efca

2021

Sector Review

A Foreword by the President

Benoît Clocheret
EFCA President

Consulting engineering firms have faced many challenges over many decades, for our main task has always been to manage complexity to create a better world. Today's COVID-19 pandemic is certainly no exception. For example, our industry has been able to respond promptly and extremely efficiently to urgent requests to organise and help establish temporary medical centres and hospitals worldwide.

There have also been positive, long-lasting outcomes of this unprecedented crisis. Our eyes have been opened not only to structural weaknesses inherent to globalisation but also to opportunities. The crisis has prompted us to apply our expertise in radical new ways, using data, technology and modelling to help clients and society adapt. Firms are in fact now working out how to design and implement tools which allow us to visualise the built environment – not only how it looks but also how it works.

Day in and day out, we are better able to demonstrate to clients and communities how decisions are linked to costs and environmental impacts. As an industry, we need in particular to ensure that talented professionals recognise the importance of developing and maintaining a safe, hospitable and environmentally efficient built environment. Young professionals and experienced practitioners both fully understand that we are entering a new era where construction-related professional services must provide unequivocal support for the Sustainable Development Goals and climate change commitments.

The EFCA Sector Review aims to highlight the strength and vital importance of our industry as well as the significant developments that are taking place in our various market sectors. In this respect, the review first surveys the top 125 groups and companies that provide engineering services for construction in Europe. In parallel, it also consolidates and ranks the top 100 engineering firms with headquarters in Europe according to their global turnover in order to portray the vigour of Europe's firms worldwide.

The review then summarises how firms in each of the main market sectors are repositioning strategically to meet the challenges. The changes that have taken place are recorded in terms of divestments and acquisitions within and between sectors carried out globally by the top 125 firms operating in Europe. The cross-cutting developments that reflect trends such as digitalisation, data-driven solutions, the increased combination of architecture and engineering services, and climate change mitigation and adaptation are perhaps the most revealing.

EFCA is fully aware that in macro-economic terms the provision of engineering services for construction represents a relatively small part of the overall construction industry. However, as the review points out, engineering services for construction – be they for planning, design, implementation, operation, or end-of-life – play a key role in enabling the entire construction value chain to deliver, maintain and adapt the critical infrastructure that is vital for all of us. We take great pride in our ability to provide independent advice and expertise to accelerate a fast-transitioning world.

EFCA's plan is to repeat the survey and review each year. In the meantime, we look forward to comments and suggestions, and of course value greatly future engagement in the survey.

Highlights for 2020 and 2021

Engineering services in Europe in 2020

turnover: €24.9 billion

turnover per staff member: €115000

headquarters in Europe: 8 of the top 10 firms operating in Europe

Infrastructure dominates

turnover by market sector: Buildings - 23%; Infrastructure - 34%, Environment - 21%; Energy - 9%; Industry and Oil & Gas - 8%; Other - 5%.

engineering services for infrastructure (broadly defined as construction other than Buildings):

- 28% of engineering services turnover.
- correspond to significantly more than the average demand in Europe.

Important global operations

global turnover: €78.3 billion

top 10 engineering services firms operating and headquartered in Europe: includes 8 of the top 20 firms ranked by global turnover.

global staff: 580000 (54% based outside Europe)

global turnover per staff member: €135000

global presence: 9 countries per firm

Market developments

post-pandemic impacts unclear, although much recovery investment is planned (6.4% of the top 125 firms' global turnover over several years).

construction investment accelerated in the 4th quarter of 2020.

top 125 engineering services firms' global turnover: decreased in 2020 relative to 2019 for 54% of the firms (but the average increased by 1.6%).

major publically listed groups global turnover: year-on-year increase of 3% for the first nine months of 2021 relative to 2020.

Business developments

significant investment by funds, attracted by 4 to 5% organic growth.

North America based majors exiting own-account, at-risk contracting.

Industry and Oil & Gas

continued solid growth in conventional sectors.

strategic divestment towards renewable energy.

unclear if the move to renewables will lead to a greater externalisation of engineering services.

Buildings

strong move towards high-performance buildings.

acquisitions focus on specialists and new geographic markets.

integrating engineering with architecture is a dominant trend, especially in Scandinavia.

significant incorporation of urban planning.

Infrastructure

autoroute concession changes leading to a reorganisation of engineering services in Italy.

several railway technology acquistions.

Environment and Energy

water infrastructure and management remain core areas.

comparatively little activity related to renewable energy.

a broad range of mergers and acquisitions across environmental services, from nuclear waste to water infrastructure.

sustainability planning, due diligence and building management have strengthened service offerings.

UK-based environmental services groups expanding.

Cross-sector

maintaining a leading position in national and regional core markets remains.

digitalisation impacting all areas at all project phases, with new service offerings in many cases.

The top 125 survey

Global trends are encouraging most industries to redefine how they meet challenges. None more so than those in the construction value chain which delivers the buildings and infrastructure that provide the essential basis for development and sustainability.

Accelerating urbanisation is creating a growing demand for sustainable transportation, affordable housing and efficient water management. Climate change calls for radically new approaches for generating and distributing low-carbon energy while ensuring resilience. The built environment needs to be smarter and more environmentally friendly. Globalisation and industrial-scale building technologies are taking hold in the construction sector. Digitalisation, improved data security, data-driven solutions, and machine learning using huge datasets open up avenues for better-informed investment decisions, improved designs and new business models.

Engineering services for construction – the professional services needed for constructing the built environment – guide, manage and support the construction value chain. These services arise in master planning, preliminary studies, design, procurement, technical assistance, project, contract and construction management, environmental engineering, and quantity surveying. They play a key role in enabling the construction value chain meet the interlinked climate and energy crises while ensuring a safe, inclusive and sustainable future.

The EFCA Sector Review aims to highlight the importance of engineering services for construction and the role they play in Europe. It does so by surveying the businesses that supply these services at every stage of the extended life-cycle of the assets that make up the built environment.

