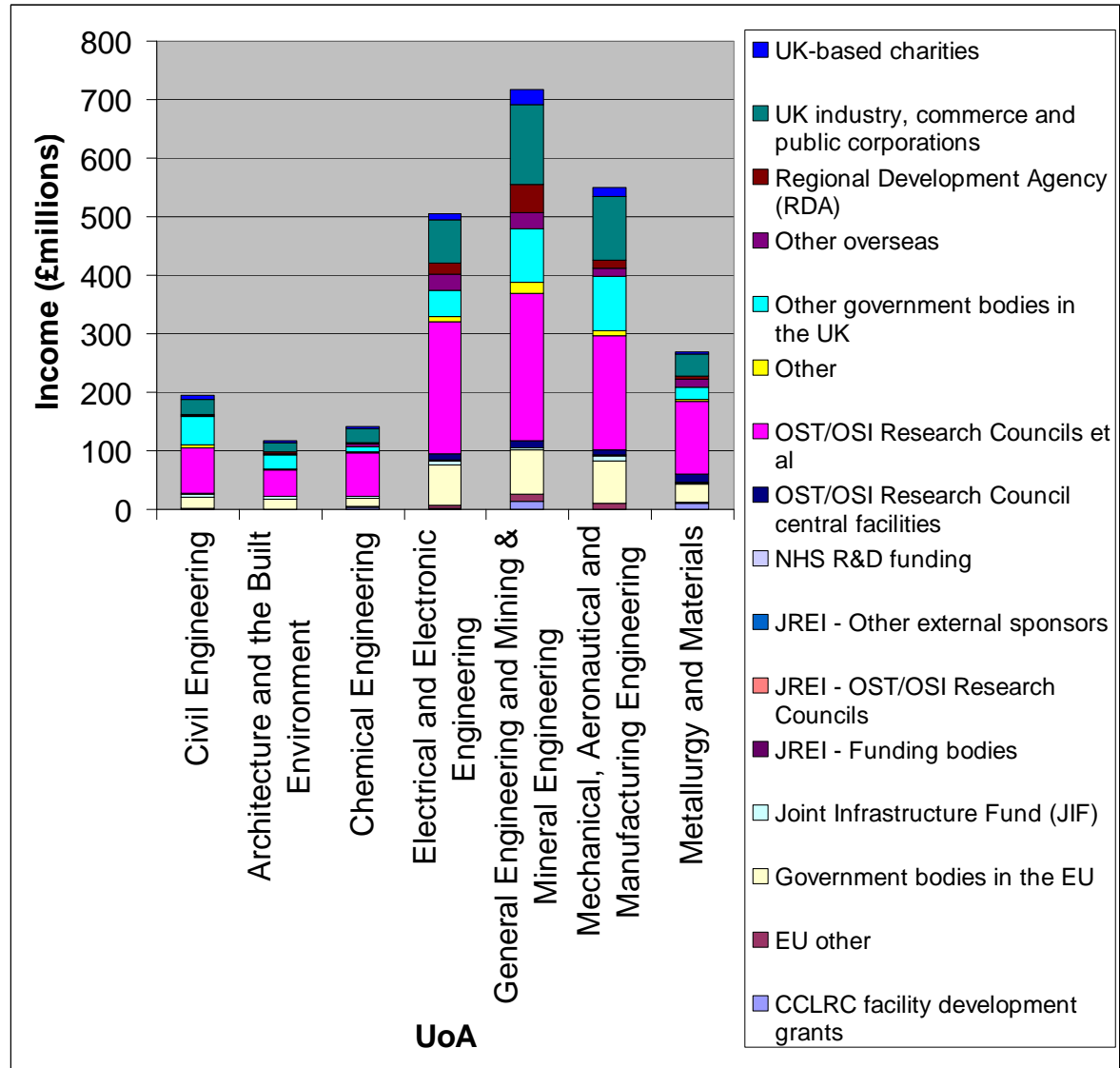


Figure 8: Size and scale of external income in Engineering UoAs



3. Research Outputs

Figure 8: Dissemination routes for EPS UoAs

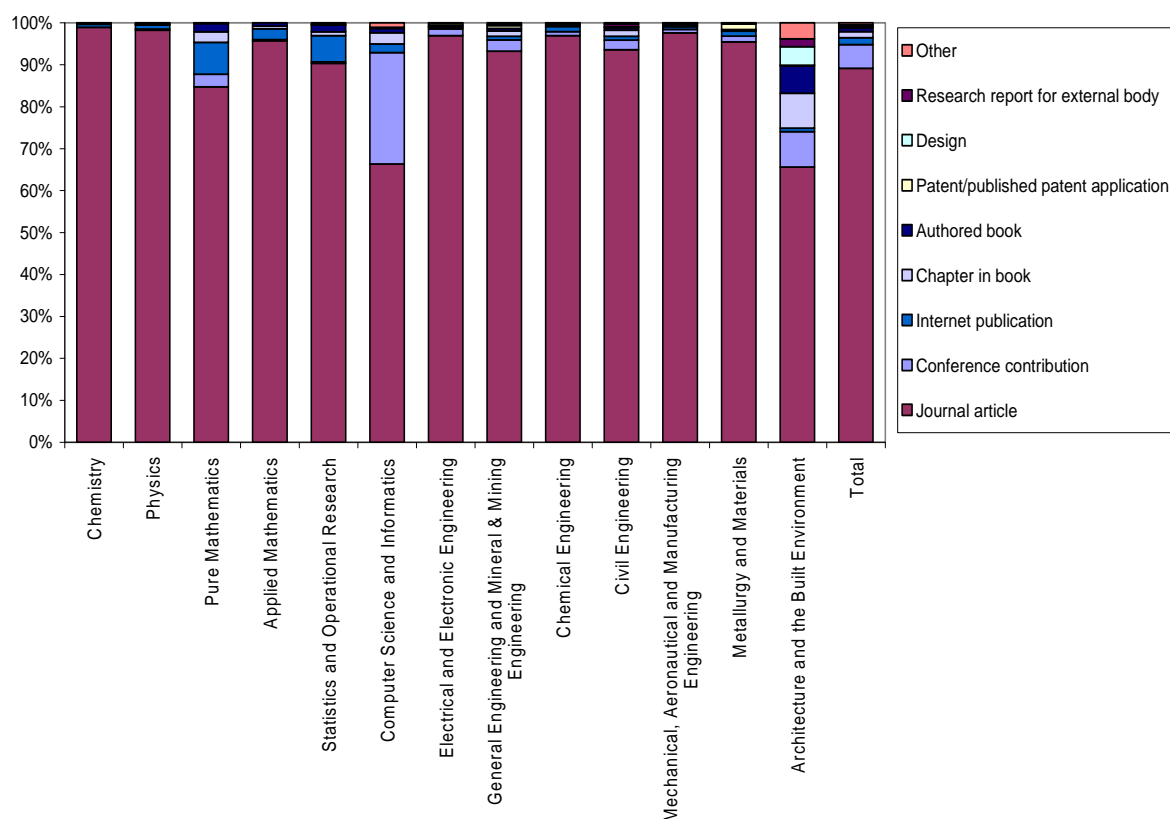


Table 3: Number of co-authors per Unit of Assessment

Unit of Assessment	Co-Authors	Authors per Output
Applied Mathematics	5268	2.59
Architecture and the Built Environment	3787	2.51
Chemical Engineering	2452	3.97
Chemistry	16932	4.86
Civil Engineering	4469	3.17
Computer Science and Informatics	15917	3.13
Electrical and Electronic Engineering	9719	3.90
General Engineering and Mineral & Mining Engineering	16005	3.73
Mechanical, Aeronautical and Manufacturing Engineering	9550	3.37
Metallurgy and Materials	4967	4.14
Physics	236952	34.14
Pure Mathematics	2526	1.97
Statistics and Operational Research	3040	3.24
Total EPS	331584	8.13

NB: if Physics is removed from the overall figure, average authors per output reduces to **3.38**

