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NUMBER 40



SUPER-REGIONAL MALL

Khatib & Alami is supervising construction of the 1.4-million-sq-ft Al Zahia City Centre Mall, in Sharjah, United Arab Emirate, due to open next year.

PHOTO COURTESY OF KHATIB & ALAMI

Firms Face Uncertain Prospects

Despite market upheavals over the past several years, global construction and design firms remain optimistic but wary



By Bruce Buckley

Financial Uncertainty Leaves Firms Cautious

But companies are looking for opportunities outside of Europe



NEW DIGS AECOM is building the 67-story Spire London residential tower, set to be the tallest in western Europe.

Designers and contractors in several global construction markets continue to contend with political and economic uncertainty heading into 2018. In September, construction in the United Kingdom saw a sustained drop in new work, which led to the first overall contraction in the market since August 2016, according to the IHS Markit/CIPS UK Construction Purchasing Managers' Survey. Respondents to the survey pointed to economic conditions and uncertainty over Brexit, freezing possible new projects due to client indecision.

"Fragile client confidence and reduced tender opportunities meant that growth expectations across the U.K. construction sector are also among the weakest for four and a half years," says Tom Moore, associate director at IHS Markit, noting that commercial development has been the worst-performing category in recent months.

Despite losses in the U.K. this year, Skanska continues to push ahead with new work there and reports continued

strength in core markets, such as in Nordic countries. In July, Skanska announced a £142-million contract with Consolidated Developments to build the St Giles Circus development, in London. The project includes a mix of residential, commercial office, retail, leisure and entertainment across new and existing buildings.

Balfour Beatty also is seeking financial stability in a shaky U.K. market. The company is more than two years into a plan to recover after losses. The firm reported a return to profitability this year and predicts it will see margins reach industry standards next year. In November, the company announced a new, £287-million contract with the University of Manchester to build its Manchester Engineering Campus Development. The four-year project will consolidate the university's engineering schools into one facility.

AECOM construction prospects continue to improve in the U.K. and Europe, according to Dan McQuade, president of the firm's construction

services. Following the acquisitions of Tishman Construction and Hunt Construction, AECOM has built a strong construction business in the U.S. and now is looking to replicate that in Europe and other global markets. "I expect that international construction will be the fastest-growing part of our business in the next couple of years," McQuade says, noting that the firm will leverage its experience with tall buildings and sports facilities.

In June, the company announced it would build the \$1-billion Spire London residential tower. When complete, the 67-story, 861-unit project will be the tallest residential tower in western Europe. Chinese firm Greenland Group is the developer. AECOM has worked on other projects for Greenland in Los Angeles, New York City and Sydney.

The company also sees opportunities outside Europe, including in the Middle East. Although construction activity in the Middle East has pulled back in recent years, increased oil prices and some countries' economic reforms could lead to improved activity, according to analysts. McQuade says AECOM is pursuing a project in Dubai that would be the tallest building in the world.

Despite some improvement, low oil prices continue to hamper development opportunities in countries such as Kazakhstan and Azerbaijan, says Abrar Sheriff, president and CEO of Turner International. Further, the company has seen a pullback in residential and commercial opportunities in India.

However, Sheriff says the company continues to see strong opportunities in Southeast Asia. In Bangkok, the company is the construction manager on a 125-story tower that is in early design as well as a 55-story residential tower that is under construction, he observes. Malaysia and Vietnam also have been strong markets this year, Sheriff adds.

"We're going to stay true to the markets we're in," Sheriff says. "We're not looking at an expansion [into new markets], just growing the markets we're in." ■

Top International Contractors

GENERAL BUILDING		
RANK	FIRM	REVENUE (\$ MIL. *)
1	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	11,137.4
2	HOCHTIEF AKTIENGESELLSCHAFT	10,503.0
3	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	6,477.9
4	SKANSKA AB	5,994.0
5	STRABAG	4,353.7
6	BOUYGUES	3,357.0
7	ROYAL BAM GROUP NV	2,995.0
8	KAJIMA CORP.	2,380.7
9	PCL CONSTRUCTION ENTERPRISES INC.	2,217.0
10	CIMIC GROUP LTD.	2,086.1
11	CHINA RAILWAY CONSTRUCTION CORP. LTD.	1,606.0
12	QINGJIAN GROUP CO. LTD.	1,575.4
13	POLIMEKS INSAAT TAAHHUT VE SAN. TIC. AS	1,504.3
14	SHAPOORJI PALLONJI AND CO. PVT. LTD. - ENGINEERING & CONSTRUCTION	1,454.5
15	CHINA RAILWAY GROUP LTD.	1,422.2
16	CITIC CONSTRUCTION CO. LTD.	1,419.4
17	FERROVIAL	1,334.3
18	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	1,306.2
19	ORASCOM CONSTRUCTION LTD.	1,260.0
20	RENAISSANCE CONSTRUCTION	1,255.7
21	CONSOLIDATED CONTRACTORS GROUP	1,139.3
22	VINCI	1,100.6
23	POWER CONSTRUCTION CORP. OF CHINA	1,006.9
24	HYUNDAI ENGINEERING & CONSTRUCTION CO. LTD.	970.1
25	BESIX	966.9
26	CHINA METALLURGICAL GROUP CORP.	941.2
27	ANT YAPI SANAYI VE TICARET CJSC	889.4
28	ARABIAN CONSTRUCTION COMPANY SAL	822.3
29	UNIVERSALACARSAN HEALTHCARE & HOSPITAL CONSTR. LTD. CO.	790.0
30	FLUOR CORP.	785.0
31	BL HARBERT INTERNATIONAL	763.2
32	JOANNOU & PARASKEVAIDES GROUP OF COS.	721.5
33	PORR AG	697.0
34	ZHEJIANG CONSTRUCTION INVESTMENT GRP. CO. LTD.	667.8
35	SAMSUNG C&T	633.0
36	ATLAS TEXAS CONSTRUCTION AND TRADING INC.	622.0
37	PENTA-OCEAN CONSTRUCTION CO. LTD.	563.9
38	DIA HOLDING FZCO	555.8
39	OHL SA (OBRASCON HUARTE LAIN SA)	553.0
40	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD.	526.0
41	SEMBOL ULUSLARARASI YATIRIM TARIM PEYSAJ INSAAT	521.0
42	KUZU GROUP	475.0
43	JIANGSU NANTONG SANJIAN CONSTRUCTION GROUP CO. LTD.	428.8
44	XPCC CONSTRUCTION & ENGINEERING (GROUP) CO. LTD.	423.1
45	CHINA NATIONAL MACHINERY INDUSTRY CORP.	421.1
46	MOTA-ENGIL	421.0
47	CADDELL CONSTRUCTION CO. (DE) LLC	414.7
48	BEIJING CONSTRUCTION ENGINEERING GROUP CO. LTD.	410.1
49	SHENYANG YUANDA ALUMINUM INDUSTRY ENGINEERING CO. LTD.	400.4
50	AECOM	382.8

Top International Design Firms

GENERAL BUILDING		
RANK	FIRM	REVENUE (\$ MIL. *)
1	ARCADIS NV	1,239.0
2	WSP	1,145.2
3	DAR GROUP, DUBAI, UAE	1,118.1
4	AECOM	972.5
5	ARUP	500.8
6	STANTEC INC.	430.4
7	SWECO AB	423.0
8	JACOBS	405.4
9	RAMBOLL GRUPPEN A/S	348.4
10	WS ATKINS PLC	347.3
11	KHATIB & ALAMI	225.6
12	FUGRO NV	206.0
13	GENSLER	196.9
14	GHD	196.2
15	WL MEINHARDT GROUP PTY. LTD.	167.4
16	IBI GROUP	158.7
17	AEDAS	154.5
18	MOTT MACDONALD	150.4
19	SURBANA JURONG PRIVATE LTD.	139.0
20	SKIDMORE, OWINGS & MERRILL LLP	133.7
21	HDR	125.3
22	AURECON	124.3
23	COWI A/S	119.3
24	WOODS BAGOT ARCHITECTS PC	118.0
25	NORR	105.2
26	HOK	100.0
27	KEO INTERNATIONAL CONSULTANTS	99.4
28	KOHN PEDERSEN FOX ASSOCIATES PC	99.0
29	PROGER SPA	99.0
30	AMEC FOSTER WHEELER	96.0
31	NKY ARCHITECTS AND ENGINEERS	95.3
32	EXP US SERVICES INC.	89.8
33	GOLDER ASSOCIATES CORP.	83.1
34	EGIS	78.9
35	ATLAS TEXAS CONSTRUCTION AND TRADING INC.	74.6
36	EHA CONSULTING ENGINEERS	65.1
37	SSH	64.0
38	PERKINS EASTMAN	60.2
39	ECG ENGINEERING CONSULTANTS GROUP SA	58.4
40	ARCPLUS GROUP PLC	55.0
41	PARSONS	53.1
42	WATG + WIMBERLY INTERIORS	52.8
43	ASSOCIATED CONSULTING ENGINEERS	47.4
44	AF GROUP	47.3
45	MORRISON HERSHFIELD	47.0
46	ARTELIA	46.5
47	THORNTON TOMASETTI INC.	46.0
48	BUREAU VERITAS	43.8
49	ITALCONSULT SPA	42.8
50	PAGE SOUTHERLAND PAGE INC.	42.2

*BASED ON 2016 CONTRACTOR AND DESIGN FIRM REVENUE FROM GENERAL BUILDING AS REPORTED IN ENR'S SURVEYS OF LEADING CONTRACTORS AND DESIGN FIRMS.

**BASED ON SUPPLEMENTAL MARKET REVENUE DATA FROM 2016 PROVIDED BY INDUSTRY FIRMS PARTICIPATING IN ENR'S SOURCEBOOK MARKET SURVEY. SEE ENR.COM FOR COMPLETE LISTINGS.

Top International Contractors

RETAIL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	3,845.7
2	RENAISSANCE CONSTRUCTION	603.7
3	CHINA RAILWAY CONSTRUCTION CORP. LTD.	418.0
4	CONSOLIDATED CONTRACTORS GROUP	363.6
5	SKANSKA AB	343.0
6	PCL CONSTRUCTION ENTERPRISES INC.	256.3
7	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	246.4
8	FERROVIAL	171.6
9	OHL SA (OBRASCON HUARTE LAIN)	164.0
10	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	163.6
11	HOCHTIEF AKTIENGESELLSCHAFT	159.0
12	KAJIMA CORP.	155.4
13	SHENYANG YUANDA ALUMINUM INDUSTRY ENGINEERING CO. LTD.	154.4
14	GS ENGINEERING & CONSTRUCTION	153.6
15	POWER CONSTRUCTION CORP. OF CHINA	148.7
16	LENLEASE	136.1
17	DEKINSAN GRUP INSAAT AS	118.5
18	JIANGSU ZHONGNAN CONSTRUCTION INDUSTRY GROUP CO. LTD.	113.8
19	CHINA METALLURGICAL GROUP CORP.	106.4
20	CHINA RAILWAY GROUP LTD.	99.6
21	YUNNAN CONSTRUCTION ENGINEERING GRP. CO. LTD.	98.4
22	ESTA INSAAT SANAYI LOJISTIK VE DIS TICARET ANONIM SIRKETI	81.2
23	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD.	64.7
24	BAUER AG	55.1
25	COMBINED GROUP CONTRACTING CO. (K.S.C)	54.1

COMMERCIAL OFFICES AND BANKS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	2,589.6
2	HOCHTIEF AKTIENGESELLSCHAFT	2,349.0
3	SKANSKA AB	1,298.0
4	PCL CONSTRUCTION ENTERPRISES INC.	492.1
5	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	454.2
6	FERROVIAL	372.9
7	BOUYGUES	348.9
8	LENLEASE	320.6
9	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	279.2
10	CHINA RAILWAY GROUP LTD.	213.3
11	STRUCTURE TONE	174.7
12	SHIMIZU CORP.	163.9
13	JIANGSU NANTONG LIUJIAN CONSTRUCTION GROUP CO. LTD.	162.5
14	RIZZANI DE ECCHER	162.2
15	CONSOLIDATED CONTRACTORS GROUP	150.7
16	SHENYANG YUANDA ALUMINUM INDUSTRY ENGINEERING CO. LTD.	129.2
17	AECOM	125.3
18	CHINA JIANGXI CORP. FOR INT'L ECO. & TECHN. COOP'N	105.4
19	KAYI INSAAT SANAYI VE TICARET AS	82.6
20	KAJIMA CORP.	77.2
21	BAUER AG	73.5
22	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	69.5
23	CHINA METALLURGICAL GROUP CORP.	54.6
24	POWER CONSTRUCTION CORP. OF CHINA	51.5
25	CHINA RAILWAY CONSTRUCTION CORP. LTD.	49.0

Top International Design Firms

RETAIL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	JACOBS	110.8
2	WSP	78.5
3	GOLDER ASSOCIATES CORP.	43.9
4	RAMBOLL GROUP A/S	37.8
5	WS ATKINS PLC	29.0
6	STANTEC INC	28.7
7	DAR GROUP, DUBAI, UAE	27.4
8	AECOM	26.4
9	AEDAS	23.8
10	CHINA ALUMINUM INTERNATIONAL ENGINEERING CORP. LTD.	22.9
11	KHATIB & ALAMI	22.1
12	ARUP	20.1
13	GENSLER	19.5
14	WL MEINHARDT GROUP PTY LTD.	19.3
15	SGA DESIGN GROUP, P.C.	15.6
16	COWI A/S	14.5
17	AF	11.2
18	ROYAL HASKONINGDHV	11.2
19	EHAFF CONSULTING ENGINEERS	10.5
20	KEO INTERNATIONAL CONSULTANTS	9.8
21	HOK	9.1
22	SHENYANG YUANDA ALUMINUM INDUSTRY ENGINEERING CO. LTD.	8.9
23	MG2	8.9
24	DEWAN ARCHITECTS + ENGINEERS	8.4
25	HUSSEIN SABBOUR CONSULTANT BUREAU (HSCB)	8.4

COMMERCIAL OFFICES AND BANKS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	WSP	331.1
2	ARUP	186.5
3	DAR GROUP, DUBAI, UAE	165.7
4	WS ATKINS PLC	154.6
5	GENSLER	76.3
6	JACOBS	54.5
7	AECOM	53.8
8	RAMBOLL GROUP A/S	47.2
9	HOK	27.9
10	KOHN PEDERSEN FOX ASSOCIATES PC	25.4
11	AEDAS	23.5
12	STANTEC INC	21.8
13	THORNTON TOMASETTI INC.	21.5
14	WL MEINHARDT GROUP PTY LTD.	16.7
15	COWI A/S	15.8
16	ECG ENGINEERING CONSULTANTS GROUP SA	12.7
17	TETRA TECH INC.	10.0
18	AF	9.4
19	ARTELIA	8.9
20	ASSOCIATED CONSULTING ENGINEERS	7.5
21	BURNS & MCDONNELL	7.5
22	ADRIAN SMITH + GORDON GILL ARCHITECTURE	6.7
23	WONG TUNG & PARTNERS LTD.	6.5
24	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	6.5
25	HDR	6.3

*BASED ON 2016 CONTRACTOR AND DESIGN FIRM REVENUE FROM GENERAL BUILDING AS REPORTED IN ENR'S SURVEYS OF LEADING CONTRACTORS AND DESIGN FIRMS.

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Top International Contractors

GOVERNMENT OFFICES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	FLUOR CORP.	776.7
2	BL HARBERT INTERNATIONAL	763.2
3	CADDELL CONSTRUCTION CO. (DE), LLC	414.7
4	FERROVIAL	353.1
5	LENLEASE	285.9
6	PCL CONSTRUCTION ENTERPRISES INC.	282.7
7	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	251.8
8	SKANSKA AB	247.0
9	CITIC CONSTRUCTION CO. LTD.	234.9
10	HOCHTIEF AKTIENGESELLSCHAFT	224.0
11	ENKA INSAAT VE SANAYI AS	171.0
12	CHINA NATIONAL MACHINERY INDUSTRY CORP.	140.8
13	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD.	133.8
14	JOANNOU & PARASKEVAIDES OVERSEAS LTD.	126.5
15	SHANGDONG DEJIAN GROUP CO. LTD.	120.3
16	CONSOLIDATED CONTRACTORS GROUP	119.7
17	GILBANE BUILDING CO.	110.4
18	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	90.9
19	YUKSEL INSAAT CO. INC.	88.9
20	BOUYGUES	87.7
21	PARSONS	77.0
22	ZHONGMEI ENGINEERING GROUP LTD.	75.2
23	XPCC CONSTRUCTION & ENGINEERING (GROUP) CO. LTD.	74.8
24	POWER CONSTRUCTION CORP. OF CHINA	73.7
25	THE CONTI GROUP	70.0

EDUCATION		
RANK	FIRM	REVENUE (\$ MIL.**)
1	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	1,647.8
2	HOCHTIEF AKTIENGESELLSCHAFT	1,549.0
3	SKANSKA AB	1,223.0
4	BOUYGUES	457.9
5	POWER CONSTRUCTION CORP. OF CHINA	454.1
6	CONSOLIDATED CONTRACTORS GROUP	249.3
7	LENLEASE	197.6
8	CHINA METALLURGICAL GROUP CORP.	163.1
9	ZHONGDING INTERNATIONAL ENGINEERING CO. LTD.	123.3
10	KAJIMA CORP.	115.3
11	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	108.0
12	PCL CONSTRUCTION ENTERPRISES INC.	107.0
13	ZHEJIANG CONSTRUCTION INVESTMENT GRP. CO. LTD.	100.3
14	SEMBOL ULUSLARARASI YATIRIM TARIM PEYSAJ INSAAT	97.5
15	CHINA ENERGY ENGINEERING CORP. LTD.	88.5
16	COMBINED GROUP CONTRACTING CO. (K.S.C)	81.1
17	YUNNAN CONSTRUCTION ENGINEERING GRP. CO. LTD.	78.9
18	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD.	69.1
19	CHINA RAILWAY CONSTRUCTION CORP. LTD.	63.0
20	CHINA SHANDONG INTERNATIONAL ECO. & TECHN. COOP. GRP. LTD.	62.2
21	JOANNOU & PARASKEVAIDES OVERSEAS LTD.	55.0
22	PENTA-OCEAN CONSTRUCTION CO., LTD.	47.1
23	YANTAI INTERNATIONAL ECO. & TECHN. COOP. GRP. CO. LTD.	42.5
24	NANTONG CONSTRUCTION GROUP CO. LTD.	41.4
25	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	38.6

Top International Design Firms

GOVERNMENT OFFICES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	AECOM	159.1
2	JACOBS	145.4
3	PROGER SPA	91.6
4	EGIS	63.5
5	KHATIB & ALAMI	62.5
6	WSP	57.9
7	DAR GROUP, DUBAI, UAE	57.1
8	MOTT MACDONALD	56.2
9	WS ATKINS PLC	44.5
10	RAMBOLL GROUP A/S	28.3
11	ARUP	26.0
12	DAY & ZIMMERMANN	22.7
13	AMEC FOSTER WHEELER	19.8
14	STANTEC INC	18.8
15	ASSYSTEM	14.1
16	HDR	13.8
17	THORNTON TOMASETTI INC.	10.7
18	GENSLER	9.6
19	SURBANA JURONG PRIVATE LTD.	8.0
20	COWI A/S	7.9
21	HOK	7.8
22	CDM SMITH	7.3
23	STANLEY CONSULTANTS INC.	6.4
24	BLACK & VEATCH	6.3
25	ZGF ARCHITECTS LLP	6.2

EDUCATION		
RANK	FIRM	REVENUE (\$ MIL.**)
1	DAR GROUP, DUBAI, UAE	164.4
2	STANTEC INC	118.7
3	WSP	81.1
4	AECOM	60.9
5	RAMBOLL GROUP A/S	42.5
6	MOTT MACDONALD	41.7
7	ARUP	37.6
8	SURBANA JURONG PRIVATE LTD.	25.0
9	TECNICA Y PROYECTOS SA (TYPESA)	23.6
10	COWI A/S	22.7
11	WL MEINHARDT GROUP PTY LTD.	20.1
12	KHATIB & ALAMI	13.8
13	JACOBS	13.5
14	WS ATKINS PLC	11.4
15	GENSLER	8.9
16	JCJ ARCHITECTURE	8.8
17	HOK	8.7
18	PERKINS EASTMAN	8.0
19	ECG ENGINEERING CONSULTANTS GROUP SA	7.1
20	KEO INTERNATIONAL CONSULTANTS	4.8
21	ORIENTAL CONSULTANTS GLOBAL(ACKG LTD.)	4.7
22	HDR	4.5
23	INTEGRAL GROUP	4.1
24	CDI CORP.	3.6
25	SEMBOL ULUSLARARASI YATIRIM TARIM PEYSAJ INSAAT	3.4

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**BASED ON SUPPLEMENTAL MARKET REVENUE DATA FROM 2016 PROVIDED BY INDUSTRY FIRMS PARTICIPATING IN ENR'S SOURCEBOOK MARKET SURVEY. SEE ENR.COM FOR COMPLETE LISTINGS.

Top International Contractors

CORRECTIONAL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	LENLEASE	103.6
2	SKANSKA AB	50.0
3	PCL CONSTRUCTION ENTERPRISES INC.	42.7
4	QINGJIAN GROUP CO. LTD.	29.1
5	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	28.0

HEALTH CARE		
RANK	FIRM	REVENUE (\$ MIL.**)
1	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	2,465.8
2	HOCHTIEF AKTIENGESELLSCHAFT	2,460.0
3	SKANSKA AB	1,316.0
4	UNIVERSAL ACARSAN HEALTHCARE AND HOSPITAL CONSTRUCTION LTD.CO.	790.0
5	PENTA-OCEAN CONSTRUCTION CO., LTD.	442.0
6	FERROVIAL	436.7
7	KAJIMA CORP.	383.6
8	PCL CONSTRUCTION ENTERPRISES INC.	375.3
9	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	266.2
10	LENLEASE	237.8
11	CONSOLIDATED CONTRACTORS GROUP	237.0
12	BOUYGUES	225.4
13	ASTALDI	218.7
14	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	197.9
15	THE ARAB CONTRACTORS CO.	166.0
16	SNC-LAVALIN INC.	151.2
17	KAYI INSAAT SANAYI VE TICARET AS	150.2
18	OHL SA (OBRASCON HUARTE LAIN)	128.2
19	CHINA NATIONAL MACHINERY INDUSTRY CORP.	126.4
20	SOCIETA' ITALIANA PER CONDOTTE D'ACQUA SPA	118.1
21	RENAISSANCE CONSTRUCTION	109.5
22	THE WALSH GROUP, LTD	102.3
23	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	84.0
24	POWER CONSTRUCTION CORP. OF CHINA	81.4
25	CHINA NATIONAL COMPLETE PLANT IMP. & EXP. CORP. (GROUP)	78.1

DISTRIBUTION AND WAREHOUSES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	KAJIMA CORP.	314.0
2	SKANSKA AB	163.0
3	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD.	161.6
4	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	75.0
5	HOCHTIEF AKTIENGESELLSCHAFT	75.0
6	BOUYGUES	66.3
7	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	65.1
8	CHINA RAILWAY CONSTRUCTION CORP. LTD.	61.0
9	CHINA GEO-ENGINEERING CORP.	57.4
10	QINGJIAN GROUP CO. LTD.	46.6

Top International Design Firms

CORRECTIONAL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	DAR GROUP, DUBAI, UAE	5.7
2	JACOBS	5.7
3	STANTEC INC	4.3
4	HDR	4.2
5	AECOM	3.6

HEALTH CARE		
RANK	FIRM	REVENUE (\$ MIL.**)
1	DAR GROUP, DUBAI, UAE	232.8
2	WSP	132.2
3	HDR	90.0
4	STANTEC INC	80.6
5	RAMBOLL GROUP A/S	57.0
6	AECOM	53.8
7	JACOBS	39.2
8	COWI A/S	35.6
9	ARUP	32.0
10	HKS	25.9
11	MOTT MACDONALD	19.6
12	WL MEINHARDT GROUP PTY LTD.	18.4
13	CANNONDESIGN	18.1
14	KHATIB & ALAMI	15.5
15	WS ATKINS PLC	14.3
16	ARABTECH JARDANEH	10.9
17	PERKINS EASTMAN	10.0
18	KEO INTERNATIONAL CONSULTANTS	8.0
19	EGIS	8.0
20	HOK	7.6
21	IDOM	7.4
22	AF	7.1
23	ROYAL HASKONINGDHV	5.8
24	CHINA NATIONAL MACHINERY INDUSTRY CORP.	5.6
25	ECG ENGINEERING CONSULTANTS GROUP SA	4.2

DISTRIBUTION AND WAREHOUSES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	AECOM	18.7
2	STANTEC INC	13.7
3	WL MEINHARDT GROUP PTY LTD.	10.6
4	RAMBOLL GROUP A/S	9.5
5	ROYAL HASKONINGDHV	9.2
6	WSP	4.9
7	COWI A/S	4.7
8	GOLDER ASSOCIATES CORP.	4.4
9	JACOBS	4.3
10	DAR GROUP, DUBAI, UAE	3.6

*BASED ON 2016 CONTRACTOR AND DESIGN FIRM REVENUE FROM GENERAL BUILDING AS REPORTED IN ENR'S SURVEYS OF LEADING CONTRACTORS AND DESIGN FIRMS.

**BASED ON SUPPLEMENTAL MARKET REVENUE DATA FROM 2016 PROVIDED BY INDUSTRY FIRMS PARTICIPATING IN ENR'S SOURCEBOOK MARKET SURVEY. SEE ENR.COM FOR COMPLETE LISTINGS.

Top International Contractors

HOTELS, MOTELS AND CONVENTION CENTERS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	BOUYGUES	489.9
2	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	466.3
3	HOCHTIEF AKTIENGESELLSCHAFT	454.0
4	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	432.4
5	SEMBOL ULUSLARARASI YATIRIM TARIM PEYSAJ INSAAT	266.4
6	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	200.9
7	SUMMA TURIZM YATIRIMCILIGI AS	156.5
8	OHL SA (OBRASCON HUARTE LAIN)	150.2
9	ANHUI FOREIGN ECONOMIC CONSTRUCTION (GROUP) CO. LTD.	149.0
10	ARABIAN CONSTRUCTION CO. SAL	141.9
11	CHINA METALLURGICAL GROUP CORP.	140.9
12	POSCO ENGINEERING & CONSTRUCTION	118.8
13	CHINA RAILWAY CONSTRUCTION CORP. LTD.	116.0
14	SKANSKA AB	105.0
15	LARSEN & TOUBRO LTD.	86.7
16	ILK CONSTRUCTION	69.1
17	JOANNOU & PARASKEVAIDES OVERSEAS LTD.	61.5
18	JIANGSU NANTONG LIUJIAN CONSTRUCTION GROUP CO. LTD.	54.0
19	YUNNAN CONSTRUCTION ENGINEERING GRP. CO. LTD.	52.1
20	ZAFER TAAHHUT INSAAT VE TICARET AS	49.4
21	KAYI INSAAT SANAYI VE TICARET AS	48.1
22	LENLEASE	44.6
23	BEIJING UNI-CONSTRUCTION GROUP CO. LTD.	44.0
24	CHINA RAILWAY GROUP LTD.	42.7
25	BEIJING CONSTRUCTION ENGINEERING GROUP CO. LTD.	41.4

MULTI-UNIT RESIDENTIAL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	LENLEASE	1,552.8
2	BOUYGUES	1,531.8
3	QINGJIAN GROUP CO. LTD.	1,402.6
4	CITIC CONSTRUCTION CO. LTD.	1,123.3
5	CHINA RAILWAY GROUP LTD.	967.1
6	KAJIMA CORP.	966.5
7	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	906.7
8	SKANSKA AB	851.0
9	HOCHTIEF AKTIENGESELLSCHAFT	796.0
10	CHINA RAILWAY CONSTRUCTION CORP. LTD.	764.0
11	ZHEJIANG CONSTRUCTION INVESTMENT GRP. CO. LTD.	470.5
12	JOANNOU & PARASKEVAIDES OVERSEAS LTD.	360.5
13	CHINA METALLURGICAL GROUP CORP.	354.2
14	JIANGSU NANTONG SANJIAN CONSTRUCTION GROUP CO. LTD.	344.7
15	XPCC CONSTRUCTION & ENGINEERING (GROUP) CO. LTD.	325.8
16	HANWHA ENGINEERING & CONSTRUCTION CORP.	263.6
17	IMPRESA PIZZAROTTI & C. SPA	256.0
18	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	254.4
19	RENAISSANCE CONSTRUCTION	242.7
20	MAPA INSAAT VE TICARET AS	179.5
21	ZHONGDING INTERNATIONAL ENGINEERING CO. LTD.	175.1
22	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	170.7
23	TAV TEPE AKFEN INVESTMENT CONSTRUCTION AND OPERATION JSC.	143.9
24	YANTAI INTERNATIONAL ECO. & TECHN. COOP. GRP. CO. LTD.	134.6
25	PCL CONSTRUCTION ENTERPRISES INC.	123.8

Top International Design Firms

HOTELS, MOTELS AND CONVENTION CENTERS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	AECOM	111.3
2	WS ATKINS PLC	64.0
3	WSP	61.9
4	DAR GROUP, DUBAI, UAE	58.3
5	AEDAS	34.8
6	KHATIB & ALAMI	33.3
7	EHAF CONSULTING ENGINEERS	28.2
8	ARUP	27.2
9	GENSLER	20.6
10	WL MEINHARDT GROUP PTY LTD.	20.1
11	ASSOCIATED CONSULTING ENGINEERS	20.0
12	RAMBOLL GROUP A/S	18.9
13	DEWAN ARCHITECTS + ENGINEERS	16.1
14	ARTELIA	10.4
15	ECG ENGINEERING CONSULTANTS GROUP SA	10.1
16	KOHN PEDERSEN FOX ASSOCIATES PC	10.0
17	STANTEC INC	9.3
18	KEO INTERNATIONAL CONSULTANTS	8.7
19	HOK	8.1
20	HKS	7.8
21	JACOBS	6.8
22	REBEL DESIGN+GROUP	6.1
23	HART HOWERTON	6.0
24	WONG TUNG & PARTNERS LTD.	5.7
25	IDOM	5.6

MULTI-UNIT RESIDENTIAL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	WSP	195.7
2	AECOM	117.2
3	STANTEC INC	77.9
4	RAMBOLL GROUP A/S	66.1
5	SURBANA JURONG PRIVATE LTD.	56.0
6	PARSONS	52.9
7	DAR GROUP, DUBAI, UAE	50.3
8	KHATIB & ALAMI	43.1
9	ARUP	37.6
10	WS ATKINS PLC	29.6
11	GOLDER ASSOCIATES CORP.	22.5
12	EHAF CONSULTING ENGINEERS	17.7
13	KEO INTERNATIONAL CONSULTANTS	16.6
14	ARCHITECTURE & PLANNING GROUP	16.6
15	AEDAS	15.8
16	ECG ENGINEERING CONSULTANTS GROUP SA	15.5
17	WL MEINHARDT GROUP PTY LTD.	13.4
18	KOHN PEDERSEN FOX ASSOCIATES PC	11.3
19	ARTELIA	10.3
20	AF	8.2
21	ROBERT A.M. STERN ARCHITECTS	7.9
22	DEWAN ARCHITECTS + ENGINEERS	7.6
23	MOTT MACDONALD	7.4
24	WONG TUNG & PARTNERS LTD.	7.3
25	JACOBS	6.5

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Top International Contractors

SPORTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	POLIMEKS INSAAT TAAHHUT VE SAN. TIC. AS	1,496.8
2	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	381.6
3	HOCHTIEF AKTIENGESELLSCHAFT	364.0
4	PCL CONSTRUCTION ENTERPRISES INC.	294.4
5	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	161.1
6	SALINI IMPREGILO SPA	158.2
7	ESTA INSAAT SANAYI LOJISTIK VE DIS TICARET ANONIM SIRKETI	139.8
8	RIZZANI DE ECCHER	127.4
9	SKANSKA AB	109.0
10	CHINA RAILWAY GROUP LTD.	99.6
11	SHANGHAI CONSTRUCTION GROUP	61.1
12	RENAISSANCE CONSTRUCTION	50.7
13	MAPA INSAAT VE TICARET AS	47.4
14	SHANGDONG DEJIAN GROUP CO. LTD.	45.3
15	POWER CONSTRUCTION CORP. OF CHINA	32.0

ENTERTAINMENT AND THEME PARKS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	1,157.0
2	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	492.9
3	HOCHTIEF AKTIENGESELLSCHAFT	393.0
4	AECOM	131.0
5	AE ARMA-ELEKTROPANC	97.8
6	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	91.3
7	CHINA METALLURGICAL GROUP CORP.	89.1
8	SKANSKA AB	80.0
9	PCL CONSTRUCTION ENTERPRISES INC.	79.7
10	SHANGHAI CONSTRUCTION GROUP	59.6

RELIGIOUS AND CULTURAL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	SKANSKA AB	78.0
2	SALINI IMPREGILO SPA	74.4
3	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	47.7
4	BOUYGUES	24.2
5	HOCHTIEF AKTIENGESELLSCHAFT	20.0
6	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	19.5
7	ARABIAN CONSTRUCTION CO. SAL	18.4
8	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	12.4
9	ANHUI CONSTRUCTION ENGINEERING GROUP CO. LTD.	11.5
10	SHANGHAI CONSTRUCTION GROUP	8.1

Top International Design Firms

SPORTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	DAR GROUP, DUBAI, UAE	51.1
2	ARUP	51.0
3	POPULOUS	37.1
4	WSP	31.6
5	RAMBOLL GROUP A/S	14.2
6	AECOM	13.5
7	HOK	9.6
8	MOTT MACDONALD	9.3
9	STANTEC INC	8.0
10	LOUIS BERGER	6.6
11	IDOM	5.5
12	GENSLER	5.3
13	KEO INTERNATIONAL CONSULTANTS	4.2
14	ME ENGINEERS	4.2
15	CHINA NATIONAL MACHINERY INDUSTRY CORP.	3.6

ENTERTAINMENT AND THEME PARKS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	AEDAS	28.6
2	GENSLER	26.2
3	JCJ ARCHITECTURE	16.8
4	KEO INTERNATIONAL CONSULTANTS	15.4
5	RAMBOLL GROUP A/S	14.2
6	ARUP	13.5
7	CUNINGHAM GROUP ARCHITECTURE INC.	11.3
8	DAR GROUP, DUBAI, UAE	10.6
9	JACOBS	9.5
10	STANTEC INC	7.8

RELIGIOUS AND CULTURAL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	DAR GROUP, DUBAI, UAE	226.9
2	ARUP	66.5
3	RAMBOLL GROUP A/S	12.3
4	COWI A/S	10.3
5	WSP	9.2
6	JACOBS	6.5
7	MORRISON HERSHFIELD	4.6
8	ADRIAN SMITH + GORDON GILL ARCHITECTURE	4.1
9	STANTEC INC	3.2
10	AEDAS	3.1

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Top International Contractors

MIXED USE		
RANK	FIRM	REVENUE (\$ MIL.**)
1	LENLEASE	613.9
2	ARABIAN CONSTRUCTION CO. SAL	390.0
3	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	308.1
4	BEIJING CONSTRUCTION ENGINEERING GROUP CO. LTD.	122.7
5	OHL SA (OBRASCON HUARTE LAIN)	94.1
6	SHIMIZU CORP.	91.5
7	CHINA NATIONAL MACHINERY INDUSTRY CORP.	88.2
8	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	49.6
9	CHINA NUCLEAR ENGINEERING CORP. LTD.	31.8
10	CGCOC GROUP CO. LTD.	23.4
11	POWER CONSTRUCTION CORP. OF CHINA	21.3
12	CONSOLIDATED CONTRACTORS GROUP	18.9
13	ZHONGMEI ENGINEERING GROUP LTD.	18.7
14	CHINA ENERGY ENGINEERING CORP. LTD.	18.3
15	THE BECK GROUP	13.3

Top International Design Firms

MIXED USE		
RANK	FIRM	REVENUE (\$ MIL.**)
1	AECOM	352.3
2	DAR GROUP, DUBAI, UAE	61.3
3	KOHN PEDERSEN FOX ASSOCIATES PC	50.1
4	SURBANA JURONG PRIVATE LTD.	47.0
5	WL MEINHARDT GROUP PTY LTD.	41.9
6	KEO INTERNATIONAL CONSULTANTS	26.2
7	GENSLER	22.1
8	HOK	12.9
9	ADRIAN SMITH + GORDON GILL ARCHITECTURE	9.8
10	LANGAN ENG'G, ENVIRO., SURVEYING & LANDSCAPE ARCH.	7.1
11	HEERIM ARCHITECTS & PLANNERS CO., LTD.	4.5
12	CHINA NATIONAL MACHINERY INDUSTRY CORP.	4.1
13	DEWAN ARCHITECTS + ENGINEERS	4.0
14	INTEGRAL GROUP	3.7
15	SNC-LAVALIN INC.	3.7

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By Aileen Cho

Smart Infrastructure Shapes Future Growth

Airports and mass transit projects planned to meet demand



HIGH-SPEED GROWTH The Kuala Lumpur-Singapore rail project reflects a global trend toward transit.

Fueled by a growing global population, particularly in urban areas, airport and mass transit projects are providing plenty of opportunities for engineering firms. An increasing emphasis on smart cities is being accelerated by disruptive technologies, such as connected and automated vehicles, which will have a profound, if not-yet-clear impact, on existing and new infrastructure.

While governments and companies in mature global markets, including Europe, the Middle East and cities in Asia, continue to revamp and expand airports, mass transit and high-speed rail, there are more opportunities in sub-Saharan Africa, including basic, “connect-the-dots” highways, notes Jim Stamatis, president and CEO of Louis Berger. Moreover, he says, “India probably has the biggest backlog and need for every mode of transportation.” Louis Berger is involved in the planning of the \$90-billion Delhi-Mumbai Industrial Corridor, which will include 24 industrial regions, eight smart cities, two airports, five power projects, two mass rapid-transit systems and two logistical hubs.

Another ambitious program is taking shape in Mexico City, where a \$14-billion greenfield airport is rising on a dry lake bed. “Engineering-wise, it is one of the great programs of my generation,” says Mike Johnson, infrastructure group president with Parsons Corp., the program manager. Farther from home, Parsons is wrapping up program management of the new, \$9.4-billion Abu Dhabi airport complex. Indeed, there is no shortage of airport work in Asia and Europe. “There is a growing middle class in Asia, with increasing opportunities to travel,” notes Johnson.

Hoping to create a hub for that growth, Singapore’s government has embarked on a massive expansion of Changi airport, including a new, 1,080-hectare Terminal Five and a lengthened third runway, to 4 kilometers from 2.75 km. Further, a new complex—the 10-floor, \$1-billion Jewel Changi Airport—will feature restaurants, shopping, indoor public gardens, waterfalls and myriad other attractions.

Just this fall, the Netherlands’ Schiphol airport selected Kaan Architects’

design for a 100,500-sq-ft terminal and modernization. Similar ambitious expansions are underway throughout Europe and Asia, driven by global competition to be aviation hubs, notes John J. Batten, global cities director for Arcadis.

Tracks and Technology

No less ambitious are mass transit programs. “One of the interesting markets that is emerging for us is New Zealand,” notes Dave McAlister, global director of transport and infrastructure for WSP. “We hadn’t thought of New Zealand as a big transit market until two years ago,” when a pro-transit government took power, he observes.

WSP, Mott MacDonald and Ernst & Young are providing support to the joint project team of Malaysia’s MyHSR and Singapore’s Land Transport Authority on a planned 350-km high-speed-rail line that will link the two countries. McAlister also notes high-speed expansions in the U.K. and a 285-mile magnetically levitated line under construction between Tokyo and Nagoya.

Disruptive technologies are changing the way engineers and contractors think about highway and bridge work. “There are blurred lines in our competitive space between technology and transportation providers,” says Johnson. “The advent of 5G, artificial intelligence, machine-learning and cloud computing will push the parameters of a bridge or highway design.”

Batten notes that the worldwide push for smart, connected cities that “talk” with connected vehicles creates a need for new support infrastructure, especially in Asia and Europe. “There is a whole charging infrastructure required,” he says. “Filling-station infrastructure has to be upgraded. There is a movement now toward 350-kW stations, where it takes only five minutes to recharge your electric vehicle.”

The design of new roads will evolve, including road infrastructure that recharges an idling car as well as digital tools that keep the infrastructure and vehicle constantly connected to data.

Batten says, “The days of dumb infrastructure are over.” ■

Top International Contractors

TRANSPORTATION		
RANK	FIRM	REVENUE (\$ MIL.)*
1	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	16,722.4
2	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	9,624.7
3	BECHTEL	9,599.0
4	VINCI	7,998.4
5	BOUYGUES	6,904.0
6	STRABAG	5,972.8
7	HOCHTIEF AKTIENGESSELLSCHAFT	5,648.0
8	FERROVIAL	4,793.8
9	SKANSKA AB	4,162.0
10	SALINI IMPREGILO SPA	3,809.6
11	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	3,539.1
12	CHINA RAILWAY CONSTRUCTION CORP. LTD.	3,140.0
13	CHINA RAILWAY GROUP LTD.	2,971.8
14	CIMIC GROUP LTD.	2,962.5
15	OHL SA (OBRASCON HUARTE LAIN SA)	2,576.8
16	OBAYASHI CORP.	2,311.0
17	POWER CONSTRUCTION CORP. OF CHINA	2,207.0
18	ROYAL BAM GROUP NV	1,912.0
19	ASTALDI	1,861.9
20	CONSOLIDATED CONTRACTORS GROUP	1,850.3
21	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	1,705.2
22	PORR AG	1,407.0
23	SAMSUNG C&T	1,285.0
24	LARSEN & TOUBRO LTD.	1,264.4
25	HYUNDAI ENGINEERING & CONSTRUCTION CO. LTD.	1,205.2
26	MOTA-ENGIL	1,200.0
27	SACYR	1,195.0
28	YAPI MERKEZI INSAAT VE SANAYI AS	1,161.3
29	VAN OORD DREDGING & MARINE CONTRACTORS BV	1,151.5
30	POLIMEKS INSAAT TAAHHUT VE SAN. TIC. AS	1,121.7
31	FCC SA	1,121.6
32	TAV CONSTRUCTION	1,059.0
33	ALARKO CONTRACTING GROUP	1,037.4
34	ACCIONA INFRAESTRUCTURAS	1,015.1
35	JAN DE NUL GROUP (SOFIDRA SA)	915.0
36	JOANNOU & PARASKEVAIDES GROUP OF COS.	902.7
37	PENTA-OCEAN CONSTRUCTION CO. LTD.	843.4
38	LIMAK NSAAT SANAYI VE TICARET AS	747.0
39	SOCIETA' ITALIANA PER CONDOTTE SPA	706.4
40	GS ENGINEERING & CONSTRUCTION	698.2
41	CHINA NATIONAL MACHINERY INDUSTRY CORP.	677.6
42	NATA CONSTRUCTION TOURISM TRADE AND INDUSTRY CO.	677.0
43	DAEWOO ENGINEERING & CONSTRUCTION CO. LTD.	637.5
44	ORASCOM CONSTRUCTION LTD.	598.0
45	SK E&C	562.9
46	BESIX	550.3
47	RENAISSANCE CONSTRUCTION	547.5
48	DOGUS NSAAT VE TICARET AS	512.4
49	KIEWIT CORP.	490.5
50	COMSA CORP.	487.0

Top International Design Firms

TRANSPORTATION		
RANK	FIRM	REVENUE (\$ MIL.)*
1	WSP	2,163.7
2	AECOM	1,554.5
3	DAR GROUP, DUBAI, UAE	880.7
4	WS ATKINS PLC	786.3
5	JACOBS	701.9
6	CH2M	623.7
7	EGIS	585.1
8	STANTEC INC.	468.8
9	ARUP	437.6
10	SYSTRA	426.0
11	MOTT MACDONALD	402.3
12	SWECO AB	366.0
13	PARSONS	313.5
14	COWI A/S	300.5
15	RAMBOLL GRUPPEN A/S	297.2
16	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	262.5
17	ARCADIS NV	261.0
18	SURBANA JURONG PRIVATE LTD.	226.0
19	BECHTEL	193.0
20	KBR	178.0
21	ROYAL HASKONINGDHV	166.2
22	LOUIS BERGER	155.1
23	SNC-LAVALIN INC.	153.7
24	TETRA TECH INC.	148.0
25	SENER INGENIERÍA Y SISTEMAS SA	138.0
26	GOLDER ASSOCIATES CORP.	136.5
27	CHINA RAILWAY GROUP LTD.	127.7
28	TÉCNICA Y PROYECTOS SA (TYPSA)	107.5
29	ORIENTAL CONSULTANTS GLOBAL (ACKG LTD.)	106.2
30	NIPPON KOEI GROUP	94.4
31	GHD	93.2
32	AF GROUP	85.6
33	AURECON	73.7
34	AYESA	65.4
35	KHATIB & ALAMI	64.1
36	OPUS INTERNATIONAL CONSULTANTS LTD.	62.1
37	AMEC FOSTER WHEELER	62.0
38	WORLEYPARSONS	58.0
39	INGENIERÍA Y ECONOMIA DEL TRANSPORTE SME MP SA	57.7
40	SETEC	54.4
41	IDOM	53.1
42	POYRY	51.0
43	CDM SMITH	49.9
44	MORRISON HERSHFIELD	49.1
45	DORSCH HOLDING GMBH	48.5
46	FUGRO NV	48.0
47	EXP US SERVICES INC.	40.2
48	EHA CONSULTING ENGINEERS	39.5
49	HATCH LTD.	39.0
50	ACCIONA INFRAESTRUCTURAS	37.2

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Top International Contractors

HIGHWAYS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	BOUYGUES	4,978.5
2	FERROVIAL	3,885.2
3	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	3,654.6
4	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	2,832.0
5	OHL SA (OBRASCON HUARTE LAIN)	2,033.0
6	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	1,820.5
7	POWER CONSTRUCTION CORP. OF CHINA	1,646.5
8	SALINI IMPREGILO SPA	1,436.3
9	CHINA RAILWAY CONSTRUCTION CORP. LTD.	1,436.0
10	SKANSKA AB	1,305.0
11	CHINA RAILWAY GROUP LTD.	1,212.1
12	ALARKO CONTRACTING GROUP	1,037.0
13	HOCHTIEF AKTIENGESELLSCHAFT	918.0
14	SACYR	755.0
15	ASTALDI	522.8
16	JOANNOU & PARASKEVAIDES OVERSEAS LTD.	493.4
17	LARSEN & TOUBRO LTD.	472.6
18	ZHONGMEI ENGINEERING GROUP LTD.	463.7
19	THE ARAB CONTRACTORS CO.	451.0
20	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	394.0
21	CONSOLIDATED CONTRACTORS GROUP	379.3
22	CHINA HENAN INTERNATIONAL COOP. GROUP CO. LTD.	324.4
23	KIEWIT CORP.	301.9
24	DOGUS INSAAT VE TICARET AS	301.5
25	CGCOC GROUP CO. LTD.	295.2

BRIDGES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	3,155.7
2	OBAYASHI CORP.	738.0
3	ASTALDI	729.4
4	BOUYGUES	688.3
5	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	625.3
6	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	578.9
7	NATA CONSTRUCTION TOURISM TRANSPORT TRADE AND INDUSTRY CO.	566.0
8	SKANSKA AB	547.0
9	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	438.2
10	HOCHTIEF AKTIENGESELLSCHAFT	387.0
11	FERROVIAL	371.8
12	IC ICTAS INSAAT SANAYI VE TICARET AS	261.5
13	GS ENGINEERING & CONSTRUCTION	190.6
14	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	186.1
15	CONSOLIDATED CONTRACTORS GROUP	144.3
16	AMERICAN BRIDGE CO.	139.5
17	DAELIM INDUSTRIAL CO., LTD.	135.7
18	SACYR	112.0
19	SUMITOMO MITSUI CONSTRUCTION CO., LTD	96.4
20	BAUER AG	95.9
21	PCL CONSTRUCTION ENTERPRISES INC.	85.7
22	CHINA RAILWAY CONSTRUCTION CORP. LTD.	83.0
23	JOANNOU & PARASKEVAIDES OVERSEAS LTD.	65.7
24	SALINI IMPREGILO SPA	47.6
25	SHIMIZU CORP.	38.4

Top International Design Firms

HIGHWAYS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	AECOM	695.2
2	WSP	687.1
3	EGIS	387.3
4	WS ATKINS PLC	339.6
5	CH2M	316.7
6	STANTEC INC	307.1
7	DAR GROUP, DUBAI, UAE	263.4
8	JACOBS	241.4
9	PARSONS	199.9
10	SURBANA JURONG PRIVATE LTD.	168.0
11	ARUP	151.5
12	TETRA TECH INC.	95.0
13	RAMBOLL GROUP A/S	81.3
14	GOLDER ASSOCIATES CORP.	75.6
15	MOTT MACDONALD	68.4
16	LOUIS BERGER	65.5
17	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	50.7
18	KHATIB & ALAMI	49.9
19	COWI A/S	48.3
20	AMEC FOSTER WHEELER	45.2
21	ORIENTAL CONSULTANTS GLOBAL(ACKG LTD.)	36.1
22	CDM SMITH	33.9
23	DORSCH HOLDING GMBH	33.3
24	NIPPON KOEI GROUP	30.5
25	MORRISON HERSHFIELD	25.6

BRIDGES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	WSP	315.9
2	DAR GROUP, DUBAI, UAE	132.6
3	COWI A/S	83.7
4	CH2M	76.9
5	JACOBS	60.4
6	STANTEC INC	57.0
7	RAMBOLL GROUP A/S	56.8
8	MOTT MACDONALD	31.4
9	TETRA TECH INC.	30.0
10	CHODAI GROUP	21.7
11	PARSONS	21.2
12	SYSTRA	20.0
13	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	15.1
14	ORIENTAL CONSULTANTS GLOBAL(ACKG LTD.)	12.4
15	EGIS	11.3
16	DORSCH HOLDING GMBH	10.1
17	LOUIS BERGER	9.7
18	AF	9.4
19	CHINA RAILWAY GROUP LTD.	9.3
20	AECOM	8.9
21	SURBANA JURONG PRIVATE LTD.	8.0
22	SENER INGENIERIA Y SISTEMAS, SA	7.6
23	MORRISON HERSHFIELD	7.5
24	TECNICA Y PROYECTOS SA (TYPSA)	6.5
25	ASSOCIATED CONSULTING ENGINEERS	6.0
25	HOCHTIEF AKTIENGESELLSCHAFT	6.0

*BASED ON 2016 CONTRACTOR AND DESIGN FIRM REVENUE FROM TRANSPORTATION AS REPORTED IN ENR'S SURVEYS OF LEADING CONTRACTORS AND DESIGN FIRMS.

**BASED ON SUPPLEMENTAL MARKET REVENUE DATA FROM 2016 PROVIDED BY INDUSTRY FIRMS PARTICIPATING IN ENR'S SOURCEBOOK MARKET SURVEY. SEE ENR.COM FOR COMPLETE LISTINGS.

Top International Contractors

MARINE AND PORT FACILITIES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	4,846.2
2	CHINA NATIONAL MACHINERY INDUSTRY CORP.	402.5
3	POWER CONSTRUCTION CORP. OF CHINA	328.5
4	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	322.0
5	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	260.0
6	PENTA-OCEAN CONSTRUCTION CO., LTD.	246.2
7	SACYR	191.0
8	PER AARSLEFF A/S	181.6
9	SKANSKA AB	177.0
10	CONSOLIDATED CONTRACTORS GROUP	140.0
11	STFA CONSTRUCTION GROUP	137.2
12	DAELIM INDUSTRIAL CO., LTD.	95.6
13	CHINA RAILWAY CONSTRUCTION CORP. LTD.	87.0
14	SHANGHAI CONSTRUCTION GROUP	74.1
15	OBAYASHI CORP.	57.0
16	BAUER AG	36.9
17	TECNICAS REUNIDAS	36.9
18	BOUYGUES	29.9
19	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	28.7
20	ILK CONSTRUCTION	23.3
21	KAJIMA CORP.	21.9
22	GS ENGINEERING & CONSTRUCTION	19.2
23	AMERICAN BRIDGE CO.	13.1
24	HOCHTIEF AKTIENGESELLSCHAFT	12.0
25	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	11.9

AIRPORTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	POLIMEKS INSAAT TAAHHUT VE SAN. TIC. AS	1,121.7
2	TAV TEPE AKFEN INVESTMENT CONSTRUCTION AND OPERATION JSC.	1,059.0
3	LIMAK INSAAT SANAYI VE TICARET AS	620.0
4	HOCHTIEF AKTIENGESELLSCHAFT	601.0
5	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	600.7
6	CONSOLIDATED CONTRACTORS GROUP	576.1
7	SKANSKA AB	486.0
8	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	428.3
9	BECHTEL	384.0
10	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	365.8
11	PENTA-OCEAN CONSTRUCTION CO., LTD.	307.3
12	JOANNOU & PARASKEVAIDES OVERSEAS LTD.	259.2
13	BOUYGUES	229.5
14	CHINA RAILWAY CONSTRUCTION CORP. LTD.	221.0
15	LARSEN & TOUBRO LTD.	217.7
16	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	208.7
17	TEPE INSAAT SANAYI AS	120.3
18	ANEL ELEKTRIK PROJE TAAHHUT TIC. AS	117.6
19	TAISEI CORP.	117.0
20	MICHAEL BAKER INTERNATIONAL	106.3
21	CHINA JIANGXI CORP. FOR INT'L ECO. & TECHN. COOP'N	105.6
22	ENKA INSAAT VE SANAYI AS	92.2
23	AECOM	80.6
24	KAJIMA CORP.	74.7
25	SNC-LAVALIN INC.	74.4

Top International Design Firms

MARINE AND PORT FACILITIES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	145.7
2	AECOM	124.9
3	ROYAL HASKONINGDHV	78.7
4	COWI A/S	58.3
5	CH2M	54.8
6	RAMBOLL GROUP A/S	35.2
7	JACOBS	30.2
8	ARUP	25.3
9	MOFFATT & NICHOL	24.2
10	TETRA TECH INC.	23.0
11	NIPPON KOEI GROUP	22.9
12	WSP	22.1
13	ARTELIA	21.8
14	LOUIS BERGER	18.3
15	TECNICAS REUNIDAS	18.2
16	CHINA NATIONAL MACHINERY INDUSTRY CORP.	16.1
17	DAR GROUP, DUBAI, UAE	15.6
18	SENER INGENIERÍA Y SISTEMAS, SA	14.3
19	EGIS	12.3
20	TECNICA Y PROYECTOS SA (TYPESA)	11.8
21	STANTEC INC	11.2
22	ORIENTAL CONSULTANTS GLOBAL (ACKG LTD.)	9.6
23	WS ATKINS PLC	8.8
24	WORLEYPARSONS LTD.	7.8
25	CONSOLIDATED CONTRACTORS GROUP	7.0

AIRPORTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	DAR GROUP, DUBAI, UAE	307.7
2	WSP	140.2
3	ARUP	98.2
4	WS ATKINS PLC	83.0
5	JACOBS	57.6
6	ROYAL HASKONINGDHV	54.6
7	AECOM	52.4
8	RAMBOLL GROUP A/S	50.3
9	AF	47.1
10	EGIS	46.2
11	LOUIS BERGER	30.8
12	SNC-LAVALIN INC.	24.2
13	BECHTEL	24.0
14	STANTEC INC	20.7
15	KOHN PEDERSEN FOX ASSOCIATES PC	17.9
16	GHAFFARI ASSOCIATES LLC	17.6
17	CH2M	17.5
18	COWI A/S	16.8
19	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	13.6
20	WL MEINHARDT GROUP PTY LTD.	12.9
21	TECNICA Y PROYECTOS SA (TYPESA)	12.9
22	AEDAS	9.7
23	MOTT MACDONALD	9.0
24	INECO, INGENIERÍA Y ECONOMÍA DEL TRANSPORTE SA	8.4
25	ROSS & BARUZZINI INC.	6.6

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Top International Contractors

MASS TRANSIT AND RAIL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	BECHTEL	9,149.0
2	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	4,637.7
3	SALINI IMPREGILO SPA	2,278.8
4	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	1,791.6
5	CHINA RAILWAY GROUP LTD.	1,710.2
6	SKANSKA AB	1,504.0
7	CHINA RAILWAY CONSTRUCTION CORP. LTD.	1,267.0
8	OBAYASHI CORP.	1,246.0
9	YAPI MERKEZI INSAAT VE SANAYI AS	1,034.7
10	BOUYGUES	956.7
11	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	907.5
12	CONSOLIDATED CONTRACTORS GROUP	610.7
13	ASTALDI	550.1
14	LARSEN & TOUBRO LTD.	547.3
15	OHL SA (OBRASCON HUARTE LAIN)	543.8
16	SOCIETA' ITALIANA PER CONDOTTE D'ACQUA SPA	527.0
17	FERROVIAL	501.6
18	GS ENGINEERING & CONSTRUCTION	462.1
19	GHELLA SPA	323.0
20	PENTA-OCEAN CONSTRUCTION CO., LTD.	280.6
21	NORINCO INTERNATIONAL COOP. LTD.	242.2
22	HOCHTIEF AKTIENGESELLSCHAFT	232.0
23	DOGUS INSAAT VE TICARET AS	211.0
24	CHINA NATIONAL MACHINERY INDUSTRY CORP.	195.2
25	KIEWIT CORP.	188.0

Top International Design Firms

MASS TRANSIT AND RAIL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	WSP	952.3
2	AECOM	673.2
3	SYSTRA	406.0
4	WS ATKINS PLC	354.8
5	JACOBS	312.4
6	MOTT MACDONALD	213.5
7	BECHTEL	164.0
8	ARUP	162.6
9	DAR GROUP, DUBAI, UAE	159.7
10	CH2M	157.8
11	SNC-LAVALIN INC.	128.9
12	EGIS	127.9
13	CHINA RAILWAY GROUP LTD.	93.6
14	COWI A/S	93.4
15	SENER INGENIERÍA Y SISTEMAS, SA	93.3
16	PARSONS	87.7
17	STANTEC INC	72.7
18	RAMBOLL GROUP A/S	66.0
19	TECNICA Y PROYECTOS SA (TYPESA)	55.9
20	GOLDER ASSOCIATES CORP.	52.5
21	IDOM	44.1
22	SURBANA JURONG PRIVATE LTD.	40.0
23	HATCH LTD	39.0
24	EHA CONSULTING ENGINEERS	38.9
25	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	37.4

*BASED ON 2016 CONTRACTOR AND DESIGN FIRM REVENUE FROM TRANSPORTATION AS REPORTED IN ENR'S SURVEYS OF LEADING CONTRACTORS AND DESIGN FIRMS.

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By Bruce Buckley

Manufacturing Growth Spurred by Oil, Politics

Firms get modest, but more complicated work in some sectors



INCREMENTAL EXPANSION Fluor expanded the Solvay adhesives plant in Wrexham, Wales.

Feeding off client optimism, many firms in manufacturing and industrial process see strong opportunities in the coming years, although some geographic regions may fare better.

“In terms of pure percentage of growth, manufacturing has been our largest growth sector this year,” says Marc Chabot, global major programs director at Golder.

In terms of geographic markets, lower oil prices and the availability of natural gas have been a boon for the U.S. market. As a result, some clients that traditionally would not have focused on North America are now looking at the U.S.

Further, political change is driving interest, says Andrew Ahrendt, director of corporate development and manufacturing at PCL Construction. “Many firms are buoyed by what they see from the Trump administration: tax reform, regulation reform, health-care reform. Companies are also looking to relocate to places with stable governments and a technical workforce,” he notes. “Those are all factors.”

In March, the National Association of Manufacturers released its annual Manufacturers’ Outlook Survey, which showed that more than 93% of respondents—the highest view in the survey’s 20-year history and up from 56.6% in March 2016—felt positive about their economic outlook.

Dave Watrous, vice president of life sciences and advanced manufacturing at Fluor, notes that, while much of its work in the pharmaceutical and biotech markets has been in Europe in recent years, some of that work is now heading to the U.S.

However, Watrous says he still sees a steady stream of opportunities in Europe, particularly in retooling and refurbishing existing facilities. Following the construction surge up to five years ago in large facilities in Europe, Watrous says he expects to see clients focus more on maximizing the facilities they already operate.

Although there has been some market hesitation related to Brexit, Watrous sees companies starting to release projects in the

\$20-million to \$100-million range. “I expect to be in a smaller capital investment environment for the next few years, until that market rebounds and [clients] consume the idle space in their inventory,” he says.

In the manufacturing sector, the company recently completed an expansion of the Solvay Adhesives plant in Wrexham, Wales.

Watrous observes that, although many of its projects are smaller than a few years ago, the company is seeing double-digit growth in life sciences and advanced manufacturing, in part by capturing more market share.

In the automotive sector, the need to keep up with advances in vehicle technology is driving facility updates, says Duncan White, London-based leader for the science and industry business at Arup. “A lot of companies now are clearly looking at the electric-vehicle market,” he says. “There’s a need to create facilities now that are flexible for both gasoline engines and electric engines. The companies themselves are very unsure about how it’s going, and they don’t know how the market will react to the new technology. But it’s still a driver for those organizations.”

Similarly, White says advancements in automated vehicles are also on the near horizon. “We’re being asked to make facilities flexible for the future,” he adds.

Further, Arup is predicting that, with the increased use of robotics in manufacturing, it will need to design facilities that better reflect the changing culture of a plant. “[When] you use more robotics, the workforce in a factory moves from low cost and low skill to higher cost and higher skill,” he says.