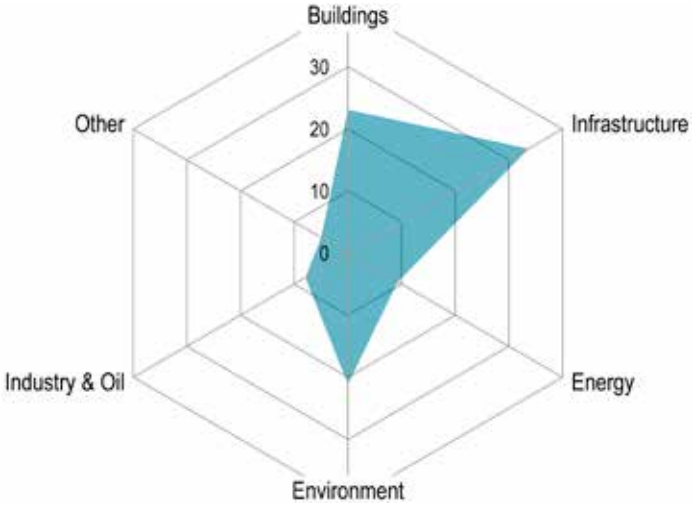
The EFCA Sector Review survey considered companies and groups whose turnover in Europe for engineering services for construction exceeded one-half of their total global turnover. The top 125 firms are therefore ranked in the table starting on page 6 according to the turnover in Europe for engineering services for construction. Every effort was made to survey firms with a turnover in Europe that was above about €20 million. However, it was likely that some firms that should be listed in the top 125 were omitted, partly because survey responses were not received or adequate data were not available.

Europe's top 10 engineering services firms

The turnover in Europe of the 125 firms for engineering services for construction amounted to €24.9 billion. The top 10 firms headed by SWECO, WSP and AFRY included eight groups with headquarters in Europe. Ranked by the headcount in Europe, Jacobs, AECOM, and Egis replaced Arup, COWI, and Norconsult.

The top 125 firms' total global turnover of €78.3 billion emphasises the importance of firms that operate in Europe for the supply of engineering services for construction worldwide.

For the top 125 firms that also have their headquarters based in Europe, of the top 20 firms ranked by the total



Global turnover by market sector, as a percentage of the total global turnover, for the top 125 engineering services firms.

global turnover (see page 9), SWECO, AFRY, Rambøll, Mott MacDonald, Arup, COWI, Norconsult, and Arcadis also ranked in the top 10 for engineering services for construction in Europe.

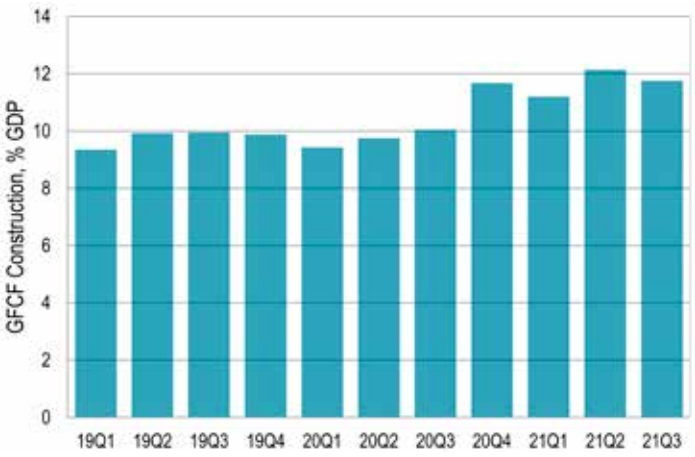
Infrastructure dominates

For the 125 top firms, the global turnover by market sector as a percentage of the total global turnover follows the Engineering News - Record [1] scheme whereby: Buildings (23%) includes general building and service facilities; Infrastructure (34%) includes transportation and telecommunications; Energy (9%) equates to power; Environment (21%) includes water supply, sewerage and solid waste disposal and hazardous waste; Industry & Oil (8%) includes industrial process plant and oil and gas. The balance of 5% is for Other.

Since separating construction activity by market sector and asset class is challenging, a widely adopted approach is to distinguish buildings and infrastructure. For the top 125 firms, the turnover for engineering services for Buildings amounted to €7.0 billion and the remainder, referred to as the turnover for engineering services for infrastructure, amounted to €17.9 billion.

As a percentage of Gross Domestic Product (GDP), the investment in infrastructure in Europe in 2019 is estimated to be 1.63% by the European Investment Bank using project data and the investment (Gross Fixed Capital Formation) in civil engineering works given by national accounts [2]. The total investment (GFCF) in construction as a percentage of GDP was the same in 2019 and 2020 (see figure on page 5) so the investment in infrastructure in 2020 can be assumed to be 1.63% of GDP.

The balance (8.6%) of the total investment in construction in Europe in 2020 (10.23% of GDP) is for the construction of buildings. The investment in infrastructure was therefore 16% of the investment in construction in Europe in 2020. Assuming that investments in buildings and in infrastructure generate the same demand for engineering services, the turnover for



The investment (GFCF) in construction in Europe from 2019 to Quarter 3, 2021 as a percentage of GDP. Source: Eurostat (current prices; not seasonally adjusted)

engineering services for infrastructure also amounts to 16% of the total turnover for engineering services.

However, for the top 125 firms, 28% of the engineering services turnover is for infrastructure. The top 125 firms therefore supplied significantly more than the average amount of engineering services for infrastructure in Europe. This feature highlights the importance world-wide of the top 125 firms.

A global presence

In 2020, to ensure proximity to clients globally, more than one-half (54%) of the 125 firms' 580000 staff members were based outside Europe in permanent locations in nine countries per firm. The average global turnover per staff member was €135000.

For the top 125 firms that had most (at least 90%) of their global turnover in Europe, the average turnover for engineering services for construction in Europe per staff member was €115000. For the same firms, the average total turnover per staff member was €124000 globally and €123000 in Europe.

Market developments

Immediate issues such as staff cuts, delayed investment decisions and the impact on direct costs owing to the COVID-19 pandemic drew attention away from strategic issues in 2020, and again in 2021. The pandemic's effects and outcomes are well documented; the effect on engineering services of the UK leaving the European Union (EU) much less so.