Figure 9: Number and percentage of external co-authors

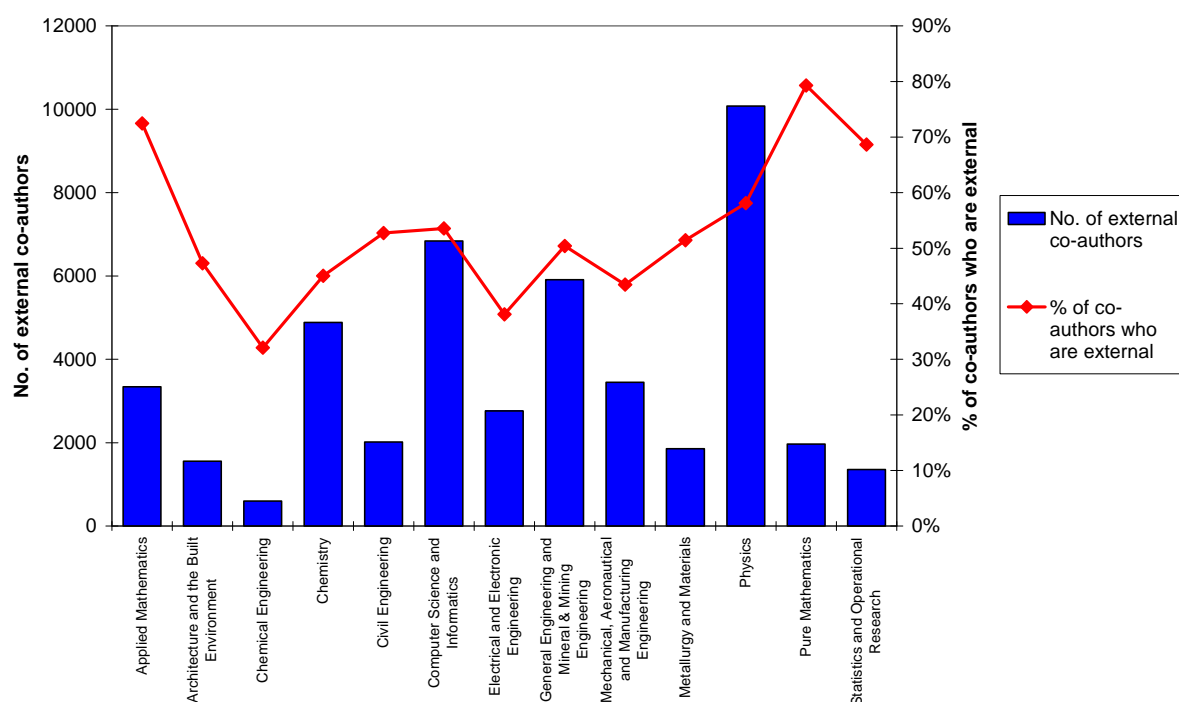


Table 4: Number and proportion of 'interdisciplinary' outputs

Unit of Assessment	No. of Interdisciplinary outputs	% of outputs which are interdisciplinary
Applied Mathematics	156	5%
Architecture and the Built Environment	132	5%
Chemical Engineering	70	8%
Chemistry	298	7%
Civil Engineering	116	6%
Computer Science and Informatics	752	10%
Electrical and Electronic Engineering	173	5%
General Engineering and Mineral & Mining Engineering	399	7%
Mechanical, Aeronautical and Manufacturing Engineering	193	5%
Metallurgy and Materials	45	3%
Physics	311	4%
Pure Mathematics	108	4%
Statistics and Operational Research	112	8%
Total EPS	2865	6%

Figure 10: Overall Number of outputs 2001-2007:

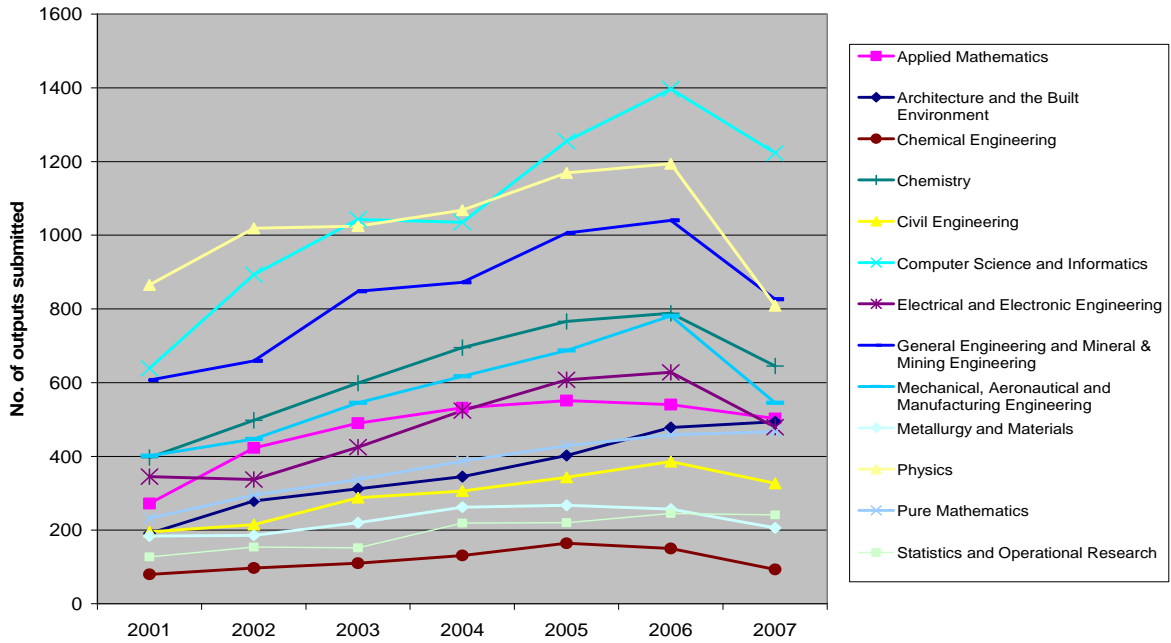


Figure 11: Average Total Outputs by Units of Assessment

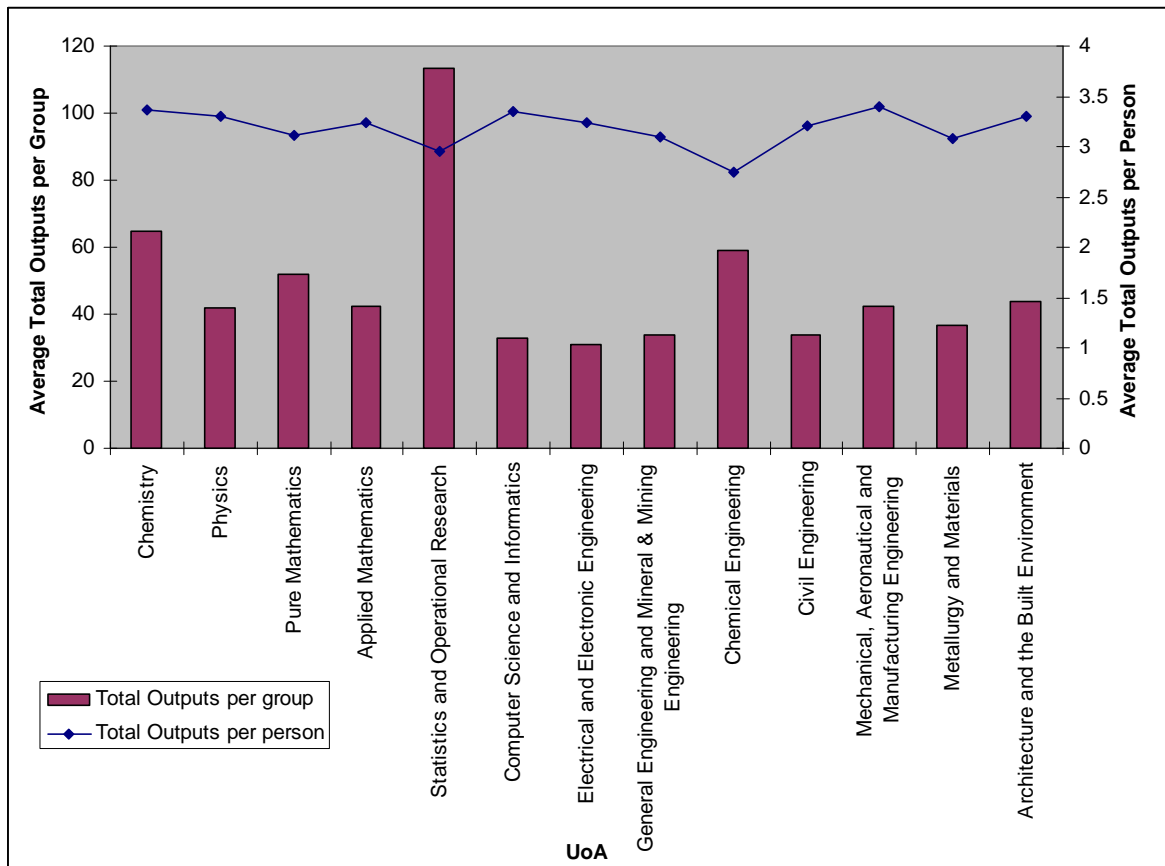


Table 5: Publishers in Civil Engineering

Publisher	Count Of Output
Geotechnique	62
International Journal for Numerical Methods in Engineering	33
Computer Methods in Applied Mechanics and Engineering	30
Water Resources Research	27
Magazine of Concrete Research	26
Journal of Hydrology	25
Environmental Science & Technology	23
Coastal Engineering	22
Cement and Concrete Research	21
Journal of Hydraulic Engineering	21

Table 6: Publishers in Civil Engineering

Publisher	Count Of Output
Routledge	51
Construction Management and Economics	50
Building and Environment	46
Construction Management & Economics	42
Building Research & Information	37
Automation in Construction	34
Structural Survey	34
Energy and Buildings	30
Facilities	29
Engineering, Construction and Architectural Management	23