The firm recently completed the £900-million Jaguar Land Rover Engine Manufacturing Centre, in Wolverhampton, England. The 185,000-sq-meter set of buildings house the machine and assembly halls, which are flanked by offices, social support spaces and a community education center. The facility aims to foster innovation, collaboration and the wellness of people at the facility, blurring the boundaries between production and offices. ■

Top International Contractors

INDUSTRIAL PROCESS		
RANK	FIRM	REVENUE (\$ MIL. *)
1	DANIELI & C. OFFICINE MECCANICHE SPA	1,989.0
2	CHINA METALLURGICAL GROUP CORP.	1,174.3
3	BECHTEL	1,143.0
4	FLUOR CORP.	983.2
5	ORASCOM CONSTRUCTION LTD.	963.0
6	STRABAG	727.1
7	VINCI	608.1
8	JACOBS	579.4
9	SINOSTEEL EQUIPMENT & ENGINEERING CO. LTD.	492.3
10	RENAISSANCE CONSTRUCTION	480.7
11	SKANSKA AB	480.0
12	CHINA NONFERROUS METAL IND.'S FOREIGN ENG'G & CONSTR. CO. LTD.	465.0
13	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	390.1
14	HOCHTIEF AKTIENGESELLSCHAFT	351.0
15	CHINA NATIONAL MACHINERY INDUSTRY CORP.	318.9
16	POSCO ENGINEERING & CONSTRUCTION	269.6
17	CHINA NATIONAL COMPLETE PLANT IMP. & EXP. CORP. (GROUP)	243.6
18	OHL SA (OBRASCON HUARTE LAIN SA)	193.5
19	LARSEN & TOUBRO LTD.	191.1
20	SHIMIZU CORP.	182.7
21	ALBERICI-FLINTCO	177.9
22	TEPE INSAAT SANAYI AS	172.3
23	ANDRADE GUTIERREZ ENGENHARIA	138.0
24	GILBANE BUILDING CO.	130.2
25	GAP INSAAT YATIRIM VE DIS TICARET AS	126.7
26	TTCL PUBLIC CO. LTD.	125.0
27	CHINA TRIUMPH INTERNATIONAL ENGINEERING CO. LTD.	106.3
28	BOUYGUES	100.0
29	SNC-LAVALIN INC.	86.8
30	KAJIMA CORP.	83.7
31	HASKELL	69.8
32	CHIYODA CORP.	65.4
33	CHINA GANSU INT'L CORP. FOR ECO. & TECHN. COOPERATION	63.0
34	CHINA RAILWAY CONSTRUCTION CORP. LTD.	60.0
35	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	59.8
36	PUNJ LLOYD LTD.	56.0
37	TEKFEN CONSTRUCTION AND INSTALLATION CO. INC.	54.0
38	CHINA WU YI CO. LTD.	53.0
39	ZHONGDING INTERNATIONAL ENGINEERING CO. LTD.	53.0
40	CITIC CONSTRUCTION CO. LTD.	48.6
41	AMEC FOSTER WHEELER	47.0
42	BAUER AG	43.4
43	SAMSUNG ENGINEERING CO. LTD.	41.5
44	KINDEN CORP.	40.0
45	YANJIAN GROUP CO. LTD.	37.4
46	CHINA ENERGY ENGINEERING CORP. LTD.	36.8
47	CHINA ALUMINUM INTERNATIONAL ENGINEERING CORP. LTD.	36.7
48	CTCI CORP.	36.6
49	TAUW GROUP	34.8
50	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	32.7
50	HYUNDAI ENGINEERING & CONSTRUCTION CO. LTD.	32.7

Top International Design Firms

INDUSTRIAL PROCESS		
RANK	FIRM	REVENUE (\$ MIL. *)
1	JACOBS	510.7
2	INTERTEK-PSI	409.2
3	HATCH LTD.	206.0
4	BECHTEL	164.0
5	FLUOR CORP.	159.6
6	POYRY	139.0
7	SWECO AB	121.0
8	WSP	118.3
9	WORLEYPARSONS	117.0
10	ARCADIS NV	114.0
11	CHINA TIANCHEN ENGINEERING CORP.	85.4
12	SNC-LAVALIN INC.	82.0
13	PM GROUP	80.3
14	GOLDER ASSOCIATES CORP.	57.0
15	CTCI CORP.	48.3
16	AMEC FOSTER WHEELER	45.0
17	WS ATKINS PLC	40.2
18	LARSEN & TOUBRO LTD.	38.8
19	TAUW GROUP	34.8
20	AF GROUP	34.5
21	CHINA ALUMINUM INTERNATIONAL ENGINEERING CORP. LTD.	33.9
22	STANTEC INC.	29.6
23	AECOM	28.7
24	TEBODIN BV	26.4
25	CHINA METALLURGICAL GROUP CORP.	25.7
26	IDOM	25.2
27	MOTT MACDONALD	22.6
28	IPS-INTEGRATED PROJECT SERVICES LLC	22.1
29	ARUP	19.3
30	ROYAL HASKONINGDHV	19.1
31	AURECON	16.4
32	BECA GROUP LTD.	14.3
33	TTCL PUBLIC CO. LTD.	14.0
34	CHINA NATIONAL MACHINERY INDUSTRY CORP.	12.8
35	PCG PROFABRIL CONSULPLANO GLOBAL SA	11.2
36	EXP US SERVICES INC.	10.6
37	POSCO ENGINEERING & CONSTRUCTION	10.4
38	CH2M	10.0
39	GHD	8.8
40	KAJIMA CORP.	8.5
41	DAR GROUP, DUBAI, UAE	8.4
42	ASSYSTEM	8.0
43	EHAF CONSULTING ENGINEERS	7.9
44	AYESA	7.4
45	CRB	7.2
46	CHINA TRIUMPH INTERNATIONAL ENGINEERING CO. LTD.	7.0
47	CHIYODA CORP.	5.1
48	TETRA TECH INC.	5.0
49	KLEINFELDER	4.9
50	FOTH COS.	3.1

*BASED ON 2016 CONTRACTOR AND DESIGN FIRM REVENUE FROM MANUFACTURING, INDUSTRIAL PROCESS AND TELECOMMUNICATIONS AS REPORTED IN ENR'S SURVEYS OF LEADING CONTRACTORS AND DESIGN FIRMS.
**BASED ON SUPPLEMENTAL MARKET REVENUE DATA FROM 2016 PROVIDED BY INDUSTRY FIRMS PARTICIPATING IN ENR'S SOURCEBOOK MARKET SURVEY. SEE ENR.COM FOR COMPLETE LISTINGS.

Top International Contractors

MANUFACTURING		
RANK	FIRM	REVENUE (\$ MIL.)*
1	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	2,537.0
2	SAMSUNG C&T	1,127.0
3	SAMSUNG ENGINEERING CO. LTD.	602.5
4	KAJIMA CORP.	534.9
5	TAKENAKA CORP.	523.0
6	WALBRIDGE	451.0
7	HYUNDAI ENGINEERING & CONSTRUCTION CO. LTD.	448.2
8	SHIMIZU CORP.	427.7
9	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	310.5
10	HOCHTIEF AKTIENGESELLSCHAFT	310.0
11	SKANSKA AB	248.0
12	PER AARSLEFF A/S	207.7
13	CITIC CONSTRUCTION CO. LTD.	203.0
14	GS ENGINEERING & CONSTRUCTION	174.4
15	DAELIM INDUSTRIAL CO. LTD.	170.4
16	BARTON MALOW CO.	167.1
17	HAZAMA ANDO CORP.	159.0
18	TBEA CO. LTD.	145.2
19	HENSEL PHELPS	135.3
20	CHINA RAILWAY GROUP LTD.	109.3
21	CHINA GENERAL TECHNOLOGY (GROUP) HOLDING CO. LTD.	108.6
22	POSCO ENGINEERING & CONSTRUCTION	103.9
23	FLUOR CORP.	103.2
24	KINDEN CORP.	82.0
25	ACCIONA INFRAESTRUCTURAS	72.3
26	SENER INGENIERÍA Y SISTEMAS SA	67.8
27	RENAISSANCE CONSTRUCTION	64.3
28	CHINA NATIONAL MACHINERY INDUSTRY CORP.	59.2
29	CTCI CORP.	58.6
30	BOUYGUES	46.0
31	YANJIAN GROUP CO. LTD.	43.8
32	MAEDA CORP.	42.0
33	SUMITOMO MITSUI CONSTRUCTION CO. LTD.	40.2
34	SHANGHAI URBAN CONSTRUCTION (GROUP) CORP.	38.0
35	METAG INSAAT TICARET AS	34.0
36	TODA CORP.	32.0
37	JACOBS	28.8
38	M+W GROUP	22.3
39	COMMERCIAL CONTRACTING CORP.	21.8
40	AECOM	19.3
41	LARSEN & TOUBRO LTD.	18.9
42	BAUER AG	18.5
43	ARISTEO CONSTRUCTION CO. INC.	13.1
44	GRUPO EMPRESARIAL SAN JOSE SA	12.6
45	PENTA-OCEAN CONSTRUCTION CO. LTD.	9.1
46	ALBERICI-FLINTCO	8.6
47	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	7.6
48	GRAHAM	5.0
49	PCL CONSTRUCTION ENTERPRISES INC.	4.2
50	HASKELL	3.7

Top International Design Firms

MANUFACTURING		
RANK	FIRM	REVENUE (\$ MIL.)*
1	LARSEN & TOUBRO LTD.	395.0
2	CH2M	57.5
3	JACOBS	51.8
4	ARCADIS NV	40.0
5	SAMOO ARCHITECTS & ENGINEERS	34.0
6	GOLDER ASSOCIATES CORP.	30.4
7	HYUNDAI ENGINEERING CO. LTD.	26.8
8	ARUP	26.5
9	SWECO AB	25.0
10	WSP	24.2
11	BECA GROUP LTD.	22.7
12	IBI GROUP	22.7
13	GHAFAARI ASSOCIATES	20.0
14	FLUOR CORP.	19.9
15	AF GROUP	17.6
16	TEBODIN BV	14.5
17	AURECON	13.7
18	WL MEINHARDT GROUP PTY. LTD.	11.1
19	CHA CONSULTING INC.	9.3
20	INGEROP	8.9
21	IDOM	8.7
22	SSEO GROUP	7.9
23	CDI CORP.	7.8
24	LEIDOS	7.0
25	PM GROUP	6.7
26	SHAKER GROUP	6.0
27	HYUNDAI ARCHITECTS & ENGINEERS ASSOC.	5.8
28	SUMITOMO MITSUI CONSTRUCTION CO. LTD.	5.2
29	AMEC FOSTER WHEELER	5.0
30	TETRA TECH INC.	5.0
31	AECOM	4.2
32	KAJIMA CORP.	4.1
33	PAGE SOUTHERLAND PAGE INC.	3.6
34	WS ATKINS PLC	3.5
35	STANTEC INC.	2.7
36	MERRICK & CO.	2.5
37	CHINA NATIONAL MACHINERY INDUSTRY CORP.	2.4
38	M+W GROUP	2.2
39	COMMERCIAL CONTRACTING CORP.	2.0
40	ROYAL HASKONINGDHV	2.0
41	DAR GROUP, DUBAI, UAE	1.9
42	FICHTNER GROUP	1.6
43	WUNDERLICH-MALEC ENGINEERING	1.5
44	SETEC	1.4
45	BURNS & MCDONNELL	1.1
46	GENSLER	1.1
47	KLEINFELDER	1.0
48	WENCK	1.0
49	ARTELIA	0.9
50	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	0.9

Top International Contractors

TELECOMMUNICATIONS		
RANK	FIRM	REVENUE (\$ MIL.)
1	VINCI	1,757.1
2	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	1,269.7
3	HOCHTIEF AKTIENGESELLSCHAFT	1,110.0
4	ZHEJIANG CONSTRUCTION INVESTMENT GRP. CO. LTD.	120.0
5	SKANSKA AB	104.0
6	FLUOR CORP.	54.0
7	STRUCTURE TONE	52.4
8	DAELIM INDUSTRIAL CO. LTD.	51.1
9	KINDEN CORP.	45.0
10	NATA CONSTRUCTION TOURISM TRADE AND INDUSTRY CO.	41.0
11	SAMSUNG C&T	26.0
12	BAUER AG	24.7
13	CHINA RAILWAY CONSTRUCTION CORP. LTD.	19.0
14	CHINA METALLURGICAL GROUP CORP.	14.9
15	KAJIMA CORP.	14.4
16	MOTA-ENGIL	10.0
17	BOUYGUES	9.0
18	PCL CONSTRUCTION ENTERPRISES INC.	6.8
19	STRABAG	6.6
20	IRCON INTERNATIONAL LTD.	6.4

STEEL AND NON-FERROUS METALS		
RANK	FIRM	REVENUE (\$ MIL.)
1	CHINA METALLURGICAL GROUP CORP.	1,096.6
2	BECHTEL	793.0
3	SINOSTEEL EQUIPMENT & ENGINEERING CO. LTD.	492.3
4	CHINA NONFERROUS METAL IND.'S FOREIGN ENG'G & CONSTR. CO. LTD.	465.0
5	FLUOR CORP.	382.0
6	POSCO ENGINEERING & CONSTRUCTION	258.6
7	LARSEN & TOUBRO LTD.	131.1
8	ANDRADE GUTIERREZ	106.0
9	ALBERICI-FLINTCO	86.1
10	RENAISSANCE CONSTRUCTION	82.7
11	SKANSKA AB	60.0
12	CHINA RAILWAY CONSTRUCTION CORP. LTD.	60.0
13	ZHONGDING INTERNATIONAL ENGINEERING CO. LTD.	53.0
14	SAMSUNG ENGINEERING CO. LTD	41.5
15	YANJIAN GROUP CO. LTD.	37.4
16	CHINA ALUMINUM INTERNATIONAL ENGINEERING CORP. LTD.	36.7
17	CHINA WU YI CO. LTD.	35.2
18	CTCI CORP.	34.9
19	CHINA NATIONAL MACHINERY INDUSTRY CORP.	34.7
20	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	32.7

Top International Design Firms

TELECOMMUNICATIONS		
RANK	FIRM	REVENUE (\$ MIL.)
1	POWER CONSTRUCTION CORP. OF CHINA	119.7
2	FUGRO NV	51.0
3	JACOBS	23.9
4	ARUP	23.2
5	PARSONS	19.8
6	DAR GROUP, DUBAI, UAE	14.8
7	AECOM	9.6
8	YACHIYO ENGINEERING CO. LTD.	9.0
9	WSP	8.7
10	MORRISON HERSHFIELD	7.7
11	GENSLER	7.6
12	AURECON	7.6
13	ROYAL HASKONINGDHV	7.6
14	DBA GROUP	7.0
15	MOTT MACDONALD	5.9
16	RAMBOLL GRUPPEN A/S	5.4
17	IDOM	5.3
18	WL MEINHARDT GROUP PTY. LTD.	4.9
19	PM GROUP	4.6
20	NIPPON KOEI GROUP	4.4

STEEL AND NON-FERROUS METALS		
RANK	FIRM	REVENUE (\$ MIL.)
1	HATCH LTD	206.0
2	JACOBS	97.4
3	FLUOR CORP.	95.9
4	BECHTEL	77.0
5	CTCI CORP.	48.3
6	GOLDER ASSOCIATES CORP.	40.5
7	CHINA ALUMINUM INTERNATIONAL ENGINEERING CORP. LTD.	33.9
8	CHINA METALLURGICAL GROUP CORP.	25.7
9	AECOM	21.5
10	IDOM	16.0
11	PCG PROFABRIL CONSULPLANO GLOBAL SA	11.0
12	POSCO ENGINEERING & CONSTRUCTION	9.3
13	POYRY	3.0
14	HYUNDAI ENGINEERING CO., LTD.	2.7
15	WORLEYPARSONS LTD.	1.8
16	WSP	1.7
17	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	1.6
18	CHINA NATIONAL MACHINERY INDUSTRY CORP.	1.4
19	EGIS	1.2
20	TEBODIN B.V.	1.1

Top International Contractors

CHEMICALS (NON-PETROLEUM)		
RANK	FIRM	REVENUE (\$ MIL.)*
1	BECHTEL	332.0
2	RENAISSANCE CONSTRUCTION	310.0
3	FLUOR CORP.	276.8
4	TTCL PUBLIC CO. LTD.	139.0
5	CHINA NATIONAL MACHINERY INDUSTRY CORP.	136.1
6	JACOBS	128.7
7	CHINA TRIUMPH INTERNATIONAL ENGINEERING CO.	106.3
8	SKANSKA AB	81.0
9	CHINA METALLURGICAL GROUP CORP.	71.0
10	PUNJ LLOYD LTD	56.0
11	SNC-LAVALIN INC.	39.2
12	SHIMIZU CORP.	34.3
13	CHINA NATIONAL COMPLETE PLANT IMP. & EXP. CORP. (GROUP)	25.5
14	BOUYGUES	24.8
15	NANTONG CONSTRUCTION GROUP CO. LTD.	17.4
16	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	14.4
17	YUNNAN CONSTRUCTION ENGINEERING GRP. CO. LTD.	13.5
18	BAUER AG	13.0
19	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	9.3
20	HOCHTIEF AKTIENGESELLSCHAFT	9.0

Top International Design Firms

CHEMICALS (NON-PETROLEUM)		
RANK	FIRM	REVENUE (\$ MIL.)*
1	JACOBS	166.6
2	TTCL PUBLIC COMPANY LTD.	139.0
3	WORLEYPARSONS LTD.	115.3
4	BECHTEL	86.0
5	CHINA TIANCHEN ENGINEERING CORP.	85.4
6	FLUOR CORP.	53.1
7	SNC-LAVALIN INC.	36.5
8	POYRY	14.0
9	CH2M	10.0
10	TEBODIN B.V.	9.7
11	GOLDER ASSOCIATES CORP.	8.0
12	CHINA TRIUMPH INTERNATIONAL ENGINEERING CO.	7.0
13	AECOM	6.6
14	LARSEN & TOUBRO LTD.	6.3
15	CHINA NATIONAL MACHINERY INDUSTRY CORP.	5.4
16	AF	5.1
17	TETRA TECH INC.	5.0
18	WSP	4.1
19	ECG ENGINEERING CONSULTANTS GROUP SA	3.0
20	DAR GROUP, DUBAI, UAE	2.6

PHARMACEUTICALS		
RANK	FIRM	REVENUE (\$ MIL.)*
1	JACOBS	412.3
2	SKANSKA AB	271.0
3	HOCHTIEF AKTIENGESELLSCHAFT	259.0
4	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	258.7
5	FLUOR CORP.	67.6
6	SHIMIZU CORP.	50.7
7	KAJIMA CORP.	31.0
8	SNC-LAVALIN INC.	30.4
9	IPS-INTEGRATED PROJECT SERVICES, LLC	13.3
10	BOUYGUES	11.9

PHARMACEUTICALS		
RANK	FIRM	REVENUE (\$ MIL.)*
1	JACOBS	219.0
2	PM GROUP	62.9
3	WS ATKINS PLC	40.3
4	IPS-INTEGRATED PROJECT SERVICES LLC	22.1
5	SNC-LAVALIN INC.	19.8
6	STANTEC INC	16.3
7	ARUP	15.6
8	WSP	13.3
9	AF	10.4
10	ASSYSTEM	8.0

FOOD AND BEVERAGES		
RANK	FIRM	REVENUE (\$ MIL.)*
1	CHINA NATIONAL COMPLETE PLANT IMP. & EXP. CORP. (GROUP)	218.1
2	GILBANE BUILDING CO.	130.2
3	CHINA NATIONAL MACHINERY INDUSTRY CORP.	126.9
4	ALBERICI-FLINTCO	91.9
5	HASKELL	69.8
6	CITIC CONSTRUCTION CO. LTD.	48.6
7	KAJIMA CORP.	48.4
8	CHINA GANSU INT'L CORP. FOR ECO. & TECHN. COOP.	40.2
9	TEPE INSAAT SANAYI AS	23.6
10	HOCHTIEF AKTIENGESELLSCHAFT	22.0

FOOD AND BEVERAGES		
RANK	FIRM	REVENUE (\$ MIL.)*
1	SNC-LAVALIN INC.	21.1
2	PM GROUP	17.4
3	WSP	17.1
4	ROYAL HASKONINGDHV	16.5
5	AF	15.1
6	TEBODIN B.V.	12.3
7	STANTEC INC	10.5
8	IDOM	9.2
9	POYRY	9.0
10	JACOBS	6.5

PULP AND PAPER		
RANK	FIRM	REVENUE (\$ MIL.)*
1	SKANSKA AB	33.0
2	JACOBS	10.6
3	CHINA NATIONAL MACHINERY INDUSTRY CORP.	8.9
4	CHINA ENERGY ENGINEERING CORP. LTD.	8.1
5	FLUOR CORP.	6.8

PULP AND PAPER		
RANK	FIRM	REVENUE (\$ MIL.)*
1	POYRY	89.0
2	JACOBS	21.1
3	AMEC FOSTER WHEELER	18.4
4	AF	3.2
5	GOLDER ASSOCIATES CORP.	1.1

Top International Contractors

AUTO ASSEMBLY		
RANK	FIRM	REVENUE (\$ MIL.)*
1	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	2,537.0
2	WALBRIDGE	451.0
3	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	448.2
4	SHIMIZU CORP.	258.7
5	KAJIMA CORP.	205.3
6	CITIC CONSTRUCTION CO. LTD.	203.0
7	GS ENGINEERING & CONSTRUCTION	174.4
8	DAELIM INDUSTRIAL CO., LTD.	170.4
9	BARTON MALOW CO.	167.2
10	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	124.5

SEMICONDUCTOR		
RANK	FIRM	REVENUE (\$ MIL.)*
1	PER AARSLEFF A/S	208.9
2	HENSEL PHELPS	135.3
3	HOCHTIEF AKTIENGESELLSCHAFT	117.0
4	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	116.9
5	SHIMIZU CORP.	4.3

ELECTRONIC ASSEMBLY		
RANK	FIRM	REVENUE (\$ MIL.)*
1	SAMSUNG ENGINEERING CO. LTD	590.7
2	SKANSKA AB	191.0
3	SHIMIZU CORP.	75.7
4	CTCI CORP.	58.6
5	POSCO ENGINEERING & CONSTRUCTION	55.3

AEROSPACE		
RANK	FIRM	REVENUE (\$ MIL.)*
1	FLUOR CORP.	103.1
2	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	69.1
3	HOCHTIEF AKTIENGESELLSCHAFT	69.0
4	SENER INGENIERÍA Y SISTEMAS, SA	67.8
5	KAJIMA CORP.	31.5

TRANSMISSION LINES AND CABLING		
RANK	FIRM	REVENUE (\$ MIL.)*
1	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	161.6
2	FLUOR CORP.	54.0
3	STRUCTURE TONE	52.4
4	DAELIM INDUSTRIAL CO., LTD.	51.1
5	CHINA RAILWAY CONSTRUCTION CORP. LTD.	17.0
6	CHINA METALLURGICAL GROUP CORP.	14.9
7	BOUYGUES	9.5
8	BAUER AG	7.4
9	CHINA NATIONAL MACHINERY INDUSTRY CORP.	4.2
10	HOCHTIEF AKTIENGESELLSCHAFT	2.0

Top International Design Firms

AUTO ASSEMBLY		
RANK	FIRM	REVENUE (\$ MIL.)*
1	LARSEN & TOUBRO LTD.	99.2
2	HYUNDAI ENGINEERING CO., LTD.	24.8
3	WSP	23.9
4	GHAFAI ASSOCIATES LLC	20.0
5	AF	14.8
6	TEBODIN B.V.	8.2
7	LEIDOS	7.0
8	IDOM	6.7
9	JACOBS	5.7
10	GOLDER ASSOCIATES CORP.	4.7

SEMICONDUCTOR		
RANK	FIRM	REVENUE (\$ MIL.)*
1	LARSEN & TOUBRO LTD.	89.5
2	CH2M	47.7
3	SAMOO ARCHITECTS & ENGINEERS	22.1
4	JACOBS	3.7
5	DAR GROUP, DUBAI, UAE	1.1

ELECTRONIC ASSEMBLY		
RANK	FIRM	REVENUE (\$ MIL.)*
1	LARSEN & TOUBRO LTD.	156.7
2	SAMOO ARCHITECTS & ENGINEERS	11.8
3	CH2M	6.2
4	SUMITOMO MITSUI CONSTRUCTION CO., LTD	5.2
5	PM GROUP	3.4

AEROSPACE		
RANK	FIRM	REVENUE (\$ MIL.)*
1	LARSEN & TOUBRO LTD.	49.6
2	JACOBS	40.5
3	FLUOR CORP.	19.1
4	CDI CORP.	7.8
5	TETRA TECH INC.	5.0

TRANSMISSION LINES AND CABLING		
RANK	FIRM	REVENUE (\$ MIL.)*
1	POWER CONSTRUCTION CORP. OF CHINA	119.7
2	DAR GROUP, DUBAI, UAE	12.8
3	MOTT MACDONALD	5.5
4	NIPPON KOEI GROUP	4.3
5	DORSCH HOLDING GMBH	1.2

Top International Contractors

TOWERS AND ANTENNAE		
RANK	FIRM	REVENUE (\$ MIL.)*
1	LENLEASE	23.9
2	BAUER AG	17.3
3	SHIMIZU CORP.	5.7
4	CHINA WU YI CO. LTD.	3.7
5	JACOBS	0.9

DATA CENTERS AND WEB HOTELS		
RANK	FIRM	REVENUE (\$ MIL.)*
1	HOCHTIEF AKTIENGESELLSCHAFT	1,031.0
2	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	1,030.8
3	ZHEJIANG CONSTRUCTION INVESTMENT GRP. CO. LTD.	120.0
4	SKANSKA AB	104.0
5	KAJIMA CORP.	14.4

MISCELLANEOUS-MINING		
RANK	FIRM	REVENUE (\$ MIL.)*
1	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	3,609.1
2	HOCHTIEF AKTIENGESELLSCHAFT	3,609.0
3	CHINA METALLURGICAL GROUP CORP.	238.8
4	POWER CONSTRUCTION CORP. OF CHINA	204.3
5	KIEWIT CORP.	157.4
6	FERROVIAL	152.9
7	GYM (GRANA Y MONTERO)	152.0
8	BOUYGUES	119.5
9	NORINCO INTERNATIONAL COOP. LTD.	99.6
10	ASTALDI	84.7
11	CITIC CONSTRUCTION CO. LTD.	56.9
12	CENGIZ CONSTRUCTION INDUSTRY & TRADE CO. INC.	48.9
13	PCL CONSTRUCTION ENTERPRISES INC.	47.8
14	CHINA RAILWAY GROUP LTD.	43.2
15	AMEC FOSTER WHEELER	41.4
16	SNC-LAVALIN INC.	40.2
17	C.M.C. DI RAVENNA SOCIETÀ COOPERATIVA	20.6
18	AMES CONSTRUCTION GROUP	16.0
19	CHINA NUCLEAR ENGINEERING CORP. LTD.	14.4
20	SKANSKA AB	12.0

Top International Design Firms

TOWERS AND ANTENNAE		
RANK	FIRM	REVENUE (\$ MIL.)*
1	PARSONS	19.8
2	MORRISON HERSHFIELD	5.5
3	RAMBOLL GROUP A/S	5.4
4	EMPRESARIOS AGRUPADOS	1.9
5	JACOBS	1.5

DATA CENTERS AND WEB HOTELS		
RANK	FIRM	REVENUE (\$ MIL.)*
1	JACOBS	21.7
2	ARUP	14.4
3	AECOM	9.6
4	GENSLER	7.6
5	ROYAL HASKONINGDHV	6.5

MISCELLANEOUS-MINING		
RANK	FIRM	REVENUE (\$ MIL.)*
1	AMEC FOSTER WHEELER	230.7
2	GOLDER ASSOCIATES CORP.	136.5
3	SNC-LAVALIN INC.	95.6
4	HATCH LTD	39.0
5	WORLEYPARSONS LTD.	32.2
6	WSP	31.1
7	STANTEC INC	24.6
8	LOUIS BERGER	21.9
9	JACOBS	16.9
10	SURBANA JURONG PRIVATE LTD.	15.0
11	WALDEMAR S. NELSON AND CO. INC.	10.1
12	POYRY	9.0
13	BARR ENGINEERING CO.	4.5
14	ARUP	4.1
15	ILF CONSULTING ENGINEERS	3.0

By Scott Lewis

Data and Renewables Drive Power Changes

Coal and natural gas take a back seat as solar, wind costs dive



CLEANER PLANT In India, this 1,300-MW supercritical coal plant was commissioned in 2015.

The growth of renewable generation is helping to feed the ever-increasing global demand for power using the renewable sources that are expected to comprise two-thirds of new generation by 2040, according to one scenario in the International Energy Agency's World Energy Outlook, released in November.

Solar, wind and other renewable sources have become the lowest-cost alternative for most countries, supplanting coal plants. Coal has added 900 GW of new electric capacity since 2000, but coal is expected to supply only 400 GW through 2040, as even India and China turn toward renewable sources.

In Europe, renewables will account for 80% of new power generation by 2030, according to the International Energy Agency.

"Different players are entering the market and are prepping themselves for the future. The new-energy rush has set off," says Daniel Develay, CEO of Tractabel. "Just look at gas-and-oil companies Shell and Total, which have

acquired new firms to differentiate their service and product portfolio."

Companies not traditionally associated with energy are investing in that market. For example, Google is filing patents for a floating solar farm.

Further, digital technology and data will transform the energy market, Develay says. Tractabel's center for power system simulation and modeling, called EYES, is working to take advantage of that data. "We see that data are the new gold. Companies [that] have first access to a vast amount of data will be able to create [big] value out of it."

Helping to make renewables more accessible and affordable is the growing development of cheaper battery storage that levels the intermittency of renewable generation. The global energy-storage market will rise dramatically, from 5 gigawatt-hours in 2016 to more than 300 gigawatt-hours and 125 gigawatts of capacity by 2030, according to a recent forecast by Bloomberg New Energy Finance.

One high-profile battery-storage project is a Tesla Powerpack lithium-ion

system completed last month in South Australia. Following a series of blackouts last year, Tesla CEO Elon Musk offered to install his system in 100 days or it would be free. Partnered with Neoen, a French renewable-energy company, Tesla by Dec. 1 met the challenge, installing a \$50-million, 100-MW, 129-MWh system at Neoen's 315-MW Hornsdale Wind Farm. It is currently the largest battery-storage system in the world.

China also is pushing energy storage, with two giant projects in the early development stages. Dalian Rongke Power Co. Ltd. is building a 200-MW, 800-MWh storage station, featuring its vanadium flow batteries, on the Dalian peninsula. The first 100 MW will be installed by the end of this year, with the remainder coming on line in 2018. It will provide peak-shaving and enhance grid stabilization in Liaoning Province.

Hubei Pingfan Vanadium Energy Storage Technology Co. recently was awarded a contract to supply a 3-MW, 12-MWh vanadium battery-storage project in Hubei Province. It is the first phase of a 100-MW project, which will be the cornerstone of a new, smart energy grid.

Coal will still play a role, however, as world energy demand is expected to grow by 30% by 2040—the equivalent of adding another China and India to the demand for electricity.

New coal plants are being built to burn fuel cleaner. "Reduction in [nitrogen oxide] and [sulfur oxide] emissions will be the key trend in the coal-based power market," says Shailendra Roy, a director for power, heavy engineering and nuclear at Larsen & Toubro, India's dominant contractor. "Accordingly, flue-gas desulfurization and selective catalytic reduction systems will play a major role."