The global turnover decreased in 2020 relative to 2019 for 54% of the top 125 firms for which accurate data are available. The average change in the turnover was in fact a positive 1.6%, possibly because growth by acquistion more than compensated a negative organic growth. A detailed analysis is needed to determine if this is the case.

The limited data available for 2021 suggest an average rebound of 3% for the global turnover in the first three quarters of 2021 for the large, publically listed groups.

Regional stimuli and recovery plans will increase the medium-term demand for engineering services, both

The top 125 survey - a glossary

Rank
Companies and groups with operations based in Europe are ranked according to the turnover for engineering services (called "services" in the following table) for the construction of built-environment assets (as opposed to activities such as those related to the manufacturing of products). These services arise in master planning, preliminary studies, urban planning, design, procurement, technical assistance, project, contract and construction management, environmental engineering, and quantity surveying.

Name
The name under which a company or group trades. Those marked with an asterisk (*) responded to the survey. Estimates were made for the remainder.

HQ
"Global HQ" corresponds to the country in which a company or group has its legally established headquarters. Europe is defined as including the EU Member States, the European Free Trade Association countries, the EU Candidate Countries, and Ukraine.

Turnover
Turnover refers to gross turnover, in other words total income which is often similar to gross revenue for companies and groups supplying engineering services. Thus in many cases, gross revenue or gross sales is reported as turnover. Occasionally net revenue (gross revenue less sub-consultant, sub-contract and other direct expenses) is reported, but this is not indicated in the table. Networks and partnerships are excluded.

The turnover reported is the total amount of the company or consolidated group turnover globally and inside Europe for construction-related activity at the end of the fiscal year that covers all or most of 2020, regardless of the location of projects. If the fiscal year mainly covers 2019, this is noted in the table.

Firms are included if the turnover for engineering services in Europe is more than one-half (±10%) of the total global turnover. Turnovers are given in Euro (Eurostat currency exchange rates [3] are used).

Headcount
The "Headcount – Global" and "Headcount – Europe" is the number of full-time employees globally and inside Europe at the end of the fiscal year that covered all or most of 2020. Headcounts do not take into account the location of projects and part-time staff. In some cases, only the average headcount or the number of full-time equivalent staff is available, but this distinction is not indicated in the table.

Countries
The number of countries, both globally and in Europe, refers to the countries in which a company or group has a legally established operating entity at the end of the fiscal year covering all or most of 2020.

The top 125 engineering services firms operating in Europe ranked by engineering services turnover in Europe

No.	Name	HQ	Turnover, € miillion			Headcount		Countries		Web domain	CEO
			Services	Europe	Gobal	Europe	Global	Europe	Global		
1	Sweco *	Sweden	1990	1990	1990	18552	18552	16	17	swecogroup.com	Åsa Bergman
2	WSP	Canada	1721	1721	5632	15100	47000	14	40	wsp.com	Alexandre L'Heureux
3	AFRY	Sweden	1628	1760	1893	14700	15871	21	51	afry.com	Jonas Gustavsson
4	SNC-Lavalin	Canada	1220	1279	4483	9400	37584	15	43	snclavalin.com	Ian L. Edwards
5	Rambøll *	Denmark	1020	1274	1827	11913	15896	18	33	ramboll.com	Jens-Peter Saul
6	Mott MacDonald	UK	920	1004	2008	7500	15107	14	48	mottmac.com	Mike Haigh
7	Arup	UK	915	930	2041	7500	15609	10	32	arup.com	Alan Belfield
8	COWI *	Denmark	668	742	865	5868	6682	7	20	cowi.com	Lars-Peter Søbye
9	Arcadis *	Netherlands	652	1019	2862	10000	27939	12	30	arcadis.com	Peter Oosterveer
10	Norconsult	Norway	583	662	662	4400	4600	5	12	norconsult.com	Egil Hogna
11	Egis	France	578	653	1070	8680	15500	5	82	egis.fr	Laurent Germain
12	Fugro	Netherlands	502	540	1386	3114	8724	16	67	fugro.com	Mark R.F. Heine
13	Artelia *	France	486	575	637	5150	6100	15	43	arteliagroup.com	Benoît Clocheret
14	Tractebel *	Belgium	458	458	516	3325	4967	7	15	tractebel-energie.com	Philippe Van Troeye
15	Antea	Netherlands	403	403	493	2300	3345	5	18	anteagroup.com	Tanja Lendzion
16	Royal HaskoningDHV	Netherlands	398	425	581	3797	4988	5	28	royalhaskoningdhv.com	Erik Oostwegel
17	Turner & Townsend	UK	391	391	853	3524	6801	13	46	turntown.com	Vincent Clancy
18	AECOM	USA	388	655	11303	9000	54000	24	72	aecom.com	Troy Rudd
19	Black & Veatch [a]	USA	380	815	2608	1900	10400	4	25	bv.com	Steven L. Edwards
20	SYSTRA *	France	360	360	668	3500	7860	10	35	systra.com	Pierre Verzat
21	RPS	UK	359	359	603	3800	5055	4	10	rpsgroup.com	John Matheson Douglas
22	Tetra Tech	USA	359	359	2558	1500	20000	4	20	tetratecheurope.com	Dan L. Batrack
23	RSK	UK	322	358	358	5100	6000	13	36	rsk.co.uk	Alan Ryder
24	PM	Ireland	261	350	398	2800	3000	5	10	pmgroup-global.com	David Murphy
25	INECO	Spain	252	270	299	3500	3573	7	21	ineco.com	Carmen Librero Pintado
26	Setec	France	250	250	328	2400	3000	5	18	setec.fr	Michel Kahan
27	Rejlers *	Sweden	243	243	247	2300	2370	3	4	rejlers.se	Viktor Svensson
28	Drees & Sommer	Germany	236	512	517	3750	3800	15	19	dreso.com	Steffen Szeidl
29	Tyréns *	Sweden	227	284	287	2802	2802	6	7	tyrens.se	Johan Dozzi
30	Fichtner	Germany	226	226	226	1800	1800	13	32	fichtner.de	Andreas Weidler
31	Stantec *	Canada	226	226	2875	2388	22000	8	22	stantec.com	Gord Johnston
32	IDOM	Spain	223	247	320	3280	4000	9	13	idom.com	Luis Rodríguez Llopis
33	Ingérop *	France	219	231	246	1956	2115	9	23	ingerop.com	Yves Metz
34	Jacobs	USA	213	1925	11588	12600	55000	11	35	jacobs.com	Steven J. Demetriou
35	Italferr	Italy	208	208	223	1630	1758	4	13	italferr.it	Aldo Isi
36	Ginger *	France	198	198	200	2000	2200	4	4	groupeginger.com	Philippe Margarit
37	NIRAS *	Denmark	184	292	296	2135	2210	13	30	niras.com	Tina Hørbye Christensen
38	Ayesa *	Spain	165	165	256	3149	4850	6	17	ayesa.com	José Luis Manzanares
39	Bilfinger Tebodin	Netherlands	162	162	162	1600	1600	9	9	tebodin.bilfinger.com	Wim van den Brink
40	DPS	Ireland	158	171	245	1100	2000	5	9	dpsgroupglobal.com	Frank Keogh
41	Wayss & Freytag	Germany	150	300	300	1100	1100	1	1	www.wf-ib.de	Michael Blaschko
42	Dorsch	Germany	141	203	225	3060	3400	3	7	dorsch.com	Olaf Hoffmann
43	Asplan Viak	Norway	138	138	138	1227	1227	2	2	asplanviak.no	Elisabeth Tørstad
44	Amstein + Walthert	Switzerland	136	136	136	1128	1128	2	2	amstein-walthert.ch	Christian Appert
45	Iv	Netherlands	134	134	134	800	800	1	1	iv-groep.nl	Rob van de Wall
46	ILF [a]	Austria	132	147	210	1540	2200	12	38	ilf.com	Klaus Lässer
47	Gruner	Switzerland	130	130	130	1018	1018	3	6	gruner.ch	Olivier Aebi
48	Sener [a]	Spain	122	366	434	2700	3250	5	21	sener.es	Jorge Unda
49	Movares	Netherlands	121	121	121	911	911	1	1	movares.nl	Sander Eijgenraam
50	PE Teknik & Arkitektur *	Sweden	120	120	120	964	964	2	2	pe.se	Helena Hed
51	GOPA Consulting *	Germany	118	118	196	480	800	6	14	gopa-group.org	Martin Güldner
52	Dar [a]	UAE	115	139	1834	3000	18602	13	60	dargroup.com	Talal Shair
53	TPF *	Belgium	110	133	226	1621	4000	9	32	tpf.eu	Thomas Spitaels
54	Witteveen+Bos	Netherlands	109	109	156	1310	1330	4	11	witteveenbos.com	Wouter Bijman
55	Golder	USA	108	108	811	850	7000	13	25	golder.com	Tom Logan
56	Buro Happold	UK	104	104	221	900	1900	5	11	burohappold.com	James Bruce
57	Granlund *	Finland	103	103	103	1095	1095	3	5	granlundgroup.com	Pekka Metsi
58	Tauw	Netherlands	97	144	144	1229	1229	6	6	tauw.com	Henrike Branderhorst
59	SUEZ Consulting *	France	93	93	127	800	1200	15	24	suez.com	Bruno Hervet
60	TYPSA *	Spain	88	88	240	1355	2845	7	32	typsa.com	Pablo Bueno Tomás
61	BG Cons. Engineers	Switzerland	81	81	81	640	640	4	5	bg-21.com	Pierre Epars

62	Géotec *	France	74	74	77	670	770	2	4	geotec.fr	Olivier Barnoud
63	Rapp	Switzerland	70	70	70	475	475	2	2	rapp.ch	Annette Rapp
64	Assmann	Germany	70	70	70	480	480	1	1	assmann.info	Peter Warnecke
65	SINA	Italy	69	69	70	270	270	1	1	sinaing.it	Alberto Pernigotti
66	Fairhurst	UK	64	64	64	500	500	1	1	fairhurst.co.uk	Bob McCracken
67	Oosterhoff	Netherlands	61	61	61	511	511	3	3	oosterhoffgroup.eu	Gerard Doos
68	Parlym *	France	60	60	90	700	800	2	8	parlym.com	Johann Charrier
69	RINA Consulting	Italy	59	72	256	1400	1900	6	22	rina.org	Roberto Carpaneto
70	Holinger	Switzerland	58	58	58	527	527	3	4	holinger.com	Peter Rudin
71	Pick Everard	UK	56	56	56	550	550	1	1	pickeverard.co.uk	Duncan Green
72	Hill International	USA	52	44	300	500	2900	15	36	hillintl.com	Raouf S. Ghali
73	Efla *	Iceland	52	52	52	380	380	8	8	efla.is	Sæmundur Sæmundsson
74	Pell Frischmann	UK	52	52	53	523	523	1	1	pellfrischmann.com	Iain Bisset
75	Cundall [a]	UK	52	52	76	849	879	5	11	cundall.com	Tomás Neeson
76	Deerns	Netherlands	51	51	51	438	438	6	9	deerns.com	Tjerk van der Meer
77	Lombardi	Switzerland	51	51	51	650	700	5	11	lombardi.group	Roger Bremen
78	Bjerking *	Sweden	50	50	50	398	398	1	1	bjerking.se	Anders Wärefors
79	Sofrecom *	France	50	52	113	1879	2186	2	10	sofrecom.com	Guillaume Boudin
80	Proger *	Italy	47	72	88	313	466	3	14	proger.it	Umberto Sgambata
81	Keran *	France	45	45	55	552	555	1	4	groupe-keran.com	Yves Gillet
82	Bengt Dahlgren	Sweden	45	62	67	533	533	1	1	bengtdahlgren.se	Erik Bolander
83	Spea Engineering	Italy	41	41	54	650	650	7	9	spea-engineering.it	Antonino Galatà
84	SLR	UK	39	39	195	840	1638	4	13	slrconsulting.com	Neil Penhall
85	Solwers *	Finland	38	42	42	371	371	2	2	solwers.fi	Stefan Nyström
86	Hochtief Engineering *	Germany	38	40	45	340	540	14	14	hochtief-enginering.de	Hansgeorg Balthaus
87	Tony Gee	UK	37	37	45	200	334	1	8	tonygee.com	Chris Young
88	Forsen	Sweden	34	34	34	191	191	1	1	forsen.com	Bengt Johansson
89	Hatch	Canada	34	34	1123	200	6701	2	16	hatch.com	John Bianchini
90	IBI	Canada	31	31	323	450	3000	3	12	ibigroup.com	Scott Stewart
91	OJ Råd. Ingeniører *	Denmark	31	31	31	310	310	1	1	ojas.dk	Brian Thyregaard Andreasen
92	ELU Konsult *	Sweden	30	30	30	235	235	1	1	elu.se	Charlotte Bergman
93	Pini	Switzerland	30	30	30	330	400	4	5	pini.group	Andrea Galli
94	CDM Smith	USA	29	35	896	200	5100	5	23	cdmsmith.com	Timothy B. Wall
95	Bérim	France	28	28	28	299	299	1	3	berim.fr	Hervé Brogat
96	Hifab *	Sweden	28	28	34	230	300	2	3	hifab.se	Patrik Schelin
97	OTE Ingénierie *	France	27	27	27	248	248	1	1	ote-ingenierie.com	Patrick Lullin
98	Enereco	Italy	26	26	37	220	260	2	5	enereco.com	Claudio Avaltroni
99	Yuksel Proje *	Turkey	24	24	30	1005	1113	8	13	yukselproje.com.tr	Faik Tokgözoglu
100	Baurconsult *	Germany	24	24	24	290	290	1	1	baurconsult.com	Andreas Baur
101	Roughan & O'Donovan *	Ireland	24	24	24	225	225	2	2	rod.ie	Harry Meighan
102	Tekfen Engineering	Turkey	23	23	23	1100	1100	1	3	tekfenmuhendislik.com	Fatíh Can
103	DGMR *	Netherlands	22	25	25	215	215	1	1	dgmr.nl	Paul van Bergen
104	BPR Dr. Schäpertöns *	Germany	22	22	22	243	243	2	2	bpr-consult.com	Bernhard Schäpertöns
105	ByrneLooby Partners	Ireland	18	18	18	200	280	2	5	byrnelooby.com	John Byrne
106	Inddigo *	France	18	18	18	201	201	1	1	inddigo.com	Bruno Lhoste
107	F&M Ingegneria	Italy	18	18	31	150	250	3	8	fm-ingegneria.com	Alessandro Bonaventura
108	BAC *	Spain	17	17	23	245	328	2	7	bacecg.com	Guillem Baraut
109	Technital	Italy	16	16	26	180	180	5	16	technital.com	Alberto Scotti
110	DBA	Italy	16	35	72	690	740	6	7	dbagroup.it	Raffaele De Bettin
111	CES Cons. Engineers	Germany	16	16	16	185	185	1	3	ces.de	Carl Philip Hügin
112	NTU International *	Denmark	15	15	15	122	122	2	2	ntu.eu	Lars Bentzen
113	HR Wallingford	UK	14	22	44	160	220	1	3	hrwallingford.com	Bruce Tomlinson
114	Max Fordham	UK	14	14	14	250	250	0	0	maxfordham.com	Phil Armitage
115	DBFL Con. Engineers *	Ireland	14	14	14	180	180	1	1	dbfl.ie	Jim Lawler
116	BEST *	Luxembourg	14	14	14	136	136	1	1	best.lu	Dany Winbomont
117	CampbellReith [a]	UK	14	14	14	149	149	1	1	campbellreith.com	Mark Kaminski
118	Manens-Tifs	Italy	14	21	52	250	400	1	2	manens-tifs.it	Giorgio Finotti
119	3TI Progetti *	Italy	13	13	15	100	100	5	10	3tiprogetti.it	Alfredo Ingletti
120	Italconsult	Italy	12	13	114	200	1350	2	9	italconsult.com	Antonio Bevilacqua
121	Hulley & Kirkwood [a]	UK	12	12	12	150	150	1	1	hulley.co.uk	Donald Wood
122	Aas-Jakobsen	Norway	11	75	75	250	250	1	1	aas-jakobsen.com	Trond Hagen
123	NET Engineering	Italy	11	11	14	205	205	4	6	net-italia.com	Giovanni Battista Furlan
124	Coba	Portugal	9	9	20	190	290	1	8	cobagroup.com	Fernando Prioste
125	UVATERV *	Hungary	8	8	8	200	200	1	1	uvaterv.hu	Gyula Bretz