Also, the type of coal-fired generation is undergoing a shift. "The focus will be on supercritical and ultrasupercritical technologies to bring in higher efficiency, reduce usage of water and fuel, and reduce environmental emissions," comments Roy. "Old plants will have to be replaced with ultrasupercritical or supercritical units, complete with FGD-SCR systems." ■

Top International Contractors

POWER		
RANK	FIRM	REVENUE (\$ MIL. *)
1	POWER CONSTRUCTION CORP. OF CHINA	6,601.6
2	CHINA ENERGY ENGINEERING CORP. LTD.	3,471.5
3	HYUNDAI ENGINEERING & CONSTRUCTION CO. LTD.	2,824.6
4	VINCI	2,579.9
5	SAMSUNG C&T	2,185.0
6	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	1,983.0
7	CHINA NATIONAL MACHINERY INDUSTRY CORP.	1,933.8
8	HARBIN ELECTRIC INTERNATIONAL CO. LTD.	1,502.4
9	LARSEN & TOUBRO LTD.	1,473.3
10	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	1,189.7
11	CHINA NATIONAL CHEMICAL ENGINEERING GROUP CORP.	1,137.0
12	BOUYGUES	967.0
13	CHINA ELECTRIC POWER EQUIPMENT AND TECHNOLOGY CO. LTD.	810.1
14	CHINA ZHONGYUAN ENGINEERING CORP.	797.3
15	DAEWOO ENGINEERING & CONSTRUCTION CO. LTD.	795.2
16	TBEA CO. LTD.	767.5
17	DAELIM INDUSTRIAL CO. LTD.	710.3
18	ORASCOM CONSTRUCTION LTD.	709.0
19	CALIK ENERJI SAN. VE TIC. AS	643.0
20	SKANSKA AB	611.0
21	FERROVIAL	562.1
22	ROYAL BOSKALIS WESTMINSTER NV	508.0
23	CHINA GENERAL TECHNOLOGY (GROUP) HOLDING CO. LTD.	501.3
24	TOYO ENGINEERING CORP.	465.2
25	DONGFANG ELECTRIC CORP.	463.5
26	ASTALDI	442.0
27	SHANGHAI ELECTRIC GROUP CO. LTD.	432.2
28	ACCIONA INFRAESTRUCTURAS	429.3
29	SNC-LAVALIN INC.	404.1
30	ENKA INSAAT VE SANAYI AS	402.1
31	RENAISSANCE CONSTRUCTION	398.3
32	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	396.1
33	TECNICAS REUNIDAS	393.0
34	NORINCO INTERNATIONAL COOPERATION LTD.	364.7
35	POSCO ENGINEERING & CONSTRUCTION	330.6
36	METKA	326.3
37	OBAYASHI CORP.	312.0
38	SK E&C	284.3
39	GAMA	254.9
40	SENER INGENIERÍA Y SISTEMAS SA	254.3
41	BARNARD CONSTRUCTION CO. INC.	220.9
42	MORTENSON CONSTRUCTION	179.5
43	MAIRE TECNIMONT GROUP	176.8
44	MATRIX SERVICE CO.	170.3
45	CHINA NUCLEAR ENGINEERING CORP. LTD.	159.5
46	FLUOR CORP.	137.4
47	ANSALDO ENERGIA SPA	137.1
48	BLACK & VEATCH	132.2
49	PINGGAO GROUP CO. LTD.	132.1
50	PCL CONSTRUCTION ENTERPRISES INC.	131.6

Top International Design Firms

POWER		
RANK	FIRM	REVENUE (\$ MIL. *)
1	POWER CONSTRUCTION CORP. OF CHINA	940.2
2	CHINA ENERGY ENGINEERING CORP. LTD.	644.8
3	SENER INGENIERÍA Y SISTEMAS SA	419.3
4	TRACTEBEL ENGINEERING SA	358.7
5	WS ATKINS PLC	311.1
6	WSP	286.6
7	WORLEYPARSONS	270.0
8	POYRY	197.0
9	STANTEC INC.	180.3
10	TETRA TECH INC.	171.0
11	FUGRO NV	169.0
12	BLACK & VEATCH	165.2
13	FICHTNER GROUP	162.8
14	MOTT MACDONALD	162.3
15	AMEC FOSTER WHEELER	153.0
16	HYUNDAI ENGINEERING CO. LTD.	138.8
17	AF GROUP	138.2
18	SNC-LAVALIN INC.	134.4
19	CHINA CHENGDA ENGINEERING CO. LTD.	132.4
20	AECOM	129.2
21	INTERTEK-PSI	118.8
22	KEPCO ENGINEERING & CONSTRUCTION CO. INC.	106.2
23	SWECO AB	106.0
24	JACOBS	87.2
25	ASSYSTEM	85.9
26	ARCADIS NV	81.0
27	TECNICAS REUNIDAS	78.6
28	CHINA NATIONAL MACHINERY INDUSTRY CORP.	77.4
29	RAMBOLL GRUPPEN A/S	72.3
30	DAR GROUP, DUBAI, UAE	70.4
31	SURBANA JURONG PRIVATE LTD.	66.0
32	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	61.5
33	SARGENT & LUNDY LLC	57.3
34	IDOM	56.9
35	ENERGOPROJEKT HOLDING PLC	55.8
36	LOUIS BERGER	46.9
37	EMPRESARIOS AGRUPADOS	40.1
38	KIEWIT CORP.	34.2
39	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	33.5
40	HATCH LTD.	32.0
41	GOLDER ASSOCIATES CORP.	31.4
42	DOHWA ENGINEERING CO. LTD.	30.3
43	MAIRE TECNIMONT GROUP	28.4
44	FLUOR CORP.	27.7
45	ARUP	26.3
46	NIPPON KOEI GROUP	25.2
47	BECHTEL	24.0
48	ROYAL HASKONINGDHV	22.7
49	AURECON	22.6
50	ILF CONSULTING ENGINEERS	22.3

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Top International Contractors

FOSSIL FUEL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	POWER CONSTRUCTION CORP. OF CHINA	2,698.3
2	CHINA ENERGY ENGINEERING CORP. LTD.	1,432.7
3	HARBIN ELECTRIC INTERNATIONAL CO. LTD.	1,093.3
4	DAELIM INDUSTRIAL CO., LTD.	710.3
5	CHINA NATIONAL MACHINERY INDUSTRY CORP.	689.2
6	CALIK ENERJI SAN. VE TIC. AS	512.0
7	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	507.2
8	ENKA INSAAT VE SANAYI AS	401.7
9	SNC-LAVALIN INC.	378.0
10	TECNICAS REUNIDAS	377.3
11	RENAISSANCE CONSTRUCTION	361.8
12	CHINA GENERAL TECHNOLOGY (GROUP) HOLDING CO. LTD.	319.3
13	POSCO ENGINEERING & CONSTRUCTION	275.4
14	GAMA	254.9
15	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	254.6
16	LARSEN & TOUBRO LTD.	201.4
17	SKANSKA AB	198.0
18	SENER INGENIERÍA Y SISTEMAS, SA	193.1
19	METKA	188.0
20	MAIRE TECNIMONT GROUP	175.4
21	MATRIX SERVICE CO.	170.3
22	FERROVIAL	162.8
23	ANSALDO ENERGIA SPA	137.1
24	DONGFANG ELECTRIC CORP.	121.0
25	SAMSUNG ENGINEERING CO. LTD	113.7

NUCLEAR PLANTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	CHINA ZHONGYUAN ENGINEERING CORP.	797.3
2	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	593.8
3	FERROVIAL	158.4
4	CHINA NUCLEAR ENGINEERING CORP. LTD.	147.6
5	BOUYGUES	37.3
6	SNC-LAVALIN INC.	16.5
7	TECNICAS REUNIDAS	15.7
8	BAUER AG	11.5
9	RENAISSANCE CONSTRUCTION	10.8
10	AECOM	8.6

Top International Design Firms

FOSSIL FUEL		
RANK	FIRM	REVENUE (\$ MIL.**)
1	CHINA ENERGY ENGINEERING CORP. LTD.	428.6
2	WORLEYPARSONS LTD.	177.9
3	BLACK & VEATCH	148.2
4	HYUNDAI ENGINEERING CO., LTD.	125.5
5	SNC-LAVALIN INC.	106.4
6	WS ATKINS PLC	95.0
7	TECNICAS REUNIDAS	62.9
8	FICHTNER GROUP	58.9
9	TRACTEBEL ENGINEERING SA	54.4
10	IDOM	45.8
11	MOTT MACDONALD	39.7
12	LOUIS BERGER	38.1
13	POYRY	36.0
14	KIEWIT CORP.	34.2
15	SARGENT & LUNDY LLC	30.8
16	AECOM	30.8
17	MAIRE TECNIMONT GROUP	28.3
18	CHINA NATIONAL MACHINERY INDUSTRY CORP.	27.6
19	POWER CONSTRUCTION CORP. OF CHINA	27.1
20	SENER INGENIERÍA Y SISTEMAS, SA	21.3
21	STANTEC INC	20.9
22	EMPRESARIOS AGRUPADOS	19.3
23	BECHTEL	17.0
24	AF	16.9
25	JACOBS	16.4

NUCLEAR PLANTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	WS ATKINS PLC	200.4
2	KEPCO ENGINEERING & CONSTRUCTION COMPANY. INC	104.7
3	ASSYSTEM	84.0
4	AMEC FOSTER WHEELER	82.1
5	TRACTEBEL ENGINEERING SA	47.5
6	MOTT MACDONALD	41.6
7	JACOBS	38.4
8	WORLEYPARSONS LTD.	34.8
9	TETRA TECH INC.	30.0
10	SARGENT & LUNDY LLC	25.6

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Top International Contractors

HYDRO PLANTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	POWER CONSTRUCTION CORP. OF CHINA	2,886.2
2	CHINA ENERGY ENGINEERING CORP. LTD.	1,346.9
3	OEBRECHT ENGENHARIA E CONSTRUCAO SA	871.4
4	ASTALDI	431.5
5	CHINA NATIONAL MACHINERY INDUSTRY CORP.	421.4
6	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	373.7
7	DONGFANG ELECTRIC CORP.	306.2
8	BARNARD CONSTRUCTION CO. INC.	220.9
9	HARBIN ELECTRIC INTERNATIONAL CO. LTD.	144.8
10	C.M.C. DI RAVENNA SOCIETÀ COOPERATIVA	115.7
11	KIEWIT CORP.	113.7
12	LIMAK INSAAT SANAYI VE TICARET AS	85.0
13	GHELLA SPA	63.0
14	SKANSKA AB	59.0
15	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	58.7
16	HOCHTIEF AKTIENGESELLSCHAFT	58.0
17	NORINCO INTERNATIONAL COOP. LTD.	53.3
18	OBAYASHI CORP.	39.0
19	LARSEN & TOUBRO LTD.	36.8
20	BAUER AG	34.4

COGENERATION		
RANK	FIRM	REVENUE (\$ MIL.**)
1	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	893.8
2	CHINA ENERGY ENGINEERING CORP. LTD.	119.0
3	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	98.0
4	CHINA NATIONAL MACHINERY INDUSTRY CORP.	57.6
5	STANTEC INC	41.6
6	CTCI CORP.	21.6
7	SKANSKA AB	21.0
8	BLACK & VEATCH	14.2
9	TTCL PUBLIC CO. LTD.	14.0
10	STELLAR	10.8

Top International Design Firms

HYDRO PLANTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	POWER CONSTRUCTION CORP. OF CHINA	257.6
2	TRACTEBEL ENGINEERING SA	172.8
3	TETRA TECH INC.	107.0
4	STANTEC INC	97.0
5	POYRY	45.0
6	SURBANA JURONG PRIVATE LTD.	41.0
7	AF	35.4
8	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	31.2
9	AECOM	27.8
10	FICHTNER GROUP	27.6
11	HATCH LTD	24.0
12	WSP	23.3
13	CHINA NATIONAL MACHINERY INDUSTRY CORP.	16.9
14	CHINA ENERGY ENGINEERING CORP. LTD.	11.6
15	GOLDER ASSOCIATES CORP.	11.4
16	NIPPON KOEI GROUP	10.6
17	LOUIS BERGER	8.7
18	ARTELIA	7.6
19	AMEC FOSTER WHEELER	5.7
20	JACOBS	5.5

COGENERATION		
RANK	FIRM	REVENUE (\$ MIL.**)
1	WSP	75.7
2	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	60.3
3	SENER INGENIERÍA Y SISTEMAS, SA	55.7
4	CHINA ENERGY ENGINEERING CORP. LTD.	50.6
5	RAMBOLL GROUP A/S	35.6
6	AF	31.2
7	POYRY	22.0
8	FICHTNER GROUP	10.1
9	CHINA TIANCHEN ENGINEERING CORP.	10.0
10	BLACK & VEATCH	8.9

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Top International Contractors

TRANSMISSION AND DISTRIBUTION		
RANK	FIRM	REVENUE (\$ MIL.**)
1	LARSEN & TOUBRO LTD.	1,232.3
2	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	1,148.3
3	CHINA ELECTRIC POWER EQUIPMENT AND TECHNOLOGY CO. LTD.	810.1
4	TBEA CO. LTD.	744.4
5	CHINA NATIONAL MACHINERY INDUSTRY CORP.	616.9
6	BOUYGUES	589.2
7	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	541.4
8	POWER CONSTRUCTION CORP. OF CHINA	454.8
9	CHINA ENERGY ENGINEERING CORP. LTD.	367.8
10	NORINCO INTERNATIONAL COOP. LTD.	311.4
11	OBAYASHI CORP.	273.0
12	HARBIN ELECTRIC INTERNATIONAL CO. LTD.	238.9
13	MORTENSON CONSTRUCTION	176.5
14	PINGGAO GROUP CO. LTD.	132.1
15	CALIK ENERJI SAN. VE TIC. AS	128.0
16	CHINA GENERAL TECHNOLOGY (GROUP) HOLDING CO. LTD.	79.0
17	CHINA JIANGXI CORP. FOR INT'L ECO. & TECHN. COOP'N	65.0
18	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	63.7
19	BAUER AG	57.3
20	SKANSKA AB	41.0
21	BURNS & MCDONNELL	40.8
22	GRUPO ISOLUX CORSAN SA	36.5
23	GS ENGINEERING & CONSTRUCTION	31.7
24	AMEC FOSTER WHEELER	30.4
25	SACYR	28.0

OPERATIONS AND MAINTENANCE		
RANK	FIRM	REVENUE (\$ MIL.**)
1	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	327.2
2	SKANSKA AB	271.0
3	BOUYGUES	248.2
4	FERROVIAL	240.9
5	FLUOR CORP.	124.1

WIND GENERATION		
RANK	FIRM	REVENUE (\$ MIL.**)
1	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	454.0
2	CHINA ENERGY ENGINEERING CORP. LTD.	165.8
3	CHINA GENERAL TECHNOLOGY (GROUP) HOLDING CO. LTD.	103.0
4	CHINA NATIONAL MACHINERY INDUSTRY CORP.	66.2
5	DONGFANG ELECTRIC CORP.	36.4
6	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	17.6
7	ECC	7.6
8	POWER CONSTRUCTION CORP. OF CHINA	3.5
9	MORTENSON CONSTRUCTION	3.0
10	PER AARSLEFF A/S	1.3

Top International Design Firms

TRANSMISSION AND DISTRIBUTION		
RANK	FIRM	REVENUE (\$ MIL.)
1	CHINA ENERGY ENGINEERING CORP. LTD.	152.1
2	WSP	138.7
3	DAR GROUP, DUBAI, UAE	60.3
4	AMEC FOSTER WHEELER	59.5
5	TRACTEBEL ENGINEERING SA	51.9
6	WORLEYPARSONS LTD.	41.8
7	AF	38.8
8	STANTEC INC	38.2
9	FICHTNER GROUP	35.8
10	POYRY	31.0
11	POWER CONSTRUCTION CORP. OF CHINA	30.3
12	AECOM	26.7
13	CHINA NATIONAL MACHINERY INDUSTRY CORP.	24.7
14	JACOBS	20.8
15	TETRA TECH INC.	20.0
16	SURBANA JURONG PRIVATE LTD.	17.0
17	SNC-LAVALIN INC.	16.3
18	WS ATKINS PLC	15.3
19	BURNS & MCDONNELL	13.4
20	KHATIB & ALAMI	8.8
21	POWER ENGINEERS INC.	7.0
22	FLUOR CORP.	5.8
23	DORSCH HOLDING GMBH	5.6
24	ECOLOGY AND ENVIRONMENT INC.	5.4
25	NIPPON KOEI GROUP	5.0

OPERATIONS AND MAINTENANCE		
RANK	FIRM	REVENUE (\$ MIL.)
1	AECOM	34.5
2	DORSCH HOLDING GMBH	10.6
3	SURBANA JURONG PRIVATE LTD.	8.0
4	MOTT MACDONALD	8.0
5	TRACTEBEL ENGINEERING SA	6.3

WIND GENERATION		
RANK	FIRM	REVENUE (\$ MIL.)
1	POWER CONSTRUCTION CORP. OF CHINA	393.2
2	RAMBOLL GROUP A/S	23.7
3	TRACTEBEL ENGINEERING SA	11.8
4	STANTEC INC	11.4
5	FICHTNER GROUP	7.2
6	TECNICA Y PROYECTOS SA (TYPSA)	6.9
7	AECOM	6.8
8	WSP	4.5
9	ROYAL HASKONINGDHV	4.1
10	TETRA TECH INC.	4.0

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Top International Contractors

SOLAR GENERATION		
RANK	FIRM	REVENUE (\$ MIL. **)
1	POWER CONSTRUCTION CORP. OF CHINA	366.1
2	METKA	127.9
3	PCL CONSTRUCTION ENTERPRISES INC.	97.4
4	CHINA METALLURGICAL GROUP CORP.	56.1
5	SENER INGENIERÍA Y SISTEMAS, SA	53.9
6	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	47.9
7	BOUYGUES	43.1
8	SHANGDONG DEJIAN GROUP CO. LTD.	30.7
9	CONSOLIDATED CONTRACTORS GROUP	29.3
10	GRUPO ISOLUX CORSAN SA	21.9

Top International Design Firms

SOLAR GENERATION		
RANK	FIRM	REVENUE (\$ MIL.)
1	SENER INGENIERÍA Y SISTEMAS, SA	340.9
2	POWER CONSTRUCTION CORP. OF CHINA	232.0
3	DOHWA ENGINEERING CO., LTD.	25.0
4	TRACTEBEL ENGINEERING SA	12.2
5	IDOM	11.1
6	TETRA TECH INC.	10.0
7	WORLEYPARSONS LTD.	9.1
8	FICHTNER GROUP	8.2
9	TECNICA Y PROYECTOS SA (TYPESA)	6.0
10	EMPRESARIOS AGRUPADOS	4.6

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By Jim Parsons

Low-Priced Oil Means Streamlined Projects

Processes are reevaluated to achieve lower costs



FLOATING FUEL The Hilli Episeyo FLNG vessel will operate offshore of Cameroon.

Caution and cost-control remain the watchwords for engineering and construction firms working in the petroleum sector, even as November saw benchmark crude-oil prices inch above the \$60-per-barrel milestone for the first time in two years.

Analysts say global crude-oil prices could jump by as much as a third over the next 12 months. But years of sustained low prices have made owners more cost-conscious, and they are closely managing their capital investments, according to Jeff Sipes, principal vice president for Bechtel Oil, Gas & Chemicals. As a result, the era of the megaproject is coming to a close. “Customers want to have a better line of sight between investment and returns,” he says.

Some large projects still are being considered, such as Abu Dhabi’s plan to invest \$20 billion in an offshore development project that could yield as much as 5 trillion cu ft of natural

gas. For most, however, the focus is on incremental capacity increases and measures to improve efficiency, with midstream product-transfer projects and downstream petrochemical production among the most active project types.

“We’re responding by trying to rethink the overall project process and take costs out, rather than just lowering them,” Sipes says. Bechtel will have the opportunity to apply those practices in Egypt, among other countries. Carbon Holdings recently awarded the company contracts to provide project management services for the Tahrir Petrochemicals Complex, sited at Ain Sokhna, as well as build two new polypropylene units at an adjacent site.

Likewise, lower prices for natural gas have created opportunities for innovation, complementing owners’ push for contractors to bring more value to their projects. “The more

cost-effective, the better,” says Deepa Poduval, a senior managing director for Black & Veatch.

One way to add value is to expedite the import-export process for natural gas. For example, floating LNG (FLNG) facilities integrate natural-gas liquefaction systems on an offshore vessel, which can be relocated as necessary.

Poduval notes that FLNG facilities offer the advantages of construction and commissioning on compressed schedules, lower capital costs and reduced environmental impact.

Black & Veatch will provide engineering, procurement and construction services for India’s first FLNG project, an import terminal, sited at Jafrabad in Gujarat, that will produce 5 million metric tons per annum (MPTA). Also, Wilson Offshore & Marine is working with KBR Inc. on a 1.5-MPTA FLNG project in Papua New Guinea.

“Developing economies in Southeast Asia and South America are well suited for these types of projects,” Poduval adds, noting FLNGs’ adaptability for power-generation projects. Black & Veatch is working on a 1,500-megawatt, high-efficiency combined-cycle generating facility in Porto de Sergipe, Brazil, that will be fueled with natural gas produced from an offshore FLNG.

Further, the Asia-Pacific holds refining and petrochemical opportunities. For example, in Malaysia, Fluor is part of a joint venture working with the state-owned Petroliaam Nasional Berhad on a 300,000-barrel-per-day refinery and petrochemical complex.

“We are also working on several chemical, polysilicon, LNG and oil-and-gas facilities,” adds Ken Choudhary, Fluor’s energy and chemicals president for the region. Fluor has been making significant investments in applying data analytics to improve project planning, he notes.

“It allows us to identify and mitigate potential project challenges earlier in the process, allowing our team to spend more time on analyzing and forecasting project outcomes,” Choudhary says. ■

Top International Contractors

PETROLEUM		
RANK	FIRM	REVENUE (\$ MIL.)*
1	TECHNIP	12,113.0
2	SAIPEM SPA	8,850.0
3	PETROFAC LTD.	7,070.0
4	BECHTEL	5,474.0
5	FLUOR CORP.	4,576.7
6	TECNICAS REUNIDAS	4,559.6
7	JGC CORP.	4,393.0
8	CHIYODA CORP.	3,980.3
9	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	3,081.7
10	HYUNDAI ENGINEERING & CONSTRUCTION CO. LTD.	3,077.0
11	GS ENGINEERING & CONSTRUCTION	3,059.4
12	CONSOLIDATED CONTRACTORS GROUP	3,003.4
13	TOYO ENGINEERING CORP.	2,737.3
14	SAMSUNG ENGINEERING CO. LTD.	2,721.5
15	SK E&C	2,501.9
16	CB&I LLC	2,490.4
17	SINOPEC ENGINEERING (GROUP) CO. LTD.	2,180.5
18	SNC-LAVALIN INC.	2,081.0
19	MAIRE TECNIMONT GROUP	1,575.0
20	WORLEYPARSONS	1,364.0
21	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP.	1,262.7
22	KBR	1,200.0
23	CHINA NATIONAL CHEMICAL ENGINEERING GROUP CORP.	1,122.0
24	DAEWOO ENGINEERING & CONSTRUCTION CO. LTD.	972.0
25	ROYAL BOSKALIS WESTMINSTER NV	916.0
26	PCL CONSTRUCTION ENTERPRISES INC.	913.1
27	DAELIM INDUSTRIAL CO. LTD.	898.7
28	CHINA PETROLEUM PIPELINE ENGINEERING CO. LTD. (CPP)	872.9
29	JACOBS	869.4
30	LARSEN & TOUBRO LTD.	839.0
31	HOCHTIEF AKTIENGESELLSCHAFT	800.0
32	BONATTI SPA	796.0
33	CONTRACTING AND TRADING CO. "C.A.T."	719.6
34	CTCI CORP.	608.0
35	KIEWIT CORP.	571.5
36	HANWHA ENGINEERING & CONSTRUCTION CORP.	545.2
37	SAMSUNG C&T	543.0
38	SICIM SPA	538.0
39	ENKA INSAAT VE SANAYI AS	537.2
40	SINOPEC ZHONGYUAN PETROLEUM ENGINEERING LTD.	535.9
41	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	507.9
42	VINCI	487.5
43	CHINA HUANQIU CONTRACTING & ENGINEERING CORP. LTD.	461.9
44	AECOM	433.5
45	PUNJ LLOYD LTD.	370.0
46	POSCO ENGINEERING & CONSTRUCTION	352.0
47	SINOPEC OILFIELD SERVICE SHENGLI CORP.	344.3
48	JAN DE NUL GROUP (SOFIDRA SA)	316.0
49	WOOD GROUP	315.6
50	POWER CONSTRUCTION CORP. OF CHINA	303.0

Top International Design Firms

PETROLEUM		
RANK	FIRM	REVENUE (\$ MIL.)*
1	FLUOR CORP.	1,806.0
2	WORLEYPARSONS	1,760.0
3	TECNICAS REUNIDAS	1,407.7
4	FUGRO NV	1,211.0
5	JACOBS	954.9
6	PETROFAC LTD.	803.0
7	TECHNIP	775.0
8	CB&I LLC	618.0
9	HYUNDAI ENGINEERING CO. LTD.	546.2
10	MAIRE TECNIMONT GROUP	419.1
11	SNC-LAVALIN INC.	360.0
12	BECHTEL	327.0
13	KBR	300.0
14	MOTT MACDONALD	278.8
15	AMEC FOSTER WHEELER	245.0
16	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP.	219.0
17	TETRA TECH INC.	172.0
18	SINOPEC ENGINEERING (GROUP) CO. LTD.	157.4
19	SAIPEM SPA	122.0
20	GOLDER ASSOCIATES CORP.	119.9
21	AEGION CORP.	104.0
22	CHIYODA CORP.	91.2
23	CH2M	89.8
24	STANTEC INC.	87.5
25	CTCI CORP.	87.2
26	WOOD GROUP	78.2
27	ILF CONSULTING ENGINEERS	77.7
28	DAR GROUP, DUBAI, UAE	71.6
29	BUREAU VERITAS	64.1
30	ARUP	61.4
31	CDI CORP.	60.3
32	INTERTEK-PSI	56.6
33	SK E&C	54.6
34	WSP	54.2
35	RAMBOLL GRUPPEN A/S	51.8
36	BLACK & VEATCH	51.8
37	TEBODIN BV	49.5
38	CONSOLIDATED CONTRACTORS GROUP	43.4
39	GHD	40.8
40	LARSEN & TOUBRO LTD.	40.4
41	CHINA HUANQIU CONTRACTING & ENGINEERING CORP. LTD.	34.9
42	ARTELIA	34.8
43	TRACTEBEL ENGINEERING SA	31.7
44	LOUIS BERGER	27.7
45	JGC CORP.	25.0
46	SU YAPI ENGINNERING AND CONSULTING INC.	22.9
47	KLEINFELDER	22.1
48	SENER INGENIERÍA Y SISTEMAS SA	20.6
49	HATCH LTD.	20.0
50	OPUS INTERNATIONAL CONSULTANTS LTD.	19.1

*BASED ON 2016 CONTRACTOR AND DESIGN FIRM REVENUE FROM PETROLEUM AS REPORTED IN ENR'S SURVEYS OF LEADING CONTRACTORS AND DESIGN FIRMS.

**BASED ON SUPPLEMENTAL MARKET REVENUE DATA FROM 2016 PROVIDED BY INDUSTRY FIRMS PARTICIPATING IN ENR'S SOURCEBOOK MARKET SURVEY. SEE ENR.COM FOR COMPLETE LISTINGS.

Top International Contractors

REFINERIES AND PETROCHEMICAL PLANTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	BECHTEL	5,473.0
2	PETROFAC LTD.	5,018.0
3	TECNICAS REUNIDAS	4,500.7
4	JGC CORP.	4,280.0
5	FLUOR CORP.	3,799.8
6	GS ENGINEERING & CONSTRUCTION	2,953.3
7	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	2,520.4
8	SAMSUNG ENGINEERING CO. LTD	2,187.3
9	SINOPEC ENGINEERING (GROUP) CO. LTD.	2,180.5
10	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	2,036.2
11	CONSOLIDATED CONTRACTORS GROUP	1,586.5
12	TECHNIP	1,498.0
13	DAELIM INDUSTRIAL CO., LTD.	918.0
14	MAIRE TECNIMONT GROUP	805.7
15	PCL CONSTRUCTION ENTERPRISES INC.	804.9
16	JACOBS	692.9
17	CTCI CORP.	608.0
18	HANWHA ENGINEERING & CONSTRUCTION CORP.	545.0
19	CHINA HUANQIU CONTRACTING & ENGINEERING CORP. LTD.	461.9
20	KIEWIT CORP.	328.7
21	WORLEYPARSONS LTD.	293.5
22	RENAISSANCE CONSTRUCTION	265.9
23	PUNJ LLOYD LTD	235.0
24	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP.	230.0
25	CHINA NONFERROUS METAL IND.'S FOREIGN ENG'G & CONSTR. CO. LTD.	229.7

Top International Design Firms

REFINERIES AND PETROCHEMICAL PLANTS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	FLUOR CORP.	1,737.3
2	TECNICAS REUNIDAS	1,398.9
3	JACOBS	871.5
4	PETROFAC LTD.	570.0
5	HYUNDAI ENGINEERING CO., LTD.	524.8
6	BECHTEL	323.0
7	WORLEYPARSONS LTD.	311.4
8	TECHNIP	292.0
9	MAIRE TECNIMONT GROUP	231.3
10	SNC-LAVALIN INC.	161.6
11	SINOPEC ENGINEERING (GROUP) CO. LTD.	157.4
12	CTCI CORP.	87.2
13	TTCL PUBLIC COMPANY LTD.	87.0
14	STANTEC INC	50.6
15	BLACK & VEATCH	50.6
16	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP.	50.0
17	AMEC FOSTER WHEELER	47.8
18	CONSOLIDATED CONTRACTORS GROUP	41.1
19	LARSEN & TOUBRO LTD.	34.5
20	ILF CONSULTING ENGINEERS	28.1
21	IDOM	16.9
22	JGC CORP.	16.0
23	TETRA TECH INC.	15.0
24	GOLDER ASSOCIATES CORP.	13.1
25	PUNJ LLOYD LTD	11.0

PIPELINES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	CONTRACTING AND TRADING CO "C.A.T."	719.6
2	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	416.9
3	SICIM S.P.A.	350.0
4	CONSOLIDATED CONTRACTORS GROUP	295.7
5	ENKA INSAAT VE SANAYI AS	163.7
6	MICHEL'S CORP.	146.1
7	AECOM	144.9
8	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP.	138.1
9	POSCO ENGINEERING & CONSTRUCTION	136.7
10	JACOBS	59.0
11	AEGION CORP.	49.0
12	THE PETROLEUM PROJECTS & TECH. CONSULT. CO. (PETROJET)	48.3
13	TECHNIP	48.0
14	GS ENGINEERING & CONSTRUCTION	45.9
15	SNC-LAVALIN INC.	38.6
16	PUNJ LLOYD LTD	35.0
17	JOANNOU & PARASKEVAIDES OVERSEAS LTD.	30.8
18	ANDRADE GUTIERREZ	27.0
19	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	26.6
20	TETRA TECH INC.	25.0
21	AMEC FOSTER WHEELER	17.6
22	KIEWIT CORP.	17.0
23	CHINA METALLURGICAL GROUP CORP.	10.0
24	THE CONTI GROUP	10.0
25	SENER INGENIERIA Y SISTEMAS, SA	4.0

PIPELINES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	WORLEYPARSONS LTD.	324.5
2	TETRA TECH INC.	157.0
3	AEGION CORP.	103.0
4	CH2M	81.2
5	CDI CORP.	59.7
6	JACOBS	49.3
7	ILF CONSULTING ENGINEERS	45.4
8	DAR GROUP, DUBAI, UAE	41.9
9	INTERTEK-PSI	41.5
10	TECHNIP	39.0
11	STANTEC INC	34.9
12	SNC-LAVALIN INC.	25.1
13	WOOD GROUP	24.9
14	GOLDER ASSOCIATES CORP.	23.6
15	SU YAPI ENGINEERING AND CONSULTING INC.	22.9
16	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP.	22.0
17	HYUNDAI ENGINEERING CO., LTD.	21.5
18	FLUOR CORP.	21.4
19	ECOLOGY AND ENVIRONMENT INC.	13.9
20	RAMBOLL GROUP A/S	11.7
21	AMEC FOSTER WHEELER	11.3
22	HATCH LTD	10.0
23	PROGER SPA	10.0
24	ARUP	7.0
25	BECHTEL	4.0
25	MOTT MACDONALD	4.0

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Top International Contractors

OFFSHORE AND UNDERWATER FACILITIES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	TECHNIP	6,546.0
2	CONSOLIDATED CONTRACTORS GROUP	1,121.2
3	WORLEYPARSONS LTD.	1,070.5
4	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	546.9
5	PETROFAC LTD.	271.0
6	KIEWIT CORP.	225.8
7	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	221.4
8	ILK CONSTRUCTION	133.1
9	WOOD GROUP	117.9
10	JGC CORP.	113.0
11	ENKA INSAAT VE SANAYI AS	90.9
12	PUNJ LLOYD LTD	89.0
13	LARSEN & TOUBRO LTD.	73.7
14	TECNICAS REUNIDAS	58.9
15	JACOBS	31.5

MAINTENANCE		
RANK	FIRM	REVENUE (\$ MIL.**)
1	PETROFAC LTD.	1,539.0
2	FLUOR CORP.	764.5
3	WOOD GROUP	191.1
4	CHINA SHANDONG INTERNATIONAL ECO. & TECHN. COOP. GRP. LTD.	116.4
5	PCL CONSTRUCTION ENTERPRISES INC.	108.2
6	AECOM	99.8
7	JACOBS	82.1
8	SNC-LAVALIN INC.	52.3
9	ENKA INSAAT VE SANAYI AS	50.0
10	HOCHTIEF AKTIENGESELLSCHAFT	46.0

Top International Design Firms

OFFSHORE AND UNDERWATER FACILITIES		
RANK	FIRM	REVENUE (\$ MIL.**)
1	WORLEYPARSONS LTD.	403.8
2	TECHNIP	378.0
3	WOOD GROUP	50.2
4	RAMBOLL GROUP A/S	36.8
5	PETROFAC LTD.	31.0
6	JACOBS	26.3
7	SNC-LAVALIN INC.	21.3
8	ARUP	16.9
9	JGC CORP.	9.0
10	TECNICAS REUNIDAS	8.8
11	AMEC FOSTER WHEELER	8.2
12	PROGER SPA	8.0
13	FLUOR CORP.	5.9
14	LARSEN & TOUBRO LTD.	5.0
15	GEOSYNTEC CONSULTANTS INC.	4.7

MAINTENANCE		
RANK	FIRM	REVENUE (\$ MIL.**)
1	PETROFAC LTD.	175.0
2	FLUOR CORP.	41.4
3	DAR GROUP, DUBAI, UAE	27.8
4	POND	12.6
5	SNC-LAVALIN INC.	11.3

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By Pam Radtke Russell

Countries Treat Water As Limited Resource

Weather extremes also driving work around the world



PLANNING Qatar is building five reservoirs to supply the country with seven days of drinking water.