Notes: “Services” are engineering services for construction; * survey response; [a] data for 2019.

globally and in Europe. The EU's Recovery and Resilience Facility (RRF) will provide grants and loans totalling at most €380 billion and €390 billion, respectively, at current prices with grants targeting the development of poorer countries. Adding to the EU's reinforced 2021-27 budget and the up to €300 billion 2020-26 Global Gateway mobilisation, RRF grants represent an increase of close to 25% in the EU's public infrastructure investment if they are used exclusively for this purpose. Overall RRF grants and loans should generate an engineering services demand of some €5 billion each year, equivalent to 6.4% of the top 125 firms' total global turnover in 2020 [4].

National stimulus programmes are too numerous to detail. Aside from the USA's Bipartisan Infrastructure Law with $550 billion in new spending over five years for transportation, broadband and utilities, most countries in Europe have anounced recovery plans that include significant investments in infrastructure. Those for EU Member States add to RRF grants and loans. Globally, infrastructure spending (for investment and operation) is forecast as currently growing at about 5.2% [5].

Business developments

In the medium term, Europe's engineering services for construction will focus on leading with advanced, technically differentiated, "future-proofed" yet client-focussed professional services. Global trends augmented by digital solutions are strong structural drivers.

Strategic diversification is the key

Business performance during the COVID-19 pandemic has confirmed that a resilient, high-performance engineering services sector targeting geographically and sectorily diversified end markets allows resources to be redeployed to meet uninterrupted or increased demand.

Further consolidation is therefore likely, resulting in more global players coexisting alongside highly competitive national or local firms and a network of global design centres based in low-cost countries.

Investment funds are attracted by likely organic growth of 4 to 5%. In France for example, a fund completed the acquisition of a 40% stake in Egis (15500 staff) in January 2022. The group envisages a doubling in size in order to strengthen its global footprint and round-out capabilities. In the two-year 2020-21 period, Egis acquired Australia's Indec (80 staff), the UK's CPMS TOPCO (70 professionals) and France's Sisprobe (15 professionals) following taking control of Kuwait's Projacs International (600 professionals). In addition to a design centre in Poland, Egis also opened a centre in India in 2021.

The acquisition of an investment arm of India's Meghraj Capital by the Indian subsidiary of Germany's Fichtner perhaps indicates the development of a more strategic role for Indian subsidiaries.

The various trends are also leading to a focus on high-value engineering services. This has prompted Jacobs to acquire Wood's nuclear engineering services business and AECOM and SNC-Lavalin to exit or limit own-account, at-risk fixed-price contracting, with SNC-Lavalin agreeing to sell its oil and gas business to the UAE-based Kent.

Focussing on core markets

With regard to market sectors in Europe during the 2020-21 period, divesting services in Oil & Gas to focus on renewables remained a common theme. Given that business models must change towards a distributed, low-carbon, data-driven, service-oriented approach the UK's RPS divested oil and gas geological services to PetroStat; others such as the USA's Black & Veatch divested some environmental services in order to focus on renewables.

Meanwhile, groups such as Italy's Saipem are adopting a dual strategy centred around conventional and emerging Energy and Oil & Gas infrastructure (while offshore wind spending is growing at 24%, conventional oil and gas spending is nonetheless growing at 7% owing to the switch from high-carbon sources such as coal to gas). The extent to which these groups will externalise their construction services is unclear, especially in Italy where firms supplying these services are often strongly linked to contractors. This is immediately apparent with the creation of Tecne and the possible demise of Spea following Atlantia's sale of the autoroute concessionaire ASPI.

Meeting the need for high-perfomance buildings

In the Buildings sector, establishing a global footprint led the UK's Turner & Townsend (6800 staff) to agree to the US-based CBRE, the world's largest commercial real-estate services and investment firm, taking a majority interest. The move towards environmental high-performance buildings also accelerated with the US-based Tetra Tech acquiring the UK's Hoare Lea (900 staff), Sweco agreeing to acquire Belgium's Boydens Engineering (150 professionals), and Solwers acquiring Finland's building performance specialists Inmeco (18 staff) and the building plant specialist LVI Meskanen (9 staff).

In the mission-critical and specialised buildings market, NIRAS merged with Denmark's AlphaNordic (90 staff) to focus on life sciences. To strengthen industrial project management in general, the UK's Turner & Townsend acquired Taurus PPC in the USA in 2019, Italy's Parlymn acquired France's Asymptote Pm (160 staff) in 2021, and Germany's Exyte that specialises in high-technology facilities acquired the USA's Critical Process Systems Group (400 staff).

Data centres featured strongly with for example the Dutch group Deerns taking control of a joint venture in Brazil to develop the market. Interestingly, Deerns partnered with the architecture firm Wiegerinck to develop "pandemic proof" adaptive hospitals. Meanwhile Artelia acquired UK's Austin Newport (restoration; 25 staff) and Norway's Olav Olsen (complex structures; 110 staff) and COWI acquired the USA's Bittner-Shen, a marine structures specialist.

Integrating architecture

In strengthening integration with architectural services, Italy's architecture and engineering firms Manens-Tifs and Steam agreed to merge to boost capabilities, as have the building design firms BMS and Recchiengineering in creating Italy's BMS Recchi. Meanwhile Sweco acquired Finland's Optiplan (150 staff) and agreed to acquire Belgium's Talboom (110 staff). The UK's Buro Happold, an architecture firm centred on engineering, announced plans

The top 100 engineering services firms with headquarters in Europe ranked by global turnover