Extremes are increasingly defining different types of water work underway around the world. For example, London is looking to protect its city and the Thames estuary from tidal flooding; Qatar is building the world's largest reservoirs to provide more water to the desert nation; and Singapore and Scotland are building massive tunnels to hold sewerage and stormwater, partly to prevent flooding.

"More frequent and more intense events continue to shape the overall water market," says Peter Nicol, global market director for water for CH2M, which is working on the projects in London, Singapore and Scotland. Countries are realizing they can't eliminate the impact of extreme events, so they are looking to mitigate them, Nicol adds.

In London, that means CH2M is working with the U.K. Environment Agency to design a \$400-million flood-management program that will use floodgates and fortifications, as well as

improvements to the natural environment, to help reduce flooding at the most vulnerable and important spots within London and along the Thames.

Singapore is looking to capture more water to become "more water-independent," Nicol says. CH2M is providing professional engineering services for phase two of a 10-year project to build a sewerage system, including a 120-kilometer-deep tunnel that will employ gravity to move water to plants for reuse.

Similarly, CH2M provided the reference design and technical assistance for Scotland's Shieldhall tunnel project, which will provide 90,000 cu meters of stormwater storage. The largest wastewater tunnel in Scotland when finished next year, it not only will increase the capacity of the wastewater system but also reduce the risk of flooding.

On the supply side, Arcadis is providing design and site-supervision services on the Kahramaa Mega Reservoirs, a series of five reservoirs that will have

the capacity to hold 2,300 million gallons of potable water. Sited in Qatar, they will be the largest man-made reservoirs of their kind in the world. About 70% complete, the \$4.67-billion project will provide the growing nation with seven days of fresh water; currently, the nation has only about two days of water. The five reservoirs will be linked by 480 kilometers of buried iron pipelines, connected to the country's desalination plants.

But desalination is more out of reach for most other countries.

"Desalination is a very costly way of treating water supply. The good news is that technologies are advancing, and desalination is becoming less energy-intensive," says Hampik Dekermenjian, water-services group manager for CDM Smith.

Instead, much of world is turning to reuse as a more affordable and efficient option. "Reusing what you can is really the shortest circle in terms of how you can get drinking water," says Joseph A. Husband, director of wastewater treatment technology for Arcadis. "We should judge water by its quality, not its history."

In another global trend, utilities are looking at water as a limited resource and wastewater as a resource that can be used for energy and nutrients.

"When it comes to the global picture, the things that are driving the water market are really about using resources properly," says Dekermenjian.

For example, bacteria can make nitrogen gas for power out of the ammonium and nitrite found in wastewater, and other processes can turn that waste into fertilizer.

Flood prevention and managing wastewater can provide opportunity to developing nations, Nicol observes. "Water can be a part of that change," he adds, noting developing nations' growing engagement and activity on such issues. "They need to take an active role," Nicol says. "It impacts their ability to grow and the health of their population." ■

Top International Contractors

WATER SUPPLY		
RANK	FIRM	REVENUE (\$ MIL.)*
1	SALINI IMPREGILO SPA	1,272.2
2	OBAYASHI CORP.	1,093.0
3	POWER CONSTRUCTION CORP. OF CHINA	860.1
4	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	758.6
5	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	526.2
6	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	512.2
7	ACCIONA INFRAESTRUCTURAS	481.8
8	STRABAG	471.4
9	CHINA NATIONAL MACHINERY INDUSTRY CORP.	454.0
10	CGCOC GROUP CO. LTD.	285.1
11	FCC SA	281.5
12	HOCHTIEF AKTIENGESELLSCHAFT	278.0
13	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	276.1
14	VINCI	265.1
15	CIMIC GROUP LTD.	256.9
16	CHINA ENERGY ENGINEERING CORP. LTD.	240.8
17	SK E&C	205.2
18	BESIX	197.3
19	FERROVIAL	196.9
20	STANTEC INC.	187.7
21	C.M.C. DI RAVENNA SOCIETÀ COOPERATIVA	182.0
22	CHINA GEO-ENGINEERING CORP.	172.0
23	BECHTEL	167.0
24	ZHONGMEI ENGINEERING GROUP LTD.	153.7
25	MOTA-ENGLIL	150.0
26	MAPA INSAAT VE TICARET AS	136.7
27	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	122.0
28	MCCONNELL DOWELL	117.0
29	CITIC CONSTRUCTION CO. LTD.	98.0
30	CHINA JIANGXI CORP. FOR INT'L ECONOMIC & TECHNICAL COOPERATION	92.3
31	BOUYGUES	92.0
32	SACYR	91.0
33	YUKSEL INSAAT CO. INC.	87.1
34	DAEWOO ENGINEERING & CONSTRUCTION CO. LTD.	86.4
35	MOHAMMED ABDULMOHSIN AL-KHARAFI WLL	85.0
36	SOUTHLAND/RENDA/JBROS	83.5
37	TTCL PUBLIC CO. LTD.	79.0
38	WEEKS MARINE INC.	76.7
39	CHINA NATIONAL CHEMICAL ENGINEERING GROUP CORP.	73.8
40	RENAISSANCE CONSTRUCTION	56.0
41	BAUER AG	54.9
42	OHL SA (OBRASCON HUARTE LAIN SA)	52.4
43	CONTRACTING AND TRADING CO. "C.A.T."	52.0
44	GURBAG GROUP	50.4
45	SKANSKA AB	47.0
46	DAELIM INDUSTRIAL CO. LTD.	41.5
47	ANDRADE GUTIERREZ ENGENHARIA	40.0
48	SMK GROUP	34.0
49	ORASCOM CONSTRUCTION LTD.	33.0
50	TECNICAS REUNIDAS	31.3

Top International Design Firms

WATER SUPPLY		
RANK	FIRM	REVENUE (\$ MIL.)*
1	STANTEC INC.	394.1
2	ARCADIS NV	304.0
3	TETRA TECH INC.	274.0
4	AECOM	216.0
5	CH2M	150.9
6	JACOBS	123.4
7	BLACK & VEATCH	117.9
8	GHD	110.8
9	MOTT MACDONALD	106.6
10	KBR	78.0
11	DORSCH HOLDING GMBH	75.3
12	BUREAU VERITAS	75.2
13	WS ATKINS PLC	64.9
14	KHATIB & ALAMI	59.6
15	ROYAL HASKONINGDHV	56.0
16	SWECO AB	52.0
17	FUGRO NV	46.0
18	LOUIS BERGER	41.0
19	DAR GROUP, DUBAI, UAE	40.6
20	ILF CONSULTING ENGINEERS	39.0
21	COWI A/S	35.8
22	EGIS	35.3
23	SURBANA JURONG PRIVATE LTD.	34.0
24	WSP	28.2
25	TÉCNICA Y PROYECTOS SA (TYPSA)	27.9
26	NIPPON KOEI GROUP	27.8
27	AYESA	27.5
28	CDM SMITH	26.7
29	ARTELIA	21.8
30	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	18.6
31	CHINA NATIONAL MACHINERY INDUSTRY CORP.	18.6
32	ARUP	18.4
33	EXP US SERVICES INC.	15.9
34	ASSOCIATED CONSULTING ENGINEERS	15.8
35	TECNICAS REUNIDAS	15.6
36	AURECON	15.5
37	HATCH LTD.	15.0
38	NJS CO. LTD.	15.0
39	GOLDER ASSOCIATES CORP.	14.8
40	FICHTNER GROUP	14.4
41	AMEC FOSTER WHEELER	14.0
42	GEODATA ENGINEERING SPA	13.4
43	OPUS INTERNATIONAL CONSULTANTS LTD.	13.0
44	PARSONS	13.0
45	H.P. GAUFF INGENIEURE GMBH & CO. KG -JBG	12.3
46	CES CONSULTING ENGINEERS SALZGITTER GMBH	11.5
47	JSTI GROUP	9.6
48	BECA GROUP LTD.	9.4
49	TTCL PUBLIC CO. LTD.	9.0
50	YACHIYO ENGINEERING CO. LTD.	9.0

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Top International Contractors

SEWER AND SOLID WASTE		
RANK	FIRM	REVENUE (\$ MIL.)*
1	FCC SA	1,270.1
2	FERROVIAL	1,128.6
3	STANTEC INC.	337.9
4	SKANSKA AB	315.0
5	STRABAG	308.4
6	OBAYASHI CORP.	273.0
7	POWER CONSTRUCTION CORP. OF CHINA	201.1
8	CHINA ENERGY ENGINEERING CORP. LTD.	174.9
9	SALINI IMPREGILO SPA	168.3
10	BLACK & VEATCH	113.0
11	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	109.5
12	HYUNDAI ENGINEERING & CONSTRUCTION CO. LTD.	103.7
13	AEGION CORP.	93.0
14	HOCHTIEF AKTIENGESELLSCHAFT	91.0
15	SAMSUNG ENGINEERING CO. LTD.	86.4
16	PENTA-OCEAN CONSTRUCTION CO. LTD.	82.1
17	MOTA-ENGIL	80.0
18	JAN DE NUL GROUP (SOFIDRA SA)	79.0
19	GS ENGINEERING & CONSTRUCTION	59.3
20	BOUYGUES	59.0
21	MOHAMMED ABDULMOHSIN AL-KHARAFI WLL	59.0
22	PCL CONSTRUCTION ENTERPRISES INC.	54.0
23	DAEWOO ENGINEERING & CONSTRUCTION CO. LTD.	53.3
24	LARSEN & TOUBRO LTD.	50.1
25	THE WALSH GROUP LTD.	48.3
26	ACCIONA INFRAESTRUCTURAS	47.7
27	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	46.6
28	CTCI CORP.	44.3
29	CHINA HENAN INTERNATIONAL COOPERATION GROUP CO. LTD.	36.0
30	ALARKO CONTRACTING GROUP	34.0
31	POSCO ENGINEERING & CONSTRUCTION	33.4
32	CONSOLIDATED CONTRACTORS GROUP	30.5
33	THE ARAB CONTRACTORS CO.	29.0
34	SHANGHAI CONSTRUCTION GROUP	25.2
35	CHINA NATIONAL MACHINERY INDUSTRY CORP.	23.5
36	CHINA METALLURGICAL GROUP CORP.	21.5
37	BAUER AG	19.6
38	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	19.2
39	ANHUI CONSTRUCTION ENGINEERING GROUP CO. LTD.	18.9
40	BESIX	18.0
41	GHELLA SPA	18.0
42	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD.	14.8
43	CGCOC GROUP CO. LTD.	14.6
44	CENTURI CONSTRUCTION GROUP	11.0
45	RICE LAKE CONSTRUCTION GROUP	10.2
46	JOANNOU & PARASKEVAIDES GROUP OF COS.	10.2
47	KAJIMA CORP.	9.6
48	KINDEN CORP.	9.0
49	YAPI MERKEZI INSAAT VE SANAYI AS	8.8
50	SACYR	8.0

Top International Design Firms

SEWER AND SOLID WASTE		
RANK	FIRM	REVENUE (\$ MIL.)*
1	STANTEC INC.	418.0
2	CH2M	197.9
3	AECOM	134.1
4	MOTT MACDONALD	103.0
5	JSTI GROUP	70.9
6	RAMBOLL GRUPPEN A/S	70.2
7	JACOBS	69.9
8	DAR GROUP, DUBAI, UAE	67.3
9	GHD	66.4
10	BLACK & VEATCH	63.1
11	WSP	61.6
12	COWI A/S	56.7
13	SWECO AB	55.0
14	ARCADIS NV	52.0
15	ASSOCIATED CONSULTING ENGINEERS	46.0
16	DORSCH HOLDING GMBH	42.3
17	ARUP	36.2
18	ROYAL HASKONINGDHV	30.5
19	KHATIB & ALAMI	27.7
20	HYUNDAI ENGINEERING CO. LTD.	24.4
21	NJS CO. LTD.	24.0
22	GOLDER ASSOCIATES CORP.	23.3
23	TETRA TECH INC.	22.0
24	EXP US SERVICES INC.	21.1
25	WL MEINHARDT GROUP PTY. LTD.	19.1
26	CDM SMITH	17.6
27	NIPPON KOEI GROUP	17.3
28	TÉCNICA Y PROYECTOS SA (TYPSA)	15.1
29	FICHTNER GROUP	14.9
30	KEO INTERNATIONAL CONSULTANTS	14.3
31	POWER CONSTRUCTION CORP. OF CHINA	10.9
32	AEGION CORP.	10.0
33	AMEC FOSTER WHEELER	10.0
34	POYRY	10.0
35	STANLEY CONSULTANTS INC.	8.6
36	IDOM	6.1
37	AYESA	6.0
38	CES CONSULTING ENGINEERS SALZGITTER GMBH	5.7
39	ITALCONSULT SPA	5.5
40	ARTELIA	5.3
41	KUNHWA ENGINEERING & CONSULTING CO. LTD.	5.3
42	SSH	5.2
43	HUSSEY GAY BELL	5.0
44	YACHIYO ENGINEERING CO. LTD.	5.0
45	ILF CONSULTING ENGINEERS	5.0
46	OPUS INTERNATIONAL CONSULTANTS LTD.	4.6
47	HDR	4.5
48	IBI GROUP	3.7
49	SETEC	3.5
50	MORRISON HERSHFIELD	3.5

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Top International Contractors

HAZARDOUS WASTE		
RANK	FIRM	REVENUE (\$ MIL.)*
1	TEKFEN CONSTRUCTION AND INSTALLATION CO. INC.	326.0
2	BOUYGUES	249.0
3	FLUOR CORP.	209.3
4	VINCI	187.1
5	FCC SA	63.2
6	BECHTEL	22.0
7	GILBANE BUILDING CO.	21.0
8	ECC	20.2
9	WORLEYPARSONS	19.0
10	RENAISSANCE CONSTRUCTION	13.5
11	HOCHTIEF AKTIENGESELLSCHAFT	13.0
12	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	12.9
13	CIMIC GROUP LTD.	12.5
14	CB&I LLC	9.0
15	WEEKS MARINE INC.	5.8

TREATMENT AND DESALINATION		
RANK	FIRM	REVENUE (\$ MIL.)*
1	STANTEC INC	163.4
2	CHINA NATIONAL MACHINERY INDUSTRY CORP.	147.1
3	CHINA ENERGY ENGINEERING CORP. LTD.	105.4
4	CITIC CONSTRUCTION CO. LTD.	98.0
5	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	97.4
6	CGCOC GROUP CO. LTD.	95.4
7	TTCL PUBLIC CO. LTD.	88.0
8	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	78.7
9	FERROVIAL	72.6
10	SACYR	68.0
11	YUKSEL INSAAT CO. INC.	52.2
12	OBAYASHI CORP.	51.0
13	SALINI IMPREGILO SPA	43.5
14	POWER CONSTRUCTION CORP. OF CHINA	41.7
15	SKANSKA AB	38.0
16	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD.	29.7
17	ECC	27.7
18	SUMITOMO MITSUI CONSTRUCTION CO., LTD	25.5
19	C.M.C. DI RAVENNA SOCIETÀ COOPERATIVA	19.5
20	BLACK & VEATCH	17.6
21	CONSOLIDATED CONTRACTORS GROUP	14.6
22	ANHUI CONSTRUCTION ENGINEERING GROUP CO. LTD.	12.2
23	CHINA GENERAL TECHNOLOGY (GROUP) HOLDING CO. LTD.	11.6
24	THE ARAB CONTRACTORS CO.	11.0
25	KOLIN INSAAT TURIZM SANAYI VE TICARET AS	10.4

Top International Design Firms

HAZARDOUS WASTE		
RANK	FIRM	REVENUE (\$ MIL.)*
1	ARCADIS NV	577.0
2	AECOM	360.6
3	RAMBOLL GRUPPEN A/S	278.0
4	CH2M	177.6
5	GHD	146.9
6	WSP	62.5
7	FLUOR CORP.	52.3
8	AMEC FOSTER WHEELER	46.0
9	STANTEC INC.	43.3
10	PARSONS	39.6
11	WORLEYPARSONS	33.0
12	CDM SMITH	30.7
13	TETRA TECH INC.	30.0
14	POYRY	29.0
15	GEOSYNTEC CONSULTANTS INC.	24.3

TREATMENT AND DESALINATION		
RANK	FIRM	REVENUE (\$ MIL.)*
1	STANTEC INC	211.6
2	CH2M	142.5
3	AECOM	140.8
4	TTCL PUBLIC COMPANY LTD.	88.0
5	BLACK & VEATCH	87.6
6	TETRA TECH INC.	77.0
7	JACOBS	42.6
8	EGIS	26.8
9	ROYAL HASKONINGDHV	23.5
10	DORSCH HOLDING GMBH	20.6
11	CDM SMITH	16.9
12	KHATIB & ALAMI	16.5
13	COWI A/S	16.1
14	PARSONS	13.0
15	HATCH LTD	10.0
16	TECNICA Y PROYECTOS SA (TYPSA)	7.8
17	AMEC FOSTER WHEELER	7.2
18	FICHTNER GROUP	6.5
19	CHINA NATIONAL MACHINERY INDUSTRY CORP.	6.1
20	ARTELIA	5.4
21	H.P. GAUFF INGENIEURE GMBH & CO. KG JBG	5.2
22	NIPPON KOEI GROUP	4.7
23	HAZEN AND SAWYER	4.2
24	MOTT MACDONALD	4.2
25	TECNICAS REUNIDAS	3.8

*BASED ON 2016 CONTRACTOR AND DESIGN FIRM REVENUE FROM ENVIRONMENT AS REPORTED IN ENR'S SURVEYS OF LEADING CONTRACTORS AND DESIGN FIRMS.

**BASED ON SUPPLEMENTAL MARKET REVENUE DATA FROM 2016 PROVIDED BY INDUSTRY FIRMS PARTICIPATING IN ENR'S SOURCEBOOK MARKET SURVEY. SEE ENR.COM FOR COMPLETE LISTINGS.

Top International Contractors

TRANSMISSION LINES AND AQUEDUCTS		
RANK	FIRM	REVENUE (\$ MIL.)
1	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	421.7
2	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	421.0
3	POWER CONSTRUCTION CORP. OF CHINA	287.7
4	CGCOC GROUP CO. LTD.	187.4
5	CHINA NATIONAL MACHINERY INDUSTRY CORP.	173.8
6	ZHONGMEI ENGINEERING GROUP LTD.	120.6
7	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	118.7
8	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	110.8
9	C.M.C. DI RAVENNA SOCIETÀ COOPERATIVA	105.1
10	BOUYGUES	91.7
11	CHINA ENERGY ENGINEERING CORP. LTD.	90.7
12	CHINA GEO-ENGINEERING CORP.	59.8
13	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD.	52.7
14	RENAISSANCE CONSTRUCTION	52.1
15	CONTRACTING AND TRADING CO "C.A.T."	52.0
16	MAPA INSAAT VE TICARET AS	51.1
17	WEEKS MARINE INC.	44.7
18	CHINA JIANGXI CORP. FOR INT'L ECO. & TECHN. COOP'N	28.2
19	SACYR	25.0
20	STANTEC INC	23.6
21	TECNICAS REUNIDAS	23.6
22	CHINA RAILWAY CONSTRUCTION CORP. LTD.	21.0
23	CHINA HENAN INTERNATIONAL COOP. GROUP CO. LTD.	19.6
24	HOCHTIEF AKTIENGESELLSCHAFT	18.0
25	LARSEN & TOUBRO LTD.	16.8

DAMS AND RESERVOIRS		
RANK	FIRM	REVENUE (\$ MIL.)
1	SALINI IMPREGILO SPA	1,228.3
2	OBAYASHI CORP.	1,042.0
3	POWER CONSTRUCTION CORP. OF CHINA	494.9
4	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	269.4
5	BECHTEL	167.0
6	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE)	158.7
7	FERROVIAL	124.3
8	MAPA INSAAT VE TICARET AS	85.6
9	C.M.C. DI RAVENNA SOCIETÀ COOPERATIVA	57.5
10	BAUER AG	54.9
11	CHINA NATIONAL MACHINERY INDUSTRY CORP.	54.5
12	OHL SA (OBRASCON HUARTE LAIN)	52.4
13	HOCHTIEF AKTIENGESELLSCHAFT	48.0
14	DAELIM INDUSTRIAL CO., LTD.	41.5
15	CHINA JIANGXI CORP. FOR INT'L ECO. & TECHN. COOP'N	39.1
16	YUKSEL INSAAT CO. INC.	34.8
17	ZHONGMEI ENGINEERING GROUP LTD.	33.2
18	ANDRADE GUTIERREZ	32.0
19	ARABIAN CONSTRUCTION CO. SAL	22.7
20	SOCIETA' ITALIANA PER CONDOTTE D'ACQUA SPA	14.1

Top International Design Firms

TRANSMISSION LINES AND AQUEDUCTS		
RANK	FIRM	REVENUE (\$ MIL.)
1	STANTEC INC	101.7
2	JACOBS	77.0
3	WS ATKINS PLC	64.8
4	KHATIB & ALAMI	42.2
5	ILF CONSULTING ENGINEERS	35.3
6	DORSCH HOLDING GMBH	31.3
7	DAR GROUP, DUBAI, UAE	30.4
8	TETRA TECH INC.	29.0
9	BLACK & VEATCH	27.1
10	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD.	18.6
11	COWI A/S	17.4
12	ROYAL HASKONINGDHV	17.1
13	TECNICAS REUNIDAS	11.8
14	LOUIS BERGER	11.4
15	ASSOCIATED CONSULTING ENGINEERS	10.5
16	CDM SMITH	9.7
17	CES CONSULTING ENGINEERS SALZGITTER GMBH	8.8
18	CH2M	8.4
19	TECNICA Y PROYECTOS SA (TYPSA)	8.4
20	FICHTNER GROUP	7.7
21	ECG ENGINEERING CONSULTANTS GROUP SA	7.5
22	CHINA NATIONAL MACHINERY INDUSTRY CORP.	7.0
23	H.P. GAUFF INGENIEURE GMBH & CO. KG JBG	6.7
24	ARTELIA	6.4
25	MOTT MACDONALD	5.8

DAMS AND RESERVOIRS		
RANK	FIRM	REVENUE (\$ MIL.)
1	TETRA TECH INC.	168.0
2	AECOM	74.9
3	STANTEC INC	72.6
4	SURBANA JURONG PRIVATE LTD.	34.0
5	LOUIS BERGER	28.1
6	DORSCH HOLDING GMBH	23.4
7	ROYAL HASKONINGDHV	15.4
8	GEODATA ENGINEERING SPA	13.4
9	NIPPON KOEI GROUP	12.4
10	TECNICA Y PROYECTOS SA (TYPSA)	11.7
11	MOTT MACDONALD	9.8
12	DAR GROUP, DUBAI, UAE	7.3
13	ARTELIA	5.1
14	WSP	5.1
15	GOLDER ASSOCIATES CORP.	5.0
16	HATCH LTD	5.0
17	BECHTEL	5.0
18	JACOBS	3.9
19	ASSOCIATED CONSULTING ENGINEERS	3.1
20	ORIENTAL CONSULTANTS GLOBAL(ACKG LTD.)	3.1

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Top International Contractors

SANITARY AND STORM SEWERS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	FERROVIAL	634.7
2	OBAYASHI CORP.	273.0
3	SALINI IMPREGILO SPA	168.3
4	CHINA GENERAL TECHNOLOGY (GROUP) HOLDING CO. LTD.	105.7
5	AEGION CORP.	92.0
6	BOUYGUES	59.1
7	POWER CONSTRUCTION CORP. OF CHINA	56.0
8	BLACK & VEATCH	53.1
9	ODEBRECHT ENGENHARIA E CONSTRUCAO SA	46.6
10	CHINA HENAN INTERNATIONAL COOP. GROUP CO. LTD.	36.0
11	PCL CONSTRUCTION ENTERPRISES INC.	34.3
12	SKANSKA AB	32.0
13	WEEKS MARINE INC.	32.0
14	THE ARAB CONTRACTORS CO.	29.0
15	LARSEN & TOUBRO LTD.	19.2

WASTEWATER TREATMENT		
RANK	FIRM	REVENUE (\$ MIL.**)
1	STANTEC INC	319.8
2	SKANSKA AB	278.0
3	FERROVIAL	251.9
4	CHINA ENERGY ENGINEERING CORP. LTD.	174.9
5	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA	98.9
6	HOCHTIEF AKTIENGESELLSCHAFT	80.0
7	POWER CONSTRUCTION CORP. OF CHINA	79.8
8	BLACK & VEATCH	59.8
9	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	54.4
10	GS ENGINEERING & CONSTRUCTION	51.7
11	THE WALSH GROUP, LTD	48.3
12	ALARKO CONTRACTING GROUP	34.0
13	POSCO ENGINEERING & CONSTRUCTION	31.5
14	LARSEN & TOUBRO LTD.	30.8
15	SAMSUNG ENGINEERING CO. LTD	27.0
16	SHANGHAI CONSTRUCTION GROUP	23.5
17	PCL CONSTRUCTION ENTERPRISES INC.	19.8
18	BAUER AG	19.6
19	CHINA NATIONAL MACHINERY INDUSTRY CORP.	19.0
20	GHELLA SPA	18.0
21	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD.	14.8
22	CGCOC GROUP CO. LTD.	14.6
23	CONSOLIDATED CONTRACTORS GROUP	13.3
24	JOANNOU & PARASKEVAIDES OVERSEAS LTD.	10.2
25	KAJIMA CORP.	9.6

SOLID WASTE		
RANK	FIRM	REVENUE (\$ MIL.**)
1	FERROVIAL	242.0
2	PENTA-OCEAN CONSTRUCTION CO., LTD.	81.2
3	HYUNDAI ENGINEERING & CONSTRUCTION CO., LTD.	49.3
4	CTCI CORP.	44.3
5	SACYR	9.0
6	CHINA JIANGXI CORP. FOR INT'L ECO. & TECHN. COOP'N	7.9
7	ZHEJIANG CONSTRUCTION INVESTMENT GRP. CO. LTD.	6.7
8	CHINA NATIONAL MACHINERY INDUSTRY CORP.	4.5
9	STANTEC INC	3.0
10	POSCO ENGINEERING & CONSTRUCTION	1.9

Top International Design Firms

SANITARY AND STORM SEWERS		
RANK	FIRM	REVENUE (\$ MIL.**)
1	STANTEC INC	152.6
2	MOTT MACDONALD	99.4
3	CH2M	86.6
4	DAR GROUP, DUBAI, UAE	57.1
5	RAMBOLL GROUP A/S	46.7
6	BLACK & VEATCH	33.9
7	WSP	29.3
8	KHATIB & ALAMI	27.7
9	DORSCH HOLDING GMBH	25.5
10	ASSOCIATED CONSULTING ENGINEERS	22.0
11	COWI A/S	19.1
12	KEO INTERNATIONAL CONSULTANTS	10.1
13	ARUP	10.0
14	AEGION CORP.	10.0
15	WL MEINHARDT GROUP PTY LTD.	8.6

WASTEWATER TREATMENT		
RANK	FIRM	REVENUE (\$ MIL.**)
1	STANTEC INC	258.1
2	AECOM	131.6
3	CH2M	91.8
4	JACOBS	60.2
5	BLACK & VEATCH	28.6
6	ROYAL HASKONINGDHV	26.6
7	HYUNDAI ENGINEERING CO., LTD.	24.4
8	ARUP	21.7
9	ASSOCIATED CONSULTING ENGINEERS	21.0
10	DORSCH HOLDING GMBH	12.7
11	CDM SMITH	11.1
12	POWER CONSTRUCTION CORP. OF CHINA	10.9
13	POYRY	10.0
14	RAMBOLL GROUP A/S	9.3
15	STANLEY CONSULTANTS INC.	8.6
16	WSP	8.0
17	COWI A/S	8.0
18	NIPPON KOEI GROUP	7.6
19	IDOM	6.1
20	FICHTNER GROUP	6.0
21	GOLDER ASSOCIATES CORP.	5.5
22	TECNICA Y PROYECTOS SA (TYPSA)	5.3
23	DAR GROUP, DUBAI, UAE	5.0
24	WL MEINHARDT GROUP PTY LTD.	4.8
25	ARTELIA	4.6

SOLID WASTE		
RANK	FIRM	REVENUE (\$ MIL.**)
1	COWI A/S	29.6
2	TETRA TECH INC.	22.0
3	CH2M	19.5
4	RAMBOLL GROUP A/S	14.1
5	GOLDER ASSOCIATES CORP.	13.8
6	STANTEC INC	7.3
7	DAR GROUP, DUBAI, UAE	5.2
8	FICHTNER GROUP	5.1
9	MOTT MACDONALD	4.2
10	DORSCH HOLDING GMBH	4.1

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Top International Contractors

CHEMICAL AND SOIL REMEDIATION		
RANK	FIRM	REVENUE (\$ MIL.)
1	BOUYGUES	104.4
2	SHANGHAI CONSTRUCTION GROUP	24.9
3	ECC	20.2
4	WORLEYPARSONS LTD.	18.6
5	WEEKS MARINE INC.	11.3

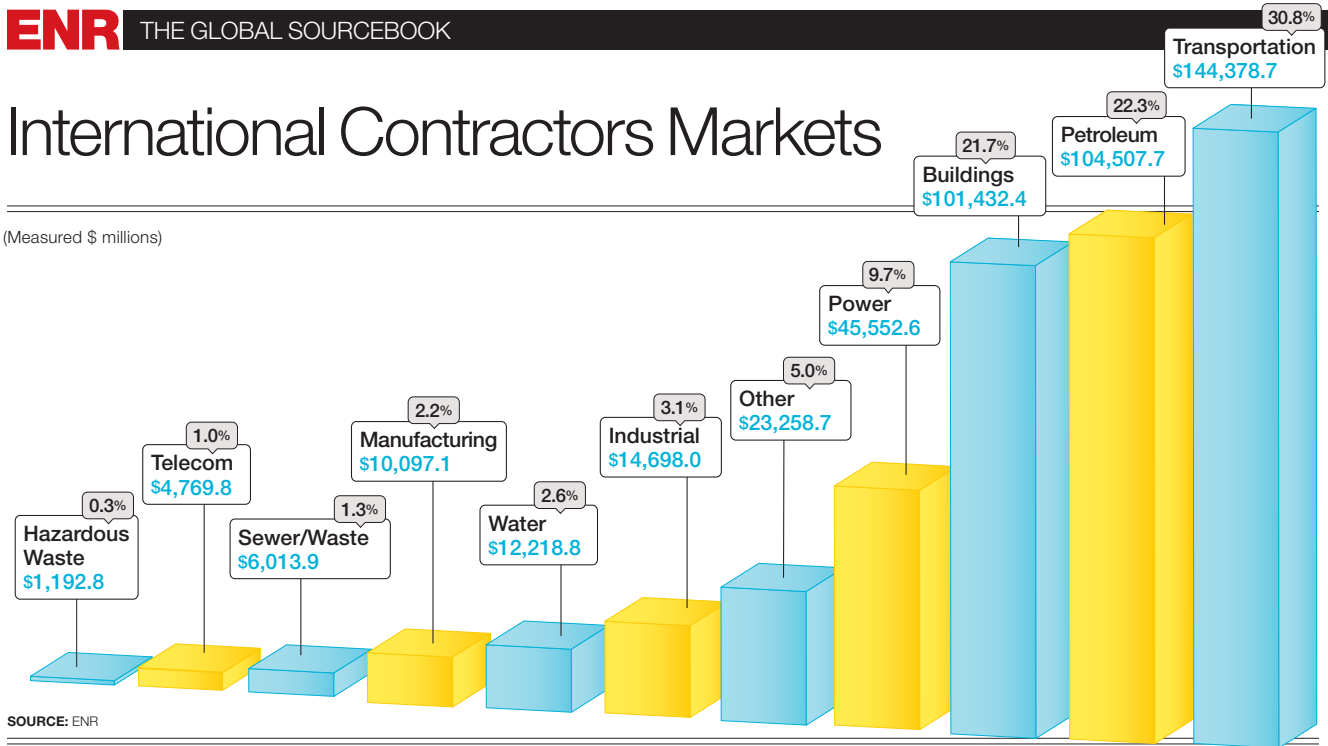
Top International Design Firms

CHEMICAL AND SOIL REMEDIATION		
RANK	FIRM	REVENUE (\$ MIL.)
1	AECOM	188.5
2	CH2M	95.6
3	PARSONS	36.0
4	WORLEYPARSONS LTD.	31.5
5	CDM SMITH	30.7

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International Contractors Markets

(Measured \$ millions)



SOURCE: ENR

The market for international design and construction has traveled a rocky road over the past several years. The slowing growth in China's economy has led to a drop in demand for commodities, the plunge in oil prices has caused deferrals or cancellations in major petroleum projects, and global political and economic unrest has made investments in some regions uncertain.

This market uncertainty can be seen in the results of ENR's Top 225 International Design Firms survey. The Top 225 firms generated \$64.11 billion in design

"We are looking for acquisitions all over northern Europe."

Tomas Carlsson, CEO, Sweco AB

revenue in 2016 from projects outside their home countries, down 2.0%, from \$65.43 billion, in 2015 and 9.5%, from \$70.85 billion, in 2014. However, the Top 225 had \$79.30 billion in revenue from domestic projects in 2016, up 12.1%, from \$70.76 billion, in 2015.

On the Top 225 International Design Firms list, firms are ranked based on design revenue from projects outside of their home countries, measuring their presence in international commerce. The ENR Top 150 Global Design Firms list measures total

HOW THE TOP INTERNATIONAL CONTRACTORS SHARED THE 2016 MARKET

DESIGNER NATIONALITY	# OF FIRMS	INT'L REVENUE		MIDDLE EAST		ASIA		AFRICA		EUROPE		UNITED STATES		CANADA		LAT. AMER / CARIB.	
		\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%
AMERICAN	43	41,874.7	8.9	4,440.2	5.3	9,263.3	7.7	1,598.1	2.6	12,757.5	13.3	NA	NA	11,033.3	58.9	2,782.5	8.2
CANADIAN	3	3,597.2	0.8	842.3	1.0	1,190.0	1.0	208.4	0.3	339.0	0.4	968.6	1.8	NA	NA	48.8	0.1
EUROPEAN	46	210,737.1	45.0	29,594.1	35.2	33,262.1	27.6	14,626.2	23.8	69,591.8	72.5	40,338.5	75.3	5,730.9	30.6	17,593.5	52.1
BRITISH	2	8,817.3	1.9	6,719.6	8.0	330.0	0.3	427.0	0.7	1,232.7	1.3	9.0	0.0	0.0	0.0	99.0	0.3
GERMAN	2	23,560.8	5.0	1,165.2	1.4	8,792.2	7.3	147.3	0.2	1,113.0	1.2	11,204.1	20.9	972.4	5.2	166.6	0.5
FRENCH	3	41,737.3	8.9	1,340.6	1.6	5,850.2	4.9	4,713.7	7.7	21,104.4	22.0	3,774.0	7.0	2,099.7	11.2	2,854.7	8.5
ITALIAN	14	26,673.3	5.7	6,431.1	7.7	4,821.2	4.0	5,781.5	9.4	4,106.9	4.3	2,221.8	4.1	557.5	3.0	2,753.3	8.2
DUTCH	3	8,522.0	1.8	631.4	0.8	847.9	0.7	443.0	0.7	5,979.7	6.2	0.0	0.0	0.0	0.0	620.1	1.8
SPANISH	11	58,988.2	12.6	6,003.4	7.1	11,909.7	9.9	1,147.5	1.9	12,341.5	12.9	16,629.5	31.0	2,042.6	10.9	8,914.1	26.4
OTHER EUROPEAN	11	42,438.1	9.1	7,302.9	8.7	710.9	0.6	1,966.2	3.2	23,713.6	24.7	6,500.1	12.1	58.7	0.3	2,185.6	6.5
AUSTRALIAN	3	8,807.6	1.9	1,797.2	2.1	5,414.0	4.5	152.8	0.2	89.0	0.1	10.0	0.0	1,255.7	6.7	88.9	0.3
JAPANESE	13	24,425.0	5.2	1,433.1	1.7	11,237.9	9.3	282.6	0.5	3,183.2	3.3	7,684.1	14.3	360.2	1.9	244.1	0.7
CHINESE	65	98,722.5	21.1	13,419.2	16.0	38,264.1	31.8	34,559.6	56.2	2,721.0	2.8	1,985.8	3.7	69.7	0.4	7,703.1	22.8
KOREAN	11	33,938.6	7.3	15,387.4	18.3	12,237.3	10.2	2,708.9	4.4	985.6	1.0	410.2	0.8	264.7	1.4	1,944.6	5.8
TURKISH	46	25,591.0	5.5	7,624.7	9.1	8,468.9	7.0	3,136.7	5.1	6,210.4	6.5	148.5	0.3	0.0	0.0	1.8	0.0
BRAZILIAN	2	4,615.8	1.0	91.5	0.1	0.0	0.0	1,468.5	2.4	41.3	0.0	84.9	0.2	0.0	0.0	2,929.6	8.7
ALL OTHERS	18	15,607.9	3.3	9,389.6	11.2	968.4	0.8	2,797.8	4.5	66.6	0.1	1,964.7	3.7	3.6	0.0	417.1	1.2
ALL FIRMS	250	467,917.4	100.0	84,019.3	100.0	120,306.1	100.0	61,539.6	100.0	95,985.3	100.0	53,595.2	100.0	18,717.9	100.0	33,754.0	100.0

SOURCE: ENR. NOTE: EXCLUDING \$203.24 MILLION IN ARCTIC/ANTARCTIC OR UNALLOCATED

The Top 10 International Contractors by Region

1		ASIA	
RANK		Top 10 Revenue: \$56,612.5 Mil. Sector's Revenue: \$120,306.1 Mil.	
2017	2016		
1	4	CHINA COMM. CONSTRUCTION GROUP LTD.	
2	2	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	
3	1	HOCHTIEF AKTIENGESELLSCHAFT	
4	7	CHINA STATE CONSTRUCTION ENG. CORP.	
5	3	BECHTEL	
6	10	CIMIC GROUP LTD.	
7	6	POWER CONSTRUCTION CORP. OF CHINA	
8	5	SAMSUNG C&T	
9	9	HYUNDAI ENG'G & CONSTRUCTION CO. LTD.	
10	**	SAIPEM SPA	

2		EUROPE	
RANK		Top 10 Revenue: \$62,483.1 Mil. Sector's Revenue: \$95,985.3 Mil.	
2017	2016		
1	1	STRABAG	
2	2	VINCI	
3	8	BECHTEL	
4	3	SKANSKA AB	
5	**	TECHNIP	
6	5	FERROVIAL	
7	4	BOUYGUES	
8	6	ROYAL BAM GROUP NV	
9	9	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	
10	10	RENAISSANCE CONSTRUCTION	

3		UNITED STATES	
RANK		Top 10 Revenue: \$43,158.1 Mil. Sector's Revenue: \$53,595.2 Mil.	
2017	2016		
1	1	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	
2	2	HOCHTIEF AKTIENGESELLSCHAFT	
3	3	SKANSKA AB	
4	5	OBAYASHI CORP.	
5	7	ORASCOM CONSTRUCTION LTD.	
6	8	KAJIMA CORP.	
7	6	BOUYGUES	
8	**	SALINI IMPREGILO SPA	
9	**	FERROVIAL	
10	**	OHL SA (OBRASCON HUARTE LAIN SA)	

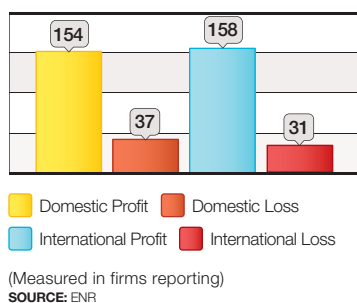
4		MIDDLE EAST	
RANK		Top 10 Revenue: \$31,214.1 Mil. Sector's Revenue: \$84,019.3 Mil.	
2017	2016		
1	1	CONSOLIDATED CONTRACTORS GROUP	
2	3	PETROFAC LTD.	
3	2	HYUNDAI ENG'G & CONSTRUCTION CO. LTD.	
4	4	LARSEN & TOUBRO LTD.	
5	**	TECNICAS REUNIDAS	
6	**	SK E&C	
7	8	GS ENGINEERING & CONSTRUCTION	
8	6	SAMSUNG C&T	
9	10	SAIPEM SPA	
10	**	POWER CONSTRUCTION CORP. OF CHINA	

5		LATIN AMERICA/CARIBBEAN	
RANK		Top 10 Revenue: \$15,661.0 Mil. Sector's Revenue: \$33,754.0 Mil.	
2017	2016		
1	2	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	
2	1	ODEBRECHT ENGENHARIA E CONSTRUCAO	
3	**	TECHNIP	
4	5	OHL SA (OBRASCON HUARTE LAIN SA)	
5	**	CITIC CONSTRUCTION CO. LTD.	
6	**	CHINA COMM. CONSTRUCTION GROUP LTD.	
7	**	POWER CONSTRUCTION CORP. OF CHINA	
8	**	VINCI	
9	**	SACYR	
10	7	HYUNDAI ENG'G & CONSTRUCTION CO. LTD.	

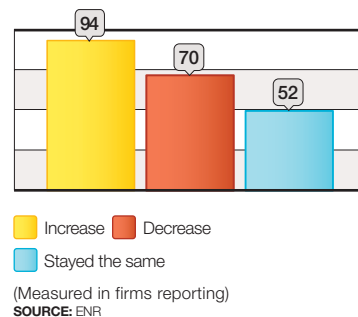
6		CANADA	
RANK		Top 10 Revenue: \$13,596.2 Mil. Sector's Revenue: \$18,717.9 Mil.	
2017	2016		
1	1	PCL CONSTRUCTION ENTERPRISES INC.	
2	3	FLUOR CORP.	
3	5	BOUYGUES	
4	7	ACS, ACTIVIDADES DE CONSTRUCCIÓN Y SERVICIOS SA	
5	4	KIEWIT CORP.	
6	6	WORLEYPARSONS	
7	8	HOCHTIEF AKTIENGESELLSCHAFT	
8	2	BECHTEL	
9	**	VINCI	
10	10	AECOM	

7		AFRICA	
RANK		Top 10 Revenue: \$29,592.7 Mil. Sector's Revenue: \$61,539.6 Mil.	
2017	2016		
1	1	CHINA COMM. CONSTRUCTION GROUP LTD.	
2	2	POWER CONSTRUCTION CORP. OF CHINA	
3	10	CHINA RAILWAY CONSTRUCTION CORP. LTD.	
4	3	CHINA RAILWAY GROUP LTD.	
5	5	CHINA STATE CONSTR. ENG'G CORP. LTD.	
6	4	SAIPEM SPA	
7	**	TECHNIP	
8	9	ORASCOM CONSTRUCTION LTD.	
9	8	VINCI	
10	**	DAEWOO ENG'G & CONSTRUCTION CO. LTD.	

Reporting Profit-Loss



Total Backlog



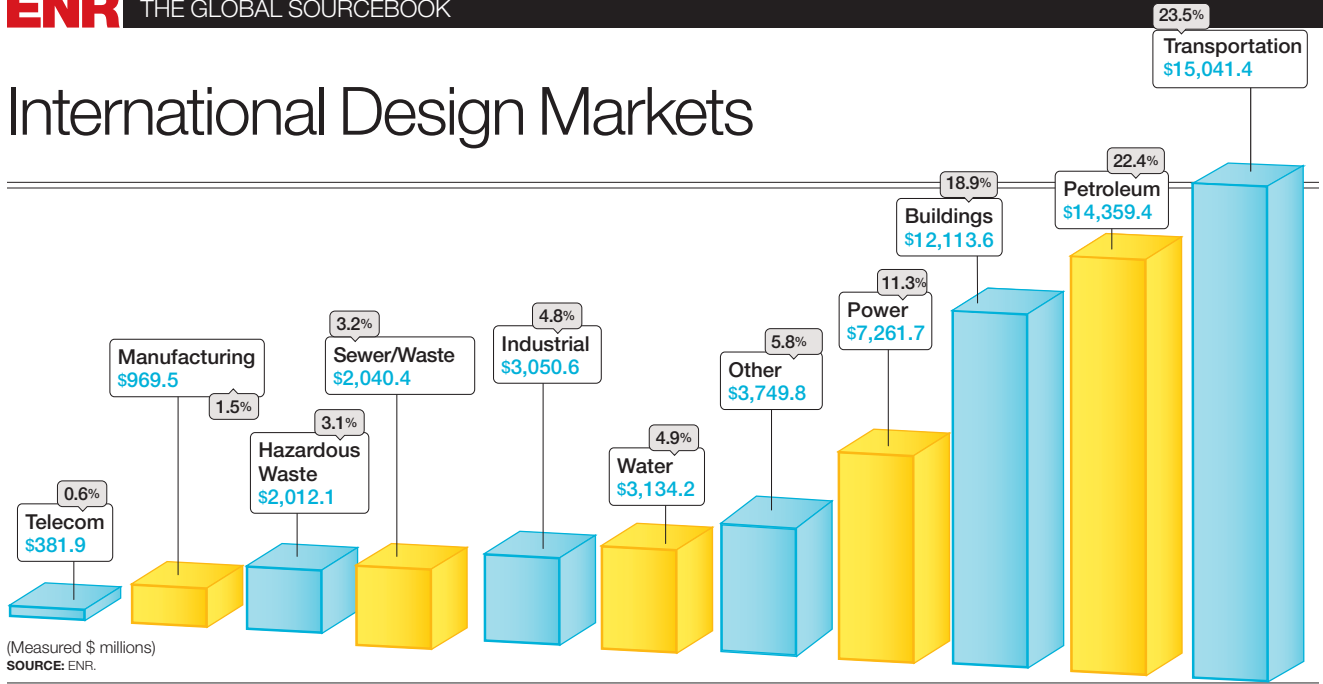
worldwide design revenue, regardless of location.

The uncertainties in the international construction market also can be seen in the results of ENR's Top 250 International Contractors survey. This list ranks firms based on contracting revenue from projects outside of their home countries, measuring their presence in international commerce. ENR's Top 250 Global Contractors list also ranks contractors based on total worldwide contracting revenue, regardless of project location.

The Top 250 International Contractors reported \$468.12 billion in contracting revenue in 2016 from projects outside their home countries, down 6.4%, from \$501.14 billion, in 2015. This year is the third straight to show a drop in Top 250 revenue. As a group, firms also reported \$927.94 billion in revenue from domestic projects in 2016, up 3.4%, from \$897.33 billion, in 2015.

The sagging market for petroleum-related projects is the main culprit in the international design

International Design Markets



firms' revenue downturn. International revenue from the petroleum sector fell 19.0%, to \$14.36 billion, in 2016. International revenue for the sector now has fallen 35.4% from 2014.

Similarly, among international contractors, the petroleum market is the most prominent one under siege. Revenue from petroleum-related projects among the Top 250 fell 8.6%, to \$104.51 billion, in 2016 and is down 16.3% from 2015.

Consolidation Continues

Over the past several years, design firms have been consolidating, leading to the development of an

"We will be very selective in new bids."

Johan Karlström,
President and
CEO, Skanska AB

increasing number of megafirms. And this trend will continue this year. For example, Canada's SNC-Lavalin Group absorbed U.K.-based W.S. Atkins Plc, raising the combined workforce to more than 50,000. "It's very much business as usual," says Heath Drewett, now Atkins' president. Having achieved the goal of an 8% margin last year, the focus is now on growth, he adds.

In the design sector, "consolidation will definitely continue," says Lars-Peter Søybye, president and CEO of Denmark's COWI AS. COWI seeks to make up for its relatively small size by being in the top three in its selected regions and core business lines. Søybye plans to grow sales by

HOW THE TOP INTERNATIONAL DESIGN FIRMS SHARED THE 2016 MARKET																	
DESIGNER NATIONALITY	# OF FIRMS	INT'L REVENUE		MIDDLE EAST		ASIA		AFRICA		EUROPE		UNITED STATES		CANADA		LAT. AMER. / CARIB.	
		\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%
AMERICAN	81	19,748.7	30.8	2,866.7	23.8	5,076.9	37.1	640.7	17.1	5,553.1	36.5	NA	NA	4,780.3	81.7	831.1	26.9
CANADIAN	4	7,427.8	11.6	476.0	4.0	963.0	7.0	218.2	5.8	1,877.9	12.3	3,688.9	35.2	NA	NA	203.8	6.6
EUROPEAN	54	21,919.3	34.2	4,945.3	41.1	3,093.8	22.6	1,615.6	43.0	6,732.9	44.2	3,847.5	36.7	291.1	5.0	1,393.2	45.1
BRITISH	4	4,876.8	7.6	1,359.0	11.3	1,080.0	7.9	287.0	7.6	490.7	3.2	1,517.0	14.5	73.9	1.3	69.2	2.2
GERMAN	5	499.3	0.8	207.4	1.7	57.3	0.4	98.5	2.6	117.8	0.8	0.1	0.0	0.0	0.0	18.3	0.6
FRENCH	7	2,282.3	3.6	498.7	4.1	433.0	3.2	263.3	7.0	703.4	4.6	161.7	1.5	36.7	0.6	185.6	6.0
DUTCH	5	5,631.0	8.8	789.7	6.6	958.1	7.0	184.5	4.9	1,601.4	10.5	1,718.5	16.4	75.0	1.3	303.8	9.8
ITALIAN	8	871.3	1.4	370.8	3.1	82.0	0.6	119.4	3.2	210.1	1.4	22.5	0.2	17.2	0.3	49.3	1.6
SPANISH	9	2,837.2	4.4	1,151.8	9.6	147.7	1.1	456.4	12.1	301.9	2.0	151.5	1.4	38.0	0.6	590.0	19.1
OTHER EUROPEAN	16	4,921.5	7.7	567.9	4.7	335.8	2.5	206.6	5.5	3,307.6	21.7	276.2	2.6	50.4	0.9	177.0	5.7
AUSTRALIAN	6	4,373.3	6.8	298.6	2.5	678.3	5.0	256.3	6.8	592.7	3.9	1,700.8	16.2	647.5	11.1	199.2	6.5
JAPANESE	11	734.2	1.1	118.4	1.0	363.7	2.7	75.4	2.0	36.5	0.2	87.1	0.8	5.0	0.1	48.1	1.6
CHINESE	24	3,698.9	5.8	604.8	5.0	2,115.6	15.5	504.4	13.4	151.4	1.0	100.4	1.0	2.2	0.0	220.1	7.1
KOREAN	12	1,159.3	1.8	278.1	2.3	619.4	4.5	75.8	2.0	15.5	0.1	20.7	0.2	5.8	0.1	144.0	4.7
ALL OTHERS	33	5,052.5	7.9	2,446.8	20.3	772.6	5.6	371.5	9.9	267.0	1.8	1,024.5	9.8	122.0	2.1	47.9	1.6
ALL FIRMS	225	64,113.9	100.0	12,034.7	100.0	13,683.2	100.0	3,757.8	100.0	15,227.1	100.0	10,469.9	100.0	5,853.9	100.0	3,087.3	100.0

SOURCE: ENR. NOTE: EXCLUDING \$0.78 MILLION FROM ANTARCTIC/ARCTIC OR UNALLOCATED

The Top 10 International Design Firms by Region

1		ASIA/AUSTRALIA	
RANK	2017	2016	
Top 10 Revenue: \$6,231.7 Mil. Sector's Revenue: \$13,683.2 Mil.			
1	1		AECOM
2	7		FLUOR CORP.
3	2		JACOBS
4	3		WSP
5	8		POWER CONSTRUCTION CORP. OF CHINA
6	4		ARUP
7	6		HYUNDAI ENGINEERING CO. LTD.
8	9		ARCADIS NV
9	5		FUGRO NV
10	**		CHINA ENERGY ENGINEERING CORP. LTD.

2		EUROPE	
RANK	2017	2016	
Top 10 Revenue: \$9,566.7 Mil. Sector's Revenue: \$15,227.1 Mil.			
1	2		JACOBS
2	1		WSP
3	9		AECOM
4	7		SWECO AB
5	3		ARCADIS NV
6	4		RAMBOLL GRUPPEN A/S
7	6		FLUOR CORP.
8	8		CH2M
9	5		FUGRO NV
10	10		WORLEYPARSONS

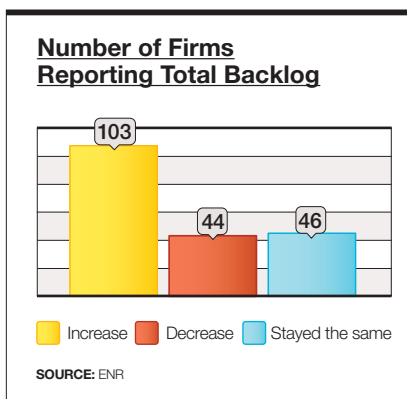
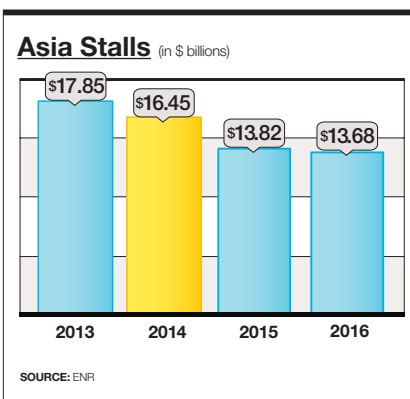
3		MIDDLE EAST	
RANK	2017	2016	
Top 10 Revenue: \$5,230.7 Mil. Sector's Revenue: \$12,034.7 Mil.			
1	1		DAR GROUP
2	2		TECNICAS REUNIDAS
3	6		PETROFAC LTD.
4	3		AECOM
5	5		KHATIB & ALAMI
6	**		KBR
7	8		WS ATKINS PLC
8	10		ARCADIS NV
9	**		FUGRO NV
10	**		BECHTEL

4		CANADA	
RANK	2017	2016	
Top 10 Revenue: \$3,864.1 Mil. Sector's Revenue: \$5,853.9 Mil.			
1	1		AMEC FOSTER WHEELER
2	3		TETRA TECH INC.
3	5		AECOM
4	6		JACOBS
5	2		WORLEYPARSONS
6	**		GOLDER ASSOCIATES CORP.
7	8		EXP US SERVICES INC.
8	4		FLUOR CORP.
9	**		BUREAU VERITAS
10	**		PARSONS

5		UNITED STATES	
RANK	2017	2016	
Top 10 Revenue: \$8,861.9 Mil. Sector's Revenue: \$10,469.9 Mil.			
1	1		WSP
2	4		STANTEC INC.
3	2		ARCADIS NV
4	9		WS ATKINS PLC
5	3		WORLEYPARSONS
6	6		DAR GROUP
7	7		MOTT MACDONALD
8	5		CARDNO LTD.
9	10		GHD
10	**		LARSEN & TOUBRO LTD.

6		LATIN AMER./CARIBBEAN	
RANK	2017	2016	
Top 10 Revenue: \$1,284.8 Mil. Sector's Revenue: \$3,087.3 Mil.			
1	1		TECNICAS REUNIDAS
2	6		ARCADIS NV
3	**		SENER INGENIERÍA Y SISTEMAS SA
4	5		FLUOR CORP.
5	4		WORLEYPARSONS
6	3		FUGRO NV
7	**		HYUNDAI ENGINEERING CO. LTD.
8	**		AYESA
9	8		CH2M
10	**		POWER CONSTRUCTION CORP. OF CHINA

7		AFRICA	
RANK	2017	2016	
Top 10 Revenue: \$1,540.5 Mil. Sector's Revenue: \$3,757.9 Mil.			
1	**		SENER INGENIERÍA Y SISTEMAS SA
2	1		MOTT MACDONALD
3	4		AURECON
4	6		POWER CONSTRUCTION CORP. OF CHINA
5	2		DAR GROUP
6	**		EGIS
7	**		BECHTEL
8	**		CHINA COMMUNICATIONS CONSTR. GROUP LTD.
9	5		FUGRO NV
10	**		TRACTEBEL ENGINEERING SA



25%, to \$1.1 billion, over the next three years.

“This ... will be a year of consolidation,” says Tomas Carlsson, CEO of Sweden’s Sweco AB, which acquired Netherlands-based Grontmij in 2015. With a head count of about 16,000 now, “we are looking for acquisitions all over northern Europe,” he notes.

With some 6,000 staff worldwide, Paris-based SYSTRA Group is relatively small, but “if we are looking for specific expertise, we can second people

from [our] shareholders,” says COO Andrew McNaughton. France’s state railroad company, SNCF, and the Paris region mass-transit authority, RATP, each owns 42% of the firm.

Santec’s acquisition of MWH Global has expanded the Canadian firm’s reach. “The integration of MWH into the Stantec network continues to demonstrate synergies as MWH brings a global footprint in geographies where the combined companies can now offer a more diverse scope of services

to local communities,” says Alan Krause, Stantec’s global operations president.

The trend toward mergers and acquisitions also can be seen in Asia. Surbana Jurong Pvt. Ltd., Singapore, acquired Australia’s SMEC in August 2016, expanding its global workforce to 9,800 employees in more than 95 offices across 40 countries.

China’s JSTI Inc. in 2016 acquired EPTISA, a Spanish engineering firm that works in more than 45 countries around the world, and TestAmerica, a U.S. environmental testing firm with 23 laboratories, according to Allen Li, JSTI president. “These two M&As brought material changes to the international business and layout of JSTI,” expanding the firm’s global footprint to nearly 3,500 overseas employees, Li says.

Risky Business

Market uncertainties have caused some large contractors to reassess their portfolios. Many international contractors report having some success in shifting gears. For example, after a period of falling sales, “we are growing again,” says Jérôme Stubler, chairman of Paris-based VINCI Construction.

VINCI took this road because of changes in many of its core markets. Cuts in local French government spending hurt VINCI at home in the past few years, says Stubler. At the same time, low oil prices reduced demand for its specialty division in that sector and hit infrastructure spending in its African markets, he observes. VINCI retains a network in France’s former African colonies, some of which rely on oil exports. “We see lots of projects, but they are lacking financing,” says Stubler.

For Sweden’s Skanska AB, the market is “strong in all our geographies,” says Johan Karlström, president and CEO. Compared to last year, orders are up in Nordic and European markets but down in the U.S., where the firm faces “fierce” competition.

Many contractors complain that clients are

229

of the Top 250 sent in surveys last year.

48.9%

increased international revenue in 2016.

51.1%

reported lower international revenue in 2016.

197

of the Top 225 sent in surveys last year.

46.2%

increased international revenue in 2016.

53.3%

reported lower international revenue in 2016.

becoming more demanding and, in some cases, less reliable because of economic upheavals. Lebanon’s Contracting and Trading Co., aka C.A.T. Group, has had some problems pursuing projects “caused by tight cash flows [and] stricter and riskier contractual terms and conditions,” says group CEO Georges Hage, noting “many canceled prospects to which we have bid with unclear communication from some clients.”

Inflation has hit many formerly prosperous Latin America markets, but other major markets are experiencing the problem. For example, high inflation in Egypt has increased the cost of investment, says Osama Bishai, CEO of Egypt’s Orascom Construction. He adds, “While our contracts have the right provisions and terms that protect us from this, new investors are less likely to develop greenfield projects if the cost of borrowing and investment is elevated.”

Further, many contractors are concerned about national economic conditions and exchange rates. “It has been an uphill battle to sustain cash flow due to hectic international markets and U.S. dollar and euro value fluctuations,” says Cenk Düzyol, a board member of Turkey’s Renaissance Construction.

Many firms are taking steps to mitigate their risks. On July 14, Skanska said it was booking nearly \$100 million in write-downs on troubled U.K. and U.S. projects that experienced unexpected delays and caused costs to rise, it claimed. This state of affairs has caused Skanska to become more risk-averse. “We will be very selective in new bids,” says Karlström.

Salini Impregilo, too, is reducing its risk profile by diversifying to “more regular work” from mega-projects, notes CEO Pietro Salini. Its top-10 projects now account for half of total sales, down from two-thirds in 2014. Further, it is cutting in half its 2014 Africa exposure, aiming to generate 30% of sales in the U.S. this year. Having acquired Connecticut-based Lane Construction Corp. in 2015, Salini now ranks the U.S. as its biggest market. ■

How To Read the Tables

Companies are ranked according to revenue for design services (Top 225) or contracting revenue (Top 250) performed in 2016 in \$ millions (*). Those with subsidiaries are indicated by (†). For information on subs and where each firm worked outside of the U.S., see ENR.com. **Firms not ranked last year. Some markets may not add up to 100% due to omission of “other” miscellaneous market category and rounding. NA=not available.

Key to type of design firm A=architect; E=engineer; EC=engineer-contractor; AE=architect-engineer; EA=engineer-architect; ENV=environmental; GE=geotechnical engineer; L=landscape architect;

P=planner; O=other. Other combinations possible. Firms classified themselves.