No.	Name	HQ	Turnover, €m	Headcount
1	Arcadis	Netherlands	2862	27939
2	Arup	UK	2041	15609
3	Mott MacDonald	UK	2008	15107
4	Sweco	Sweden	1990	18552
5	AFRY	Sweden	1893	15871
6	Rambøll	Denmark	1827	15896
7	Fugro	Netherlands	1386	8724
8	Egis	France	1070	15500
9	COWI	Denmark	865	6682
10	Turner & Townsend	UK	853	6801
11	SYSTRA	France	668	7860
12	Norconsult	Norway	662	4600
13	Artelia	France	637	6100
14	RPS	UK	603	5055
15	Royal HaskoningDHV	Netherlands	581	4988
16	Drees & Sommer	Germany	517	3800
17	Tractebel	Belgium	516	4967
18	Antea	Netherlands	493	3345
19	Sener	Spain	434	3250
20	PM	Ireland	398	3000
21	RSK	UK	358	6000
22	Setec	France	328	3000
23	IDOM	Spain	320	4000
24	Wayss & Freytag	Germany	300	1100
25	INECO	Spain	299	3573
26	NIRAS	Denmark	296	2210
27	Tyréns	Sweden	287	2802
28	Ayesa	Spain	256	4850
29	RINA Consulting	Italy	256	1900
30	Rejlers	Sweden	247	2370
31	Ingérop	France	246	2115
32	DPS	Ireland	245	2000
33	TYPSA	Spain	240	2845
34	Fichtner	Germany	226	1800
35	TPF	Belgium	226	4000
36	Dorsch	Germany	225	3400
37	Italferr	Italy	223	1758
38	Buro Happold	UK	221	1900
39	ILF	Austria	210	2200
40	Ginger	France	200	2200
41	GOPA Consulting	Germany	196	800
42	SLR	UK	195	1638
43	Bilfinger Tebodin	Netherlands	162	1600
44	Witteveen+Bos	Netherlands	156	1330
45	Tauw	Netherlands	144	1229
46	Asplan Viak	Norway	138	1227
47	Amstein + Walthert	Switzerland	136	1128
48	Iv	Netherlands	134	800
49	Gruner	Switzerland	130	1018
50	SUEZ Consulting	France	127	1200
51	SUEZ Consulting	France	127	1200
52	Movares	Netherlands	121	911
53	PE Teknik & Arkitektur	Sweden	120	964
54	Italconsult	Italy	114	1350
55	Sofrecom	France	113	2186
56	Granlund	Finland	103	1095
57	Parlym	France	90	800
58	Proger	Italy	88	466
59	BG Cons. Engineers	Switzerland	81	640
60	Géotec	France	77	770
61	Cundall	UK	76	879
62	Aas-Jakobsen	Norway	75	250
63	DBA	Italy	72	740
64	Rapp	Switzerland	70	475
65	SINA	Italy	70	270
66	Assmann	Germany	70	480
67	Bengt Dahlgren	Sweden	67	533
68	Fairhurst	UK	64	500
69	Oosterhoff	Netherlands	61	511
70	Holinger	Switzerland	58	527
71	Pick Everard	UK	56	550
72	Keran	France	55	555
73	Spea Engineering	Italy	54	650
74	Pell Frischmann	UK	53	523
75	Efla	Iceland	52	380
76	Manens-Tifs	Italy	52	400
77	Deerns	Netherlands	51	438
78	Lombardi	Switzerland	51	700
79	Bjerking	Sweden	50	398
80	Hochtief Engineering	Germany	45	540
81	Tony Gee	UK	45	334
82	HR Wallingford	UK	44	220
83	Solwers	Finland	42	371
84	Enereco	Italy	37	260
85	Forsen	Sweden	34	191
86	Hifab	Sweden	34	300
87	F&M Ingegneria	Italy	31	250
88	OJ Råd. Ingeniører	Denmark	31	310
89	Yuksel Proje	Turkey	30	1113
90	ELU Konsult	Sweden	30	235
91	Pini	Switzerland	30	400
92	Bérim	France	28	299
93	OTE Ingénierie	France	27	248
94	IRD Engineering	Italy	26	400
95	Technital	Italy	26	180
96	Geodata	Italy	26	440
97	DGMR	Netherlands	25	215
98	Baurconsult	Germany	24	290
99	Roughan & O'Donovan	Ireland	24	225
100	BAC	Spain	23	328

Notes: “engineering services” are for construction; “turnover” and “headcount” are the global turnover and headcount.

to double in size to 4000 staff within six years (it acquired Brightspot, Paladino, Vanguardia, and Crowd Dynamics International in 2021).

Elsewhere, Norconsult acquired Denmark's Rubow Arkitekter as well as three architecture firms based in Norway. AFRY followed a similar path with the acquisition of Finland's Vahanen (40 staff). Also in Finland, Solwers acquired Lukkaroinen Architects (77 staff). Sweco will acquire Norway's TAG Arkitekter and Denmark's KANT Arkitekter. These acquisitions reflect the group's strategy to hold a leading position in all its main markets. Its other acquisitions included taking over the UK's MLM (460 staff), Belgium's BUUR (60 staff) and urban planning specialists Bureau Stedelijke Planning (50 professionals) based in The Netherlands. Dutch and Norwegian groups also strengthened urban planning with Movares acquiring BRO (80 staff), Witteveen+Bos acquiring the UAE's NLME (20 staff) and Asplan Viak incorporating Sweden's Urbanet Analyse.

Rail infrastructure services strengthened

In the Infrastructure sector, rail is a key market. Egis, aside from the CPMS TOPCO acquisition, took control of France's Est Signalisation (50 staff). France's SYSTRA acquired Italy's tunnelling specialist SWS Engineering (240 staff) and merged it with SYSTRA Sotecni. AFRY acquired Denmark's Insuco (11 staff) and Norconsult acquired Sweden's Projektengagemang railway technology business (18 professionals are involved). On a broader scale, Egis acquired the tourism specialists Voltere and Kanopée, both based in France, and Royal HaskoningDHV acquired the UK-based transport consultants ITP (40 staff).

Rapid growth in the environment sector

In the Environmental sector, to focus on renewable energy, Black & Veatch sold its UK and Asia water businesses involving 1200 staff (now operating as Binnies) to the UK's RSK. In parallel, groups are reinforcing their environmental capability. Ginger acquired France's Conseils & Environnement (20 staff) as well as the geotechnical engineers Sogéo Expert (26 staff), also based in France, and Hydrosol Fondations (180 staff) based in Tunisia. Stantec among its acquisition of several environmental services-focused firms purchased the Netherlands-based Driven by Values (28 staff) and AGEL adviseurs (75 staff). Meanwhile, Fugro acquired Belgium's OREX (soil testing; 30 staff) and Italy's Ambiente changed from being a cooperative and sold its laboratories to Germany's Agrolab to reinforce its environmental services.

AECOM spun off its nuclear hazardous waste services in the UK to a new group called Amentum. Moving in the opposite direction, Egis took control of the UK's Galson Sciences, another nuclear waste management specialist.

Overall, expansion by RSK and SLR in the UK perhaps best illustrates the growth of the Environmental sector. RSK's acquisitions over the past two years apart from the Black & Veatch acquisition included MWH Treatment (800 staff) as well as 11 other acquisitions in 2021. SLR has made some eight acquisitions outside Europe.

For sustainability planning, Sweco agreed to acquire Finland's Gaia Consulting (60 staff) and to strengthen integrated area-based approaches, Arcadis acquired The Netherland's Over Morgen (80 staff); Setec acquired the UAE-based sustainability consultancy Alpin (50 staff) and Switzerland's Basler & Hofmann acquired New Energy Scout (10 staff) so as to strengthen its renewable energy due-diligence services.

Water infrastructure, both inland and costal, for which capital and operating spending is growing at 10%, excluding China [6], nonethless remains very much at the core of Europe's environmental services sector. Fugro for instance, in focussing on data-driven insights to water management is divesting its Seabed Solutions business.