General Building includes commercial buildings, offices, stores, educational facilities, government buildings, hospitals, medical facilities, hotels, apartments, housing, etc.

Manufacturing includes auto, electronic assembly, textile plants, etc.

Power comprises thermal and hydroelectric power plants, waste-to-energy plants, transmission lines, substations, cogeneration plants, etc.

Water Supply includes dams, reservoirs, transmission pipelines, distribution mains, irrigation canals, desalination and potability treatment plants, pumping stations, etc.

Sewage/Solid Waste includes sanitary and storm sewers, treatment plants, pumping plants, industrial waste facilities.

Industrial Process includes pulp and paper mills, steel mills, non-ferrous metal refineries, pharmaceutical and chemical plants, food and other processing plants.

Petroleum comprises refineries, petrochemical plants, offshore facilities, pipelines, etc.

Transportation includes airports, bridges, roads, canals, locks, dredging, marine facilities, piers, railroads, tunnels, etc.

Hazardous Waste includes chemical and nuclear-waste treatment, asbestos and lead abatement, etc.

Telecommunications includes transmission lines and cabling, towers and antennae, data centers, etc.

RANK 2017	RANK 2016	FIRM	FIRM TYPE	2016 INT'L REVENUE		GENERAL BUILDING	MANUFACTURING	POWER	WATER SUPPLY	SEWER / WASTE	INDUS. / PETROLEUM	TRANSPORTATION	HAZARDOUS WASTE	TELECOM
				IN \$ MIL	% OF TOTAL REV.									
1	1	WSP, Montreal, Quebec, Canada†	EC	4,070.9	81	28	1	7	1	2	4	53	2	0
2	5	AECOM, Los Angeles, Calif., U.S.A.†	EAC	3,410.0	46	29	0	4	6	4	1	46	11	0
3	2	ARCADIS NV, Amsterdam, The Netherlands†	EC	3,369.0	91	37	1	2	9	2	3	8	17	0
4	4	JACOBS, Dallas, Texas, U.S.A.	EAC	2,946.0	46	14	2	3	4	2	50	24	0	1
5	3	WORLEYPARSONS, North Sydney, NSW, Australia	EC	2,372.0	89	1	0	11	0	0	79	2	1	0
6	7	DAR GROUP, Dubai, U.A.E.†	EA	2,275.2	100	49	0	3	2	3	4	39	0	1
7	16	STANTEC INC., Edmonton, Alberta, Canada†	A	2,122.0	70	20	0	8	19	20	6	22	2	0
8	8	FLUOR CORP., Irving, Texas, U.S.A.†	EC	2,071.4	63	0	1	1	0	0	95	0	3	0
9	6	FUGRO NV, Leidschendam, The Netherlands†	GE	1,778.0	91	12	0	10	3	0	68	3	0	3
10	15	WS ATKINS PLC, Epsom, Surrey, U.K.†	EA	1,553.3	55	22	0	20	4	0	3	51	0	0
11	10	TECNICAS REUNIDAS, Madrid, Spain	EC	1,522.8	94	0	0	5	1	0	93	1	0	0
12	13	CH2M, Englewood, Colo., U.S.A.†	E	1,309.3	37	0	4	0	12	15	8	48	14	0
13	9	MOTT MACDONALD, Croydon, Surrey, U.K.†	EC	1,299.9	60	12	0	12	8	8	23	31	1	0
14	14	ARUP, London, U.K.†	E	1,220.6	69	41	2	2	2	3	7	36	1	2
15	26	SWECO AB, Stockholm, Sweden†	EA	1,199.0	62	35	2	9	4	5	10	31	1	0
16	18	RAMBOLL GRUPPEN A/S, Copenhagen S, Denmark†	E	1,159.4	74	30	0	6	1	6	4	26	24	0
17	27	POWER CONSTRUCTION CORP. OF CHINA, Beijing, China†	EC	1,090.6	15	0	0	86	0	1	0	1	0	11
18	20	KBR, Houston, Texas, U.S.A.†	EC	958.0	50	0	0	0	8	0	31	19	0	0
19	12	AMEC FOSTER WHEELER, Atlanta, Ga., U.S.A.†	EC	908.0	47	11	1	17	2	1	32	7	5	0
20	11	SNC-LAVALIN INC., Montreal, Quebec, Canada†	EC	883.9	44	1	0	15	0	0	50	17	0	0
21	28	TETRA TECH INC., Pasadena, Calif., U.S.A.	E	837.0	32	1	1	20	33	3	21	18	4	0
22	25	PETROFAC LTD., Jersey, Channel Islands, U.K.†	EC	803.0	100	0	0	0	0	0	100	0	0	0
23	**	TECHNIP, Paris, France†	EC	775.0	94	0	0	0	0	0	100	0	0	0
24	21	HYUNDAI ENGINEERING CO. LTD., Seoul, S. Korea	EC	748.0	87	1	4	19	0	3	73	0	0	0
25	23	GHD, Sydney, NSW, Australia†	EA/ENV	739.3	60	27	0	1	15	9	7	13	20	0
26	17	BECHTEL, San Francisco, Calif., U.S.A.†	EC	724.0	45	1	0	3	1	0	68	27	1	0
27	**	EGIS, Saint-Quentin-en-Yvelines, France†	EC	715.0	63	11	0	2	5	0	0	82	0	0
28	**	GOLDER ASSOCIATES CORP., Palm Beach Gardens, Fla., U.S.A.†	E	684.6	76	12	4	5	2	3	26	20	0	1
29	**	CHINA ENERGY ENGINEERING CORP. LTD., Beijing, China†	EC	644.8	10	0	0	100	0	0	0	0	0	0
30	19	CB&I LLC, The Woodlands, Texas, U.S.A.†	EC	625.7	28	0	0	0	0	0	99	0	0	0
31	33	INTERTEK-PSI, Arlington Heights, Ill., U.S.A.†	E	584.6	49	0	0	20	0	0	80	0	0	0
32	51	SENER INGENIERIA Y SISTEMAS SA, Las Arenas (Getxo), Vizcaya, Spain†	EA	580.5	97	0	0	72	0	0	4	24	0	0
33	32	COWI A/S, Kongens Lyngby, Denmark†	EC	576.9	69	21	0	0	6	10	0	52	1	0
34	22	CARDNO LTD., Brisbane, Queensland, Australia†	EC	568.3	63	0	0	0	0	0	0	0	0	0
35	48	SURBANA JURONG PRIVATE LTD., Singapore†	EC	498.0	64	28	0	13	7	0	1	45	3	0
36	40	LARSEN & TOUBRO LTD., Mumbai, Maharashtra, India†	EC	497.5	83	0	79	0	0	0	16	5	0	0
37	35	POYRY, Vantaa, Finland†	E	458.0	78	2	0	43	2	2	31	11	6	0
38	38	MAIRE TECNIMONT GROUP, Milan, Italy†	EC	450.5	84	0	0	6	0	0	93	1	0	0
39	30	PARSONS, Pasadena, Calif., U.S.A.†	EC	450.0	30	12	0	0	3	0	2	70	9	4
40	39	KHATIB & ALAMI, Beirut, Lebanon†	EA	441.0	97	51	0	3	14	6	2	15	0	0
41	37	TRACTEBEL ENGINEERING SA, Brussels, Belgium†	EC	429.3	65	3	0	84	0	0	7	6	0	0
42	42	SYSTRA, Paris, France†	EC	426.0	60	0	0	0	0	0	0	100	0	0
43	46	BLACK & VEATCH, Overland Park, Kan., U.S.A.†	EC	408.2	30	2	0	40	29	15	13	0	0	0
44	49	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD., Beijing, China†	EC	353.7	8	3	0	17	5	0	0	74	0	0
45	24	HATCH LTD., Mississauga, Ontario, Canada†	EC	351.0	45	0	0	9	4	0	64	11	0	0
46	43	ROYAL HASKONINGDHV, Amersfoort, The Netherlands†	EC	342.2	51	11	1	7	16	9	6	49	0	2
47	44	AURECON, Melbourne, Victoria, Australia	EC	332.1	46	37	4	7	5	0	5	22	0	2
48	52	AF GROUP, Stockholm, Sweden†	E	327.4	25	14	5	42	0	0	12	26	0	0
49	45	LOUIS BERGER, Morristown, N.J., U.S.A.†	EAP	304.3	48	4	0	15	13	0	9	51	0	0
50	53	EXP US SERVICES INC., Chicago, Ill., U.S.A.	E	285.3	61	31	0	3	6	7	5	14	0	0
51	**	WL MEINHARDT GROUP PTY. LTD., Melbourne, Victoria, Australia†	EC	246.2	91	68	5	0	1	8	1	15	0	2

WORLEYPARSONS on May 22 won a five-year contract from Shell Global Solutions International for EPCM services for downstream projects.

RANK 2017	RANK 2016	FIRM	FIRM TYPE	2016 INT'L REVENUE		GENERAL BUILDING	MANUFACTURING	POWER	WATER SUPPLY	SEWER / WASTE	INDUS. / PETROLEUM	TRANSPORTATION	HAZARDOUS WASTE	TELECOM
				IN \$ MIL	% OF TOTAL REV.									
52	**	IBI GROUP , Westerville, Ohio, U.S.A.†	AE	238.8	67	66	9	3	2	2	0	15	0	0
53	65	NIPPON KOEI GROUP , Tokyo, Japan†	EC	227.3	34	2	0	11	12	8	0	42	0	2
54	77	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP. , Beijing, China†	EC	219.0	50	0	0	0	0	0	100	0	0	0
55	54	TECNICA Y PROYECTOS SA (TYPSA) , Madrid, Spain†	EA	215.0	86	18	0	8	13	7	0	50	0	0
56	**	BUREAU VERITAS , Fort Lauderdale, Fla., U.S.A.†	E	212.6	33	21	0	10	35	0	30	0	4	0
57	50	GENSLER , San Francisco, Calif., U.S.A.	A	211.4	18	93	1	0	0	0	0	3	0	4
58	62	IDOM , Bilbao, Vizcaya, Spain	EA	195.2	80	10	4	29	2	3	22	27	0	3
59	59	FICHTNER GROUP , Stuttgart, Germany†	EC	194.7	63	0	1	84	7	8	0	0	0	0
60	63	DORSCH HOLDING GMBH , Frankfurt, Germany†	EC	194.7	98	4	0	8	39	22	0	25	0	1
61	**	AEDAS , Hong Kong, China	A	189.3	98	82	0	0	0	0	0	18	0	0
62	57	ILF CONSULTING ENGINEERS , Rum/Innsbruck, Austria†	EC	187.1	84	1	0	12	21	3	42	19	0	0
63	67	HDR , Omaha, Neb., U.S.A.†	EA	169.0	9	74	0	2	2	3	0	15	4	0
64	58	CHINA NATIONAL MACHINERY INDUSTRY CORP. , Beijing, China†	EC	168.2	28	14	1	46	11	1	8	16	0	0
65	80	SINOPEC ENGINEERING (GROUP) CO. LTD. , Beijing, China†	EC	157.4	21	0	0	0	0	0	100	0	0	0
66	69	ASSOCIATED CONSULTING ENGINEERS , Athens, Amarousion, Greece†	EA	151.0	94	31	0	2	10	30	4	19	2	1
67	71	ARTELIA , Lyon, France†	EC	145.7	34	32	1	6	15	4	26	16	0	0
68	61	CHIYODA CORP. , Yokohama, Kanagawa, Japan†	EC	142.9	76	0	0	2	0	0	67	0	0	0
69	**	CHINA CHENGDA ENGINEERING CO. LTD. , Chengdu, Sichuan, China	EC	141.3	50	0	0	94	0	0	6	0	0	0
70	66	SKIDMORE, OWINGS & MERRILL LLP , New York, N.Y., U.S.A.†	AE	141.0	41	95	0	0	0	0	0	5	0	0
71	92	CTCI CORP. , Taipei, Taiwan†	EC	139.8	64	0	0	2	0	0	97	0	0	0
72	73	CDM SMITH , Boston, Mass., U.S.A.†	EC	139.5	20	5	0	5	19	13	0	36	22	0
73	64	CHINA RAILWAY GROUP LTD. , Beijing, China†	EA	132.7	8	4	0	0	0	0	0	96	0	0
74	70	OPUS INTERNATIONAL CONSULTANTS LTD. , Wellington, New Zealand†	E	131.3	41	25	0	0	10	4	15	47	0	0
75	79	KEO INTERNATIONAL CONSULTANTS , Shuwaikh, Kuwait	AEP	130.2	94	76	0	0	2	11	0	11	0	0
76	94	ORIENTAL CONSULTANTS GLOBAL (ACKG LTD.) , Tokyo, Japan†	EC	128.5	30	9	0	1	4	1	0	83	1	0
77	78	WOODS BAGOT ARCHITECTS PC , San Francisco, Calif., U.S.A.†	A	125.0	81	94	0	0	0	0	0	6	0	0
78	83	AYESA , Sevilla, Spain	EC	124.6	68	5	0	4	22	5	10	53	0	1
79	75	AEGION CORP. , Chesterfield, Mo., U.S.A.	EC	124.0	41	5	0	0	0	8	84	3	0	0
80	**	SAIPEM SPA , San Donato Milanese, Italy	EC	124.0	39	0	0	0	0	1	98	1	0	0
81	85	PROGER SPA , Rome, Italy†	EA	120.1	81	82	0	0	0	0	15	3	0	0
82	60	CDI CORP. , Philadelphia, Pa., U.S.A.†	EA	119.5	26	20	7	0	0	0	50	22	0	0
83	74	KOHN PEDERSEN FOX ASSOCIATES PC , New York, N.Y., U.S.A.†	A	116.9	74	85	0	0	0	0	0	15	0	0
84	89	BEGA GROUP LTD. , Auckland, New Zealand†	EA	116.8	31	28	19	5	8	0	13	25	0	0
85	81	AUSENCO LTD. , South Brisbane, Queensland, Australia†	E	115.5	80	0	0	0	0	0	0	0	0	0
86	82	EHAF CONSULTING ENGINEERS , Cairo, Egypt	AE	112.4	80	58	0	0	0	0	7	35	0	0
87	87	NORR , Chicago, Ill., U.S.A.†	AE	109.5	73	96	0	0	0	0	0	4	0	0
88	93	MORRISON HERSHFIELD , Atlanta, Ga., U.S.A.†	EA	108.7	84	43	0	0	1	3	0	45	0	7
89	91	ASSYSTEM , Paris, France†	EC	108.0	33	13	0	80	0	0	7	0	0	0
90	72	TEBODIN BV , The Hague, The Netherlands	E	107.0	54	7	14	7	0	1	71	0	0	0
91	95	KEPCO ENGINEERING & CONSTRUCTION CO. , Gyeongsangbuk-do, S. Korea	AE	106.2	27	0	0	100	0	0	0	0	0	0
92	76	HOK , St. Louis, Mo., U.S.A.	AE	105.9	25	94	0	0	0	0	0	6	0	0
93	**	JSTI GROUP , Nanjing, Jiangsu, China†	EC	105.5	24	1	0	4	9	67	0	10	1	0
94	88	PM GROUP , Dublin, Ireland†	EA	104.4	51	4	6	2	0	0	78	0	0	4
95	96	SSH , Manama, Bahrain	AE	104.3	93	61	0	1	1	5	2	24	0	0
96	**	CHINA TIANCHEN ENGINEERING CORP. , Tianjin, China	EA	102.2	66	2	0	10	0	0	84	0	0	0
97	**	NKY ARCHITECTS AND ENGINEERS , Ankara, Turkey†	AE	95.3	79	100	0	0	0	0	0	0	0	0
98	101	DPS ENGINEERING , Cork, Ireland†	EC	92.0	66	0	0	0	0	0	0	0	0	0
99	112	ITALCONSULT SPA , Rome, Italy	EC	91.5	97	47	0	0	7	6	0	40	0	0
100	98	CONSOLIDATED CONTRACTORS GROUP , Athens, Attica, Greece†	C	90.3	100	14	0	2	0	0	48	37	0	0
101	31	WOOD GROUP , Houston, Texas, U.S.A.†	EC	78.5	13	0	0	0	0	0	100	0	0	0
102	100	ECG ENGINEERING CONSULTANTS GROUP SA , Cairo, Egypt	EA	77.5	77	75	0	4	10	0	4	5	0	2

#25

GHD is designing upgrades and the rehabilitation of the 120-year-old wastewater collection system in Oswego, N.Y.

RANK 2017	RANK 2016	FIRM	FIRM TYPE	2016 INT'L REVENUE		GENERAL BUILDING	MANUFACTURING	POWER	WATER SUPPLY	SEWER / WASTE	INDUS. / PETROLEUM	TRANSPORTATION	HAZARDOUS WASTE	TELECOM
				IN \$ MIL	% OF TOTAL REV.									
103	103	ATLAS TEXAS CONSTRUCTION AND TRADING INC., Katy, Texas, U.S.A.†	EA	74.6	100	100	0	0	0	0	0	0	0	0
104	41	SK E&C, Seoul, S. Korea†	EA	70.6	53	0	0	23	0	0	77	0	0	0
105	135	DOHWA ENGINEERING CO. LTD., Seoul, S. Korea	EC	64.1	25	0	0	47	5	4	0	36	0	0
106	104	SETEC, Paris, France†	EC	63.4	22	4	2	0	2	6	0	86	0	0
107	110	ENERGOPROJEKT HOLDING PLC, Belgrade, Serbia†	EC	60.2	79	0	0	93	7	0	0	0	0	0
108	120	PERKINS EASTMAN, New York, N.Y., U.S.A.†	A	60.2	28	100	0	0	0	0	0	0	0	0
109	107	INGENIERÍA Y ECONOMIA DEL TRANSPORTE SME MP SA, Madrid, Spain†	EC	57.7	27	0	0	0	0	0	0	100	0	0
110	114	EMPRESARIOS AGRUPADOS, Madrid, Spain†	EA	57.6	58	0	0	70	0	0	0	2	4	6
111	99	SARGENT & LUNDY LLC, Chicago, Ill., U.S.A.†	E	57.3	12	0	0	100	0	0	0	0	0	0
112	**	CHINA ALUMINUM INTERNATIONAL ENGINEERING CORP., Beijing, China†	EA	56.8	25	40	0	0	0	0	60	0	0	0
113	119	ARCPLUS GROUP PLC, Shanghai, China†	AE	55.0	11	100	0	0	0	0	0	0	0	0
114	108	WATG + WIMBERLY INTERIORS, Irvine, Calif., U.S.A.†	A	52.8	79	100	0	0	0	0	0	0	0	0
115	121	INGEROP, Rueil-Malmaison, France†	EC	49.2	22	28	18	0	3	0	0	51	0	0
116	122	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE), Beijing, China†	EC	48.4	100	5	0	69	7	0	3	16	0	0
117	109	THORNTON TOMASETTI INC., New York, N.Y., U.S.A.	EA	48.3	20	95	1	1	0	0	0	2	0	0
118	123	STUDI INTERNATIONAL, Tunis, Tunisia†	EC	47.8	82	19	0	4	16	4	0	38	0	7
119	124	PAGE SOUTHERLAND PAGE INC., Washington, D.C., U.S.A.	AE	45.8	32	92	8	0	0	0	0	0	0	0
120	116	ACCIONA INFRAESTRUCTURAS, Madrid, Spain†	EC	45.4	71	0	0	11	7	0	0	82	0	0
121	117	H.P. GAUFF INGENIEURE GMBH, Frankfurt am Main, Hessen, Germany†	EC	45.2	60	1	0	0	27	7	0	58	0	7
122	133	PADECO CO. LTD., Tokyo, Japan	EC	45.2	100	3	0	0	0	0	0	44	0	2
123	125	SHAKER GROUP, Dubai, U.A.E.†	EC	44.1	94	41	13	21	0	0	5	13	0	5
124	**	SAMOO ARCHITECTS & ENGINEERS, Seoul, S. Korea	AE	43.3	25	14	78	0	0	0	0	7	0	0
125	118	HOCHTIEF AKTIENGESELLSCHAFT, Essen, NRW, Germany†	EC	43.0	47	23	0	7	0	7	5	56	0	0
126	129	STANLEY CONSULTANTS INC., Muscatine, Iowa, U.S.A.†	EA	41.8	22	22	0	36	0	21	0	22	0	0
127	**	NJS CO. LTD., Tokyo, Japan†	EC	41.6	28	0	0	0	36	58	0	0	0	0
128	132	YACHIYO ENGINEERING CO. LTD., Tokyo, Japan	E	41.0	23	2	0	22	22	12	0	12	0	22
129	136	DEWAN ARCHITECTS + ENGINEERS, Abu Dhabi, U.A.E.	AE	39.1	76	100	0	0	0	0	0	0	0	0
130	115	POPULOUS, Kansas City, Mo., U.S.A.†	A	38.7	21	100	0	0	0	0	0	0	0	0
131	130	HKS, Dallas, Texas, U.S.A.	A	38.6	10	100	0	0	0	0	0	0	0	0
132	147	TPF GETINSA PAYMA, Madrid, Spain†	EC	38.5	63	10	0	0	7	3	0	80	0	0
133	137	GHAFFARI ASSOCIATES, Dearborn, Mich., U.S.A.	EA	37.7	26	0	53	0	0	0	0	47	0	0
134	126	GEODATA ENGINEERING SPA, Torino, Italy†	E	36.7	94	0	0	0	37	8	0	56	0	0
135	138	ARCHITECTURE & PLANNING GROUP, Abu Dhabi, U.A.E.	AE	36.6	75	100	0	0	0	0	0	0	0	0
136	164	GANNETT FLEMING, Camp Hill, Pa., U.S.A.	EA	36.2	10	0	0	0	2	0	0	98	0	0
137	131	GEOSYNTEC CONSULTANTS INC., Atlanta, Ga., U.S.A.†	E	36.1	13	0	0	9	0	0	23	0	67	0
138	219	CHINA RAILWAY CONSTRUCTION CORP. LTD., Beijing, China†	EC	36.0	1	0	0	0	0	3	0	94	0	0
139	144	JGC CORP., Yokohama, Japan†	EC	36.0	56	0	0	28	0	0	72	0	0	0
140	111	KLEINFELDER, San Diego, Calif., U.S.A.†	EA	35.0	12	9	3	2	5	0	77	0	2	0
141	106	CHINA HUANQIU CONTRACTING & ENGINEERING CORP. LTD., Beijing, China†	EC	34.9	15	0	0	0	0	0	100	0	0	0
142	**	TAUW GROUP, Deventer, The Netherlands	E/ENV	34.8	32	0	0	0	0	0	100	0	0	0
143	102	BURNS & MCDONNELL, Kansas City, Mo., U.S.A.	EAC	34.8	3	29	3	54	1	0	1	13	0	0
144	**	KIEWIT CORP., Omaha, Neb., U.S.A.†	EC	34.6	9	0	0	99	0	0	0	0	1	0
145	146	TTCL PUBLIC CO. LTD., Bangkok, Thailand†	EC	34.0	63	0	0	6	26	0	68	0	0	0
146	141	CHODAI GROUP, Tokyo, Japan†	EC	33.5	15	4	0	4	0	2	0	81	0	0
147	134	PCG PROFABRIL CONSULPLANO GLOBAL SA, Lisbon, Portugal†	EC	32.1	79	13	0	0	5	5	35	42	0	0
148	**	CCDI GROUP, Shanghai, China	AE	30.6	12	0	0	0	0	0	0	0	0	0
149	152	WONG TUNG & PARTNERS LTD., Hong Kong, China†	A	28.9	70	100	0	0	0	0	0	0	0	0
150	212	CHINA METALLURGICAL GROUP CORP., Beijing, China†	EA	28.2	4	0	0	0	0	0	91	0	0	0
151	143	KUNHWA ENGINEERING & CONSULTING CO. LTD., Seoul, S. Korea	E	28.2	19	0	0	3	21	19	0	43	0	0
152	155	JAN DE NUL GROUP (SOFIDRA SA), Capellen, Luxemburg†	O	28.0	100	7	0	0	0	0	11	36	0	0
153	**	CHINA RAILWAY DESIGN CORP., Beijing, China†	EC	27.8	4	0	0	0	0	4	0	95	0	0

PADECO CO. LTD. is general consultant on the \$4-billion Mumbai Metro Line 3 project, the first fully underground rail line in India.

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				IN \$ MIL	% OF TOTAL REV.									
205	190	GOETTSCH PARTNERS , Chicago, Ill., U.S.A.	A	10.6	43	100	0	0	0	0	0	0	0	0
206	**	STV GROUP INC. , New York, N.Y., U.S.A.†	EA	10.6	3	0	0	0	0	0	0	100	0	0
207	**	HEERIM ARCHITECTS & PLANNERS CO. LTD. , Seoul, S. Korea	AP	10.3	13	80	0	0	0	0	0	20	0	0
208	168	ZGF ARCHITECTS LLP , Portland, Ore., U.S.A.	A	10.3	7	93	0	0	0	0	0	1	0	0
209	209	YUKSEL PROJE ULUSLARARASI AS , Ankara, Turkey†	EA/GE	10.3	17	0	0	0	0	0	0	98	0	0
210	211	ZAS ARCHITECTS INC. , Dubai, U.A.E.†	A	10.2	55	100	0	0	0	0	0	0	0	0
211	192	LANGAN ENG'G, ENVIRO., SVYG. & LANDS. ARCH. , Parsippany, N.J., U.S.A.†	E	10.1	4	90	0	0	0	0	0	10	0	0
212	**	DISTANCE STUDIO CONSULTANTS , Giza, Egypt	AE	10.1	97	97	0	0	0	0	3	0	0	0
213	161	ENERCON SERVICES INC. , Kennesaw, Ga., U.S.A.	EA	10.0	4	0	0	100	0	0	0	0	0	0
214	187	ENGLOBAL , Houston, Texas, U.S.A.	E	10.0	15	0	0	0	0	0	100	0	0	0
215	195	SSOE GROUP , Toledo, Ohio, U.S.A.†	EA	9.7	7	3	82	0	0	0	16	0	0	0
216	180	AMBITECH ENGINEERING CORP. , Downers Grove, Ill., U.S.A.	EC	9.5	8	0	0	0	0	0	100	0	0	0
217	**	SASAKI , Watertown, Mass., U.S.A.	EAL	9.3	15	100	0	0	0	0	0	0	0	0
218	188	SUMITOMO MITSUI CONSTRUCTION CO. LTD. , Tokyo, Japan†	EC	9.1	82	0	57	0	0	0	0	43	0	0
219	205	MG2 , Seattle, Wash., U.S.A.	A	9.1	19	100	0	0	0	0	0	0	0	0
220	207	ENGINEERING FOR PETROLEUM & PROCESS INDUS. "ENPPI" , Cairo, Egypt†	EC	9.0	3	0	0	0	0	0	100	0	0	0
221	**	SHANGDONG DEJIAN GROUP CO. LTD. , Dezhou City, Shandong, China	AE	8.7	83	100	0	0	0	0	0	0	0	0
222	**	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD. , Beijing, China	AE	8.6	1	72	0	0	20	5	0	3	0	0
223	210	PYUNGHWA ENGINEERING CONSULTANTS LTD. , Gyeonggi-do, S. Korea	E	8.2	19	0	0	2	2	1	0	95	0	0
224	208	TRC COS. INC. , Lowell, Mass., U.S.A.†	E	8.2	1	0	0	7	0	0	21	37	35	0
225	214	ENGICON , Amman, Jordan	EAL	7.9	46	15	0	0	44	24	0	14	0	1

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				TOTAL \$ MIL.	INT'L \$ MIL.									
1	1	AECOM, Los Angeles, Calif., U.S.A.†	EAC	7,430.0	3,410.0	20	0	7	7	4	2	40	18	0
2	2	POWER CONSTRUCTION CORP. OF CHINA, Beijing, China†	EC	7,300.5	1,090.6	0	0	94	1	0	0	0	0	2
3	3	JACOBS, Dallas, Texas, U.S.A.	EAC	6,387.3	2,946.0	13	2	3	2	1	38	22	15	2
4	**	CHINA ENERGY ENGINEERING CORP. LTD., Beijing, China†	EC	6,193.0	644.8	2	0	96	0	0	2	0	0	0
5	4	WSP, Montreal, Quebec, Canada†	EC	5,012.3	4,070.9	29	1	6	1	2	6	50	2	1
6	5	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD., Beijing, China†	EC	4,169.3	353.7	0	0	1	0	0	0	98	0	0
7	7	ARCADIS NV, Amsterdam, The Netherlands†	EC	3,715.0	3,369.0	36	1	3	8	2	3	9	16	0
8	8	CH2M, Englewood, Colo., U.S.A.†	E	3,551.2	1,309.3	0	5	0	14	19	14	33	15	0
9	9	FLUOR CORP., Irving, Texas, U.S.A.†	EC	3,293.6	2,071.4	0	2	3	0	0	85	0	10	0
10	19	STANTEC INC., Edmonton, Alberta, Canada†	A	3,020.5	2,122.0	22	0	8	15	16	11	21	2	1
11	11	WS ATKINS PLC, Epsom, Surrey, U.K.†	EA	2,828.2	1,553.3	26	1	19	6	0	2	47	0	0
12	6	WORLEYPARSONS, North Sydney, NSW, Australia	EC	2,672.0	2,372.0	1	0	11	0	0	78	4	1	0
13	18	TETRA TECH INC., Pasadena, Calif., U.S.A.	E	2,645.0	837.0	1	1	9	40	9	13	9	18	0
14	16	CHINA RAILWAY CONSTRUCTION CORP. LTD., Beijing, China†	EC	2,594.0	36.0	26	4	0	4	0	0	61	0	0
15	15	DAR GROUP, Dubai, U.A.E.†	EA	2,275.2	2,275.2	49	0	3	2	3	4	39	0	1
16	14	CB&I LLC, The Woodlands, Texas, U.S.A.†	EC	2,217.0	625.7	0	0	10	1	0	82	2	3	0
17	17	MOTT MACDONALD, Croydon, Surrey, U.K.†	EC	2,160.7	1,299.9	16	0	12	7	10	15	34	1	1
18	12	SNC-LAVALIN INC., Montreal, Quebec, Canada†	EC	2,009.8	883.9	7	0	28	1	0	30	19	2	0
19	13	FUGRO NV, Leidschendam, The Netherlands†	GE	1,953.0	1,778.0	12	0	9	3	0	68	4	0	3
20	10	AMEC FOSTER WHEELER, Atlanta, Ga., U.S.A.†	EC	1,936.0	908.0	12	6	14	4	3	32	9	8	0
21	27	SWECO AB, Stockholm, Sweden†	EA	1,932.0	1,199.0	34	2	9	4	5	9	33	1	0
22	21	HDR, Omaha, Neb., U.S.A.†	EA	1,927.6	169.0	21	0	10	10	10	1	46	1	0
23	35	KBR, Houston, Texas, U.S.A.†	EC	1,916.0	958.0	0	0	11	4	0	52	12	0	0
24	24	ARUP, London, U.K.†	E	1,776.3	1,220.6	39	3	4	2	2	5	38	1	2
25	23	CHINA RAILWAY GROUP LTD., Beijing, China†	EA	1,767.8	132.7	8	0	0	0	0	0	67	0	0
26	25	TECNICAS REUNIDAS, Madrid, Spain	EC	1,622.2	1,522.8	0	0	7	1	0	91	1	0	0
27	20	BECHTEL, San Francisco, Calif., U.S.A.†	EC	1,597.0	724.0	0	0	8	0	0	51	13	19	8
28	26	RAMBOLL GRUPPEN A/S, Copenhagen S, Denmark†	E	1,571.0	1,159.4	31	0	9	1	6	7	25	19	0
29	22	PARSONS, Pasadena, Calif., U.S.A.†	EC	1,508.0	450.0	5	0	0	3	1	1	71	14	3
30	31	BLACK & VEATCH, Overland Park, Kan., U.S.A.†	EC	1,378.7	408.2	3	0	47	17	13	7	0	1	11
31	29	BURNS & MCDONNELL, Kansas City, Mo., U.S.A.	EAC	1,306.0	34.8	5	3	55	2	4	16	9	4	1
32	32	AF GROUP, Stockholm, Sweden†	E	1,302.4	327.4	16	27	17	0	0	15	19	0	4
33	30	GHD, Sydney, NSW, Australia†	EA/ENV	1,229.8	739.3	21	0	3	14	9	6	22	15	0
34	37	INTERTEK-PSI, Arlington Heights, Ill., U.S.A.†	E	1,195.9	584.6	18	5	14	0	1	53	6	2	1
35	34	GENSLER, San Francisco, Calif., U.S.A.	A	1,192.4	211.4	93	0	0	0	0	0	5	0	1
36	**	EGIS, Saint-Quentin-en-Yvelines, France†	EC	1,131.9	715.0	16	0	3	5	1	1	75	0	0
37	**	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD., Beijing, China	AE	1,103.5	8.6	71	0	0	6	10	0	13	0	0
38	42	HNTB COS., Kansas City, Mo., U.S.A.	EA	1,028.8	0.8	2	0	0	2	1	0	95	0	0
39	36	CARDNO LTD., Brisbane, Queensland, Australia†	EC	903.4	568.3	0	0	0	0	0	0	0	0	0
40	**	GOLDER ASSOCIATES CORP., Palm Beach Gardens, Fla., U.S.A.†	E	897.2	684.6	11	5	7	2	6	25	17	0	1
41	41	HYUNDAI ENGINEERING CO. LTD., Seoul, S. Korea	EC	861.3	748.0	4	3	17	1	3	68	3	0	0
42	46	COWI A/S, Kongens Lyngby, Denmark†	EC	842.1	576.9	22	0	0	5	10	0	51	1	0
43	**	TECHNIP, Paris, France†	EC	824.0	775.0	0	0	0	0	0	100	0	0	0
44	55	PETROFAC LTD., Jersey, Channel Islands, U.K.†	EC	803.0	803.0	0	0	0	0	0	100	0	0	0
45	69	SURBANA JURONG PRIVATE LTD., Singapore†	EC	781.0	498.0	47	0	8	4	0	1	36	2	0
46	33	HATCH LTD., Mississauga, Ontario, Canada†	EC	775.0	351.0	0	0	12	4	0	54	22	0	0
47	43	SINOPEC ENGINEERING (GROUP) CO. LTD., Beijing, China†	EC	735.0	157.4	0	0	0	0	0	100	0	0	0
48	48	AURECON, Melbourne, Victoria, Australia	EC	727.2	332.1	30	3	7	4	0	7	30	0	5
49	57	KIMLEY-HORN, Raleigh, N.C., U.S.A.	E	722.3	1.5	42	0	1	4	3	0	51	0	0
50	71	LEIDOS, Reston, Va., U.S.A.	EA	713.5	14.1	0	4	30	0	0	0	0	66	0