A national focus remains

The general trend to increase footprints in countries with strongly growing economies was perhaps less marked during the two-year 2020-21 period. It is noted that in Switzerland, WSP acquired the project management firm b+p baurealisation (100 staff) while Pini acquired Anastasi (20 staff) and Basler & Hofmann sold its consulting engineering firm Basler & Hofmann West (80 staff) to Gruner in order to centralise activities. In Scandinavia, OJ completed its acquisition of SlothMøller (35 staff) and acquired Denmark's Hundsbæk & Henriksen (45 staff). Finland's Solwers acquired Enerwex (11 staff), Falk Construction Management (25 staff) and completed the full acquisition of Licab (65 staff), all based in Sweden, and acquired Finland's Geounion (30 staff). Finally, Multiconsult agreed to acquire Norway's Erichsen & Horgen (235 staff).

Following the acquisition of the digital services provider Datumate (30 staff) in late-2019, Germany's Dorsch acquired GRE Gauff Rail Engineering (1400 staff), merged with Krebs+Kiefer (800 staff) and then acquired AHT (60 staff), AMBERO Consulting (40 staff) and Net Engineering's German subsidiary Spiekermann (170 staff), thus doubling its staff to over 4000 worldwide.

Digitalisation - the all-encompassing trend

Finally a further word about digitalisation. Golder (7000 staff) became part of WSP in 2021, in large part because of Golder's digital environmental, health and safety (EHS) credentials. Digital offerings also featured for most of AFRY's 16 acquisitions announced in 2021. These included Finland's Cubiq Analytics (data solutions; 60 staff), Sweden's Evolve (software; 60 professionals) and Norway's ITE Østerhus (process engineering; 22 staff).

Elsewhere during the 2020-21 period: Asplan Viak fully incorporated Avinet (location-aware digital services; 25 staff); Egis acquired France's Openenergy (building analytics) start-up; Arcadis launched Arcadis Gen to merge SEAMS (data analytics; acquired in 2018) with EAMS (management frameworks; acquired in 2019); Hatch co-ventured with UK's Brainwave (artificial-intelligence powered analytics); Artelia acquired SDZ ProcessRéa (automated logistics systems); Switzerland's rapidly growing energy conglomerate BKW (10250 staff) acquired Sigren Engineering (building automation); SWECO agreed to acquire Sweden's AdviceU (IT systems specialist); Royal HaskoningDHV took control of the Singapore-based Hydroinformatics Institute (25 staff) and launched a digital business division that groups proprietary software and several acquisitions including

the recently acquired Netherland's based Novius (digital business transformation; 50 staff).

Mott MacDonald, in moving towards an ecosystem of integrated digital twins, invested heavily in its Moata platform. This was reflected by its only acquisitions, both in the USA: The Kercher Group and the Pacific Groundwater Group that specialise in transportation asset management and water modelling, respectively. Broadly based initiatives to drive the digitalisation of construction were also highlighted by Germany's Drees & Sommer taking control of Digitales Bauen (digital building; 20 staff).

The importance of digital twins based on Building Information Modelling (BIM) technologies was further demonstrated by Switzerland's BKW creating a group-level BIM competence centre. BKW's network of engineering services firms includes Germany's Assmann (480 staff), acquired in 2017, and Lindschulte (400 staff) acquired a year earlier; Germany's structural engineer R&P Ruffert (190 staff) was acquired in 2021.

Finally, Setec created partnerships with Alteia_AI and The Cross Product to automate visual recognition while Granlund launched a business supplying cloud-based building management services, having acquired Finland's Suomen Controlteam, SSEP Finland and Lieke Suunnittelu with close to 40 staff in total.

Looking to the future

Understanding whether or not the last two years' merger, acquisition and divesture activity is exceptional and heralds a sharp recovery requires a detailed analysis. At the very least, recent activity demonstrates that the engineering services for construction sector is dynamic and developing very rapidly. While the future will continue to bring many challenges, it also brings enormous opportunities to change the way the built environment's infrastructure is developed and operated.

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The EFCA Sector Review Survey

EFCA plans to publish the EFCA Sector Review each year in November following a survey that is launched in September and ends in early-November.

As for this first 2021 edition, the survey will aim to centralise contacts with firms that have operations in several countries in Europe in order to minimise overlapping contacts.

Generally speaking, firms that have their headquarters based outside Europe are contacted by the survey organiser. Those with headquarters based in a country that has an EFCA Member Association will be reminded by an association that a survey response is requested. A follow-up by the survey organiser may be necessary.

Confidentiality

To ensure confidentiality, all contact details remain with the survey organiser. EFCA Member Associations are asked to ensure that any details for new and updated contacts they may have are only sent to the survey organiser if the contact has given permission for this transfer of information to take place.

List

An updated list of the companies and groups that are contacted annually is made available on the survey organiser's website. The list indicates the number of countries in which a firm has subsidiaries and the country in which its headquarters is based. Survey respondents can refer to this list to help limit the number of survey responses from the same firm.

Questionnaire

The survey questionnaire is made available online and offline. Generally speaking, it will adopt a standard format that follows the format used for the 2021 survey. While some adjustments are anticipated, the aim is to keep a short survey questionnaire that builds upon information which is often provided for annual reports and other industry surveys.

It is assumed that by responding to the survey questionnaire, information such as the Chief Executive Officer's name can be published in the list of top firms that is based upon the survey results.

Further information

For comments or questions about the survey please contact the survey organiser.

It is envisaged that the EFCA Sector Review 2022 will include an expanded list of the top firms. If a firm wishes to be included, please send contact details to the survey organiser or the EFCA Secretariat.

The EFCA Sector Review is organised on behalf of the European Federation of Engineering Consultancy Associations (EFCA) by the EFCA survey organiser (Peter Boswell, Bricad Associates Sàrl, Switzerland) under the guidance of the EFCA Sector Review Task Force.

Information about the survey is available at peterboswell.com/efca

For further information about the survey, please contact the survey organiser:

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The European Federation of Engineering Consultancy Associations (EFCA) is the only federation to represent the engineering consultancy industry in Europe.

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