RANK 2017	RANK 2016	FIRM	FIRM TYPE	2016 REVENUE		GENERAL BUILDING	MANUFACTURING	POWER	WATER SUPPLY	SEWER / WASTE	INDUS. / PETROLEUM	TRANSPORTATION	HAZARDOUS WASTE	TELECOM
				TOTAL \$ MIL.	INT'L \$ MIL.									
51	47	SYSTRA, Paris, France†	EC	707.6	426.0	0	0	0	0	0	0	100	0	0
52	61	TRC COS. INC., Lowell, Mass., U.S.A.†	E	707.2	8.2	4	0	33	0	0	22	13	26	0
53	49	CDM SMITH, Boston, Mass., U.S.A.†	EC	691.5	139.5	2	0	2	20	33	1	25	17	0
54	64	NIPPON KOEI GROUP, Tokyo, Japan†	EC	666.6	227.3	1	0	4	13	7	0	36	0	3
55	50	ROYAL HASKONINGDHV, Amersfoort, The Netherlands†	EC	664.9	342.2	25	1	5	15	8	4	40	0	2
56	**	CHINA RAILWAY DESIGN GROUP, Beijing, China†	EC	662.3	27.8	0	0	0	0	0	0	100	0	0
57	52	TRACTEBEL ENGINEERING SA, Brussels, Belgium†	EC	658.5	429.3	5	0	82	0	0	5	8	0	0
58	51	BUREAU VERITAS, Fort Lauderdale, Fla., U.S.A.†	E	645.5	212.6	15	10	6	13	1	37	5	6	0
59	58	CHINA METALLURGICAL GROUP CORP., Beijing, China†	EA	637.4	28.2	16	0	6	0	0	50	9	15	0
60	54	LOUIS BERGER, Morristown, N.J., U.S.A.†	EAP	628.5	304.3	3	0	11	10	1	4	56	10	0
61	28	WOOD GROUP, Houston, Texas, U.S.A.†	EC	615.7	78.5	0	1	0	0	0	99	0	0	0
62	63	TERRACON CONSULTANTS INC., Olathe, Kan., U.S.A.†	E	602.5	1.9	41	2	9	3	2	5	13	17	2
63	99	SENER INGENIERIA Y SISTEMAS SA, Las Arenas (Getxo), Vizcaya, Spain†	EA	600.5	580.5	0	0	71	0	0	4	25	0	0
64	67	LARSEN & TOUBRO LTD., Mumbai, Maharashtra, India†	EC	600.3	497.5	5	68	2	0	0	17	8	0	0
65	59	CHINA NATIONAL MACHINERY INDUSTRY CORP., Beijing, China†	EC	591.2	168.2	31	12	35	3	1	7	5	1	0
66	56	POYRY, Vantaa, Finland†	E	586.0	458.0	2	0	37	2	3	34	11	5	0
67	65	MAIRE TECNIMONT GROUP, Milan, Italy†	EC	537.8	450.5	1	0	5	0	0	92	2	0	0
68	68	MICHAEL BAKER INTERNATIONAL, Pittsburgh, Pa., U.S.A.†	EA	534.6	2.2	22	0	0	17	0	5	49	4	2
69	53	S&B ENGINEERS AND CONSTRUCTORS LTD., Houston, Texas, U.S.A.†	EC	533.8	0.0	0	0	0	0	0	98	2	0	0
70	66	ARCPLUS GROUP PLC, Shanghai, China†	AE	507.4	55.0	100	0	0	0	0	0	0	0	0
71	78	EXP US SERVICES INC., Chicago, Ill., U.S.A.	E	470.0	285.3	40	0	2	3	4	9	15	0	6
72	62	SARGENT & LUNDY LLC, Chicago, Ill., U.S.A.†	E	466.8	57.3	0	0	100	0	0	0	0	0	0
73	72	KHATIB & ALAMI, Beirut, Lebanon†	EA	455.9	441.0	51	0	3	13	6	2	15	0	0
74	60	CDI CORP., Philadelphia, Pa., U.S.A.†	EA	452.3	119.5	9	10	10	0	0	58	10	0	1
75	98	JSTI GROUP, Nanjing, Jiangsu, China†	EC	447.5	105.5	1	0	1	3	16	0	76	0	0
76	105	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP., Beijing, China†	EC	440.9	219.0	0	0	0	0	0	100	0	0	0
77	74	ARTELIA, Lyon, France†	EC	431.0	145.7	41	2	3	11	5	12	23	2	0
78	73	HOK, St. Louis, Mo., U.S.A.	AE	430.0	105.9	87	0	0	0	0	0	13	0	0
79	**	TONGJI ARCHITECTURAL DESIGN (GROUP) CO. LTD., Shanghai, China†	A	426.8	1.6	76	2	0	1	2	0	15	0	1
80	96	ORIENTAL CONSULTANTS GLOBAL (ACKG LTD.), Tokyo, Japan†	EC	424.1	128.5	3	0	0	7	4	0	61	0	0
81	79	STV GROUP INC., New York, N.Y., U.S.A.†	EA	414.3	10.6	16	0	0	0	0	0	84	0	0
82	81	KIEWIT CORP., Omaha, Neb., U.S.A.†	EC	402.0	34.6	0	0	81	1	0	15	0	3	0
83	80	POWER ENGINEERS INC., Hailey, Idaho, U.S.A.	EA	398.7	20.8	0	0	89	0	0	8	0	0	3
84	76	KEPCO ENG'G & CONSTRUCTION CO. INC., Gyeongsangbuk-do, S. Korea	AE	388.0	106.2	0	0	99	0	0	0	0	1	0
85	90	PACIFIC CONSULTANTS CO. LTD., Tokyo, Japan	E	383.0	13.0	4	0	0	17	9	1	50	0	1
86	82	HKS, Dallas, Texas, U.S.A.	A	376.7	38.6	100	0	0	0	0	0	0	0	0
87	84	DEWBERRY, Fairfax, Va., U.S.A.†	EA	375.0	2.8	39	0	4	15	6	0	32	1	3
88	91	BECA GROUP LTD., Auckland, New Zealand†	EA	373.2	116.8	26	10	4	9	0	8	34	0	1
89	86	BROWN AND CALDWELL, Walnut Creek, Calif., U.S.A.†	E	362.0	0.0	0	0	0	22	52	0	0	26	0
90	**	IBI GROUP, Westerville, Ohio, U.S.A.†	AE	358.3	238.8	67	9	2	2	2	0	15	0	0
91	**	BEIJING URBAN CONSTRUCTION GROUP CO. LTD., Beijing, China†	EC	352.9	0.0	2	0	0	0	0	0	98	0	0
92	94	GANNETT FLEMING, Camp Hill, Pa., U.S.A.	EA	351.5	36.2	4	0	6	13	4	3	68	3	0
93	83	SKIDMORE, OWINGS & MERRILL LLP, New York, N.Y., U.S.A.†	AE	339.9	141.0	87	0	0	0	0	0	13	0	0
94	89	ASSYSTEM, Paris, France†	EC	328.0	108.0	8	3	69	1	0	8	5	3	2
95	**	SAIPEM SPA, San Donato Milanese, Italy	EC	320.0	124.0	0	0	0	0	8	58	34	0	0
96	85	OPUS INTERNATIONAL CONSULTANTS LTD., Wellington, New Zealand†	E	317.9	131.3	29	0	0	6	6	6	53	0	0
97	97	FICHTNER GROUP, Stuttgart, Germany†	EC	311.0	194.7	0	2	85	6	6	0	1	0	0
98	110	SHANGHAI URBAN CONSTRUCTION (GROUP) CORP., Shanghai, China†	EC	305.8	0.0	6	0	0	11	16	0	64	0	0
99	95	AEGION CORP., Chesterfield, Mo., U.S.A.	EC	304.0	124.0	3	0	1	0	14	78	3	0	0
100	141	NV5 GLOBAL INC., Hollywood, Fla., U.S.A.†	E	301.6	16.0	44	0	19	5	2	2	20	8	1

RANK 2017	RANK 2016	FIRM	FIRM TYPE	2016 REVENUE		GENERAL BUILDING	MANUFACTURING	POWER	WATER SUPPLY	SEWER / WASTE	INDUS. / PETROLEUM	TRANSPORTATION	HAZARDOUS WASTE	TELECOM
				TOTAL \$ MIL.	INT'L \$ MIL.									
101	103	SETEC, Paris, France†	EC	289.5	63.4	12	10	1	7	4	0	64	0	2
102	93	KLEINFELDER, San Diego, Calif., U.S.A.†	EA	284.0	35.0	10	2	12	9	16	26	21	2	1
103	**	CHINA CHENGDA ENGINEERING CO. LTD., Chengdu, Sichuan, China	EC	281.9	141.3	0	0	47	0	0	53	0	0	0
104	104	GEOSYNTEC CONSULTANTS INC., Atlanta, Ga., U.S.A.†	E	276.4	36.1	0	0	12	4	19	9	2	52	0
105	**	ENGINEERING FOR PETROLEUM & PROCESS INDUS. "ENPPI", Cairo, Egypt†	EC	271.5	9.0	0	0	0	0	0	100	0	0	0
106	112	GREENMAN-PEDERSEN INC. (GPI), Babylon, N.Y., U.S.A.	E	270.2	0.0	9	0	3	1	1	1	81	0	0
107	**	WL MEINHARDT GROUP PTY. LTD., Melbourne, Victoria, Australia†	EC	269.5	246.2	69	4	0	1	7	1	15	0	2
108	**	CCDI GROUP, Shanghai, China	AE	264.0	30.6	0	0	0	0	0	0	0	0	0
109	121	DOHWA ENGINEERING CO. LTD., Seoul, S. Korea	EC	259.8	64.1	2	0	17	20	15	0	25	0	0
110	101	ENERCON SERVICES INC., Kennesaw, Ga., U.S.A.	EA	251.5	10.0	0	0	98	0	0	2	0	0	0
111	107	TECNICA Y PROYECTOS SA (TYPESA), Madrid, Spain†	EA	249.0	215.0	18	0	8	13	7	0	50	0	0
112	127	CAROLLO ENGINEERS INC., Walnut Creek, Calif., U.S.A.	E	247.6	0.0	0	0	0	61	39	0	0	0	0
113	118	LANGAN ENG'G, ENVIRO., SVYG. & LANDS. ARCH., Parsippany, N.J., U.S.A.†	E	245.0	10.1	47	0	5	0	0	10	10	29	0
114	114	IDOM, Bilbao, Vizcaya, Spain	EA	244.0	195.2	10	4	29	2	3	22	27	0	3
115	116	CHA CONSULTING INC., Albany, N.Y., U.S.A.†	EA	241.0	12.9	28	25	13	1	4	6	21	2	0
116	117	THORNTON TOMASETTI INC., New York, N.Y., U.S.A.	EA	240.0	48.3	84	0	0	0	0	0	14	0	1
117	122	SMITHGROUPJJR, Detroit, Mich., U.S.A.	AE	235.9	5.4	100	0	0	0	0	0	0	0	0
118	131	JOHNSON, MIRMIRAN & THOMPSON INC., Hunt Valley, Md., U.S.A.	EA	234.5	0.0	7	0	0	0	5	0	88	0	0
119	109	GULF INTERSTATE ENGINEERING CO., Houston, Texas, U.S.A.†	EC	233.7	1.5	0	0	0	0	0	100	0	0	0
120	119	CHINA HUANQIU CONTRACTING & ENGINEERING CORP. LTD., Beijing, China†	EC	231.0	34.9	0	0	0	0	0	100	0	0	0
121	**	CHINA ALUMINUM INTERNATIONAL ENGINEERING CORP., Beijing, China†	EA	231.0	56.8	22	0	0	11	1	51	0	0	0
122	124	INGEROP, Rueil-Malmaison, France†	EC	228.3	49.2	28	18	0	3	0	0	51	0	0
123	113	ILF CONSULTING ENGINEERS, Rum/Innsbruck, Austria†	EC	223.3	187.1	4	0	11	18	3	40	21	0	0
124	115	CHODAI GROUP, Tokyo, Japan†	EC	223.1	33.5	4	0	4	0	2	0	81	0	0
125	140	HAZEN AND SAWYER, New York, N.Y., U.S.A.	E	218.0	5.6	0	0	0	31	69	0	0	0	0
126	147	CTCI CORP., Taipei, Taiwan†	EC	217.6	139.8	1	1	14	0	1	79	5	1	0
127	125	INGENIERIA Y ECONOMIA DEL TRANSPORTE SME MP SA, Madrid, Spain†	EC	217.0	57.7	0	0	0	0	0	0	100	0	0
128	106	ZACHRY GROUP, San Antonio, Texas, U.S.A.†	EC	216.4	0.3	0	0	85	0	0	14	0	0	0
129	133	PERKINS EASTMAN, New York, N.Y., U.S.A.†	A	215.0	60.2	100	0	0	0	0	0	0	0	0
130	128	TRANSYSTEMS, Kansas City, Mo., U.S.A.	E	212.5	0.0	0	0	0	0	0	0	100	0	0
131	138	RS&H INC., Jacksonville, Fla., U.S.A.†	EA	210.0	0.0	7	9	0	0	0	0	84	0	0
132	136	VHB, Watertown, Mass., U.S.A.	E	209.6	0.0	26	0	10	0	1	0	58	1	1
133	**	WILLDAN GROUP INC., Anaheim, Calif., U.S.A.	E	209.0	0.0	50	0	17	0	0	0	18	0	7
134	143	HARGROVE ENGINEERS + CONSTRUCTORS, Mobile, Ala., U.S.A.†	E	207.2	0.0	0	1	12	0	0	87	0	0	0
135	**	WOODARD & CURRAN, Portland, Maine, U.S.A.	ENV	205.5	0.0	2	2	5	18	38	12	1	21	0
136	145	KCI TECHNOLOGIES INC., Sparks, Md., U.S.A.†	EC	205.0	0.0	14	0	8	5	5	0	48	1	16
137	132	PM GROUP, Dublin, Ireland†	EA	203.7	104.4	2	6	3	0	0	80	0	0	5
138	135	RUMMEL, KLEPPER & KAHL LLP, Baltimore, Md., U.S.A.	E	199.1	0.0	2	0	0	3	9	2	85	0	0
139	111	TEBODIN BV, The Hague, The Netherlands	E	199.0	107.0	5	10	8	1	1	74	0	0	0
140	130	DORSCH HOLDING GMBH, Frankfurt, Germany†	EC	198.4	194.7	5	0	8	38	21	0	25	0	1
141	**	CORGAN, Dallas, Texas, U.S.A.	A	198.3	1.8	35	0	0	0	0	0	45	0	20
142	**	FIRST SURVEY & DESIGN INSTITUTE OF RAILWAY, Xi'an, Shaanxi, China†	EC	195.8	0.0	0	0	0	0	0	0	100	0	0
143	**	AEDAS, Hong Kong, China	A	193.4	189.3	82	0	0	0	0	0	18	0	0
144	139	STANLEY CONSULTANTS INC., Muscatine, Iowa, U.S.A.†	EA	192.6	41.8	9	0	43	8	6	0	34	0	0
145	108	CHIYODA CORP., Yokohama, Kanagawa, Japan†	EC	189.1	142.9	0	1	6	0	0	68	0	0	0
146	148	KOREA ENGINEERING CONSULTANTS CORP., Seoul, S. Korea	EC	187.9	20.1	0	0	24	19	21	0	19	0	0
147	120	CANNONDESIGN, Grand Island, N.Y., U.S.A.	AE	185.5	20.8	100	0	0	0	0	0	0	0	0
148	**	POPULOUS, Kansas City, Mo., U.S.A.†	A	184.7	38.7	100	0	0	0	0	0	0	0	0
149	142	AYESA, Sevilla, Spain	EC	184.0	124.6	5	0	4	21	6	12	44	0	4
150	**	ECS, Chantilly, Va., U.S.A.†	E	183.6	1.7	28	7	4	2	15	2	10	17	1

RANK 2017	RANK 2016	FIRM	2016 REVENUE \$ MIL.		2016 NEW CONTRACTS \$ MIL	GENERAL BUILDING	MANUFACTURING	POWER	WATER SUPPLY	SEWER / WASTE	INDUS. / PETROLEUM	TRANSPORTATION	HAZARDOUS WASTE	TELECOM
			INT'L	TOTAL										
1	1	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS SA, Madrid, Spain†	32,598.2	37,333.9	32,598.2	34	1	6	2	0	11	30	0	4
2	2	HOCHTIEF AKTIENGESSELLSCHAFT, Essen, NRW, Germany†	22,927.0	24,022.0	25,791.0	46	1	0	1	0	5	25	0	5
3	3	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD., Beijing, China†	21,201.0	70,780.0	36,784.0	6	12	0	2	0	0	79	0	0
4	4	VINCI, Rueil Malmaison, France†	17,367.3	42,667.9	16,269.6	6	0	15	2	0	6	46	1	10
5	5	BECHTEL, San Francisco, Calif., U.S.A.†	16,406.0	24,251.0	4,437.0	0	0	0	1	0	40	59	0	0
6	9	BOUYGUES, Paris, France†	12,257.0	26,354.0	13,107.0	27	0	8	1	0	1	56	2	0
7	7	TECHNIP, Paris, France†	12,113.0	12,230.0	5,484.0	0	0	0	0	0	100	0	0	0
8	10	SKANSKA AB, Stockholm, Sweden†	12,110.0	15,414.0	15,680.0	49	2	5	0	3	4	34	0	1
9	8	STRABAG, Vienna, Austria†	12,008.7	14,220.9	13,202.0	36	0	0	4	3	6	50	0	0
10	11	POWER CONSTRUCTION CORP. OF CHINA, Beijing, China†	11,595.9	43,324.7	27,751.8	9	0	57	7	2	3	19	0	0
11	14	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD., Beijing, China	10,358.8	124,656.7	17,163.5	63	0	1	1	0	1	34	0	0
12	12	SAIPEM SPA, San Donato Milanese, Italy	8,949.0	9,121.0	324.0	0	0	0	0	0	99	1	0	0
13	16	FERROVIAL, Madrid, Spain	8,943.0	11,834.9	14,939.1	15	0	6	2	13	0	54	0	0
14	13	HYUNDAI ENGINEERING & CONSTRUCTION CO. LTD., Seoul, S. Korea†	8,664.0	17,694.5	7,307.4	11	5	33	0	1	36	14	0	0
15	19	PETROFAC LTD., Jersey, Channel Islands, U.K.†	7,070.0	7,070.0	1,265.0	0	0	0	0	0	100	0	0	0
16	15	FLUOR CORP., Irving, Texas, U.S.A.†	6,952.0	15,185.9	9,700.0	11	1	2	0	0	80	1	3	1
17	27	CIMIC GROUP LTD., North Sydney, NSW, Australia†	6,730.6	18,180.6	8,073.6	31	0	0	4	0	1	44	0	0
18	25	SALINI IMPREGILO SPA, Milan, Italy	6,249.3	6,779.3	8,693.4	4	0	0	20	3	0	61	0	0
19	21	CONSOLIDATED CONTRACTORS GROUP, Athens, Attica, Greece†	6,124.7	6,124.7	3,499.0	19	0	1	0	0	49	30	0	0
20	17	SAMSUNG C&T, Seongnam-si, S. Korea	5,900.0	11,062.0	4,454.0	11	19	37	0	0	9	22	0	0
21	20	CHINA RAILWAY GROUP LTD., Beijing, China†	5,565.6	114,226.0	15,398.4	26	2	0	0	0	0	53	0	0
22	26	TECNICAS REUNIDAS, Madrid, Spain†	5,024.3	5,128.1	1,039.0	0	0	8	1	0	91	1	0	0
23	55	CHINA RAILWAY CONSTRUCTION CORP. LTD., Beijing, China†	4,945.0	94,748.0	14,035.0	32	0	0	1	0	1	63	0	0
24	24	ROYAL BAM GROUP NV, Bunnik, Utrecht, The Netherlands†	4,907.0	7,696.0	NA	61	0	0	0	0	0	39	0	0
25	18	JGC CORP., Yokohama, Japan†	4,395.0	5,020.0	2,326.0	0	0	0	0	0	100	0	0	0
26	30	CHIYODA CORP., Yokohama, Kanagawa, Japan†	4,325.6	5,192.4	1,972.4	0	0	2	0	0	94	3	0	0
27	**	CHINA ENERGY ENGINEERING CORP. LTD., Beijing, China†	4,297.0	24,973.1	17,849.2	5	0	81	6	4	1	4	0	0
28	22	GS ENGINEERING & CONSTRUCTION, Seoul, S. Korea†	4,295.0	9,468.6	1,799.3	5	4	2	0	1	71	16	0	0
29	6	ODEBRECHT ENGENHARIA E CONSTRUCAO SA, Sao Paulo, SP, Brazil†	4,167.8	5,397.6	1,172.0	4	0	29	13	1	13	41	0	0
30	33	OBAYASHI CORP., Tokyo, Japan†	4,009.0	16,270.0	5,595.0	0	0	8	27	7	0	58	0	0
31	23	CHINA NATIONAL MACHINERY INDUSTRY CORP., Beijing, China†	3,992.2	5,760.2	9,434.6	11	1	48	11	1	8	17	0	0
32	34	ORASCOM CONSTRUCTION LTD., Dubai, U.A.E.†	3,975.0	4,033.0	3,692.9	32	0	18	1	0	27	15	0	0
33	37	LARSEN & TOUBRO LTD., Mumbai, Maharashtra, India†	3,974.8	12,707.6	5,044.5	3	0	37	0	1	26	32	0	0
34	29	SAMSUNG ENGINEERING CO. LTD., Seoul, S. Korea†	3,565.8	5,802.5	1,349.0	0	17	3	0	2	77	0	0	0
35	39	SK E&C, Seoul, S. Korea†	3,557.7	6,453.9	254.1	0	0	8	6	0	70	16	0	0
36	31	PCL CONSTRUCTION ENTERPRISES INC., Denver, Colo., U.S.A.†	3,533.6	6,012.3	4,181.6	63	0	4	0	2	26	4	0	0
37	28	OHL SA (OBRASCON HUARTE LAIN SA), Madrid, Spain†	3,375.7	4,248.9	3,333.3	16	0	0	2	0	6	76	0	0
38	44	RENAISSANCE CONSTRUCTION, Ankara, Turkey†	3,257.3	3,932.7	2,149.5	39	2	12	2	0	23	17	0	0
39	57	TOYO ENGINEERING CORP., Chiba, Japan†	3,216.9	3,849.7	843.2	0	0	14	0	0	85	0	0	0
40	43	KAJIMA CORP., Tokyo, Japan†	3,202.2	14,301.8	2,462.5	74	17	1	0	0	3	5	0	0
41	83	FCC SA, Madrid, Spain†	3,190.8	6,595.9	2,827.9	2	0	0	9	40	0	35	2	0
42	40	POLIMEKS INSAAT TAAHHUT VE SAN. TIC. AS, Istanbul, Turkey	2,921.5	2,921.5	NA	51	0	0	0	0	0	38	0	0
43	41	SNC-LAVALIN INC., Montreal, Quebec, Canada†	2,865.2	4,371.7	3,068.9	6	0	14	0	0	76	3	0	0
44	52	JAN DE NUL GROUP (SOFIDRA SA), Capellen, Luxemburg†	2,797.0	2,809.0	2,820.0	7	0	0	0	3	11	33	0	0
45	35	NCC AB, Solna, Sweden	2,775.0	6,184.0	2,474.0	0	0	0	0	0	0	0	0	0
46	51	DAEWOO ENGINEERING & CONSTRUCTION CO. LTD., Seoul, S. Korea	2,764.4	9,072.9	932.0	8	0	29	3	2	35	23	0	0
47	53	ASTALDI, Rome, Italy†	2,656.9	3,139.4	3,672.7	10	0	17	0	0	0	70	0	0
48	49	CHINA METALLURGICAL GROUP CORP., Beijing, China†	2,519.0	29,402.0	11,701.2	37	0	3	0	1	47	2	0	1
49	36	CB&I LLC, The Woodlands, Texas, U.S.A.†	2,506.3	8,462.5	2,606.0	0	0	0	0	0	99	0	0	0
50	67	CHINA NATIONAL CHEMICAL ENGINEERING GROUP CORP., Beijing, China†	2,472.3	7,759.8	2,535.4	1	0	46	3	0	46	0	0	0

RANK 2017	RANK 2016	FIRM	2016 REVENUE \$ MIL.		2016 NEW CONTRACTS \$ MIL.	GENERAL BUILDING	MANUFACTURING	POWER	WATER SUPPLY	SEWER / WASTE	INDUS. / PETROLEUM	TRANSPORTATION	HAZARDOUS WASTE	TELECOM
			INT'L	TOTAL										
51	63	ACCIONA INFRAESTRUCTURAS, Madrid, Spain†	2,287.6	3,785.5	4,261.6	11	3	19	21	2	0	44	0	0
52	47	ROYAL BOSKALIS WESTMINSTER NV, Papendrecht, The Netherlands†	2,253.0	2,861.0	2,202.0	0	0	23	0	0	41	15	0	0
53	75	SINOPEC ENGINEERING (GROUP) CO. LTD., Beijing, China†	2,180.5	5,928.0	1,561.3	0	0	0	0	0	100	0	0	0
54	42	DAELIM INDUSTRIAL CO. LTD., Seoul, S. Korea†	2,161.4	7,094.9	1,855.4	0	8	33	2	0	42	13	0	2
55	66	PORR AG, Vienna, Austria	2,104.0	4,131.0	2,360.0	33	0	0	0	0	0	67	0	0
56	58	CITIC CONSTRUCTION CO. LTD., Beijing, China	2,005.2	2,062.1	1,574.0	71	10	1	5	0	2	7	0	0
57	56	DANIELI & C. OFFICINE MECCANICHE SPA, Friuli Venezia Giulia, Italy†	1,989.0	2,135.0	1,800.0	0	0	0	0	0	100	0	0	0
58	59	MOTA-ENGIL, Porto, Portugal†	1,901.0	2,554.0	2,460.0	22	0	2	8	4	0	63	0	1
59	87	MAIRE TECNIMONT GROUP, Milan, Italy†	1,766.7	2,177.2	1,584.4	0	0	10	0	0	89	1	0	0
60	69	JOANNOU & PARASKEVAIDES GROUP OF COS., Guemsey, Channel Islands, U.K.	1,747.3	1,747.3	2,351.0	41	0	5	0	1	2	52	0	0
61	72	BESIX, Brussels, Belgium†	1,732.5	2,611.3	1,431.6	56	0	0	11	1	0	32	0	0
62	70	SACYR, Madrid, Spain†	1,679.0	3,264.0	1,304.0	8	0	2	5	0	13	71	0	0
63	76	SHAPOORJI PALLONJI AND CO. PVT. LTD., Mumbai, Maharashtra, India†	1,654.5	3,812.2	1,500.0	88	0	0	0	0	0	12	0	0
64	77	QINGJIAN GROUP CO. LTD., Qingdao, Shandong, China†	1,640.4	7,636.2	406.7	96	0	0	0	0	0	3	0	0
65	54	JACOBS, Dallas, Texas, U.S.A.	1,610.1	3,377.7	1,209.4	2	2	3	1	0	90	3	0	0
66	80	PENTA-OCEAN CONSTRUCTION CO. LTD., Tokyo, Japan†	1,527.7	4,002.1	858.3	37	1	0	0	5	2	55	0	0
67	88	HARBIN ELECTRIC INTERNATIONAL CO. LTD., Harbin, Heilongjiang, China	1,502.4	1,502.4	2,388.7	0	0	100	0	0	0	0	0	0
68	50	POSCO ENGINEERING & CONSTRUCTION, Incheon, S. Korea†	1,483.6	5,822.9	NA	14	7	22	0	2	42	12	0	0
69	71	WORLEYPARSONS, North Sydney, NSW, Australia	1,383.0	1,507.0	296.0	0	0	0	0	0	99	0	1	0
70	64	KIEWIT CORP., Omaha, Neb., U.S.A.†	1,362.2	7,861.9	1,021.2	0	0	9	0	0	43	36	0	0
71	65	VAN OORD DREDGING & MARINE CONTRACTORS, Rotterdam, The Netherlands†	1,362.0	1,798.6	2,766.5	0	0	5	0	0	10	85	0	0
72	79	ENKA INSAAT VE SANAYI AS, Istanbul, Turkey†	1,337.4	1,452.7	880.4	17	0	30	0	0	40	13	0	0
73	84	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP, Beijing, China†	1,262.7	2,931.4	2,250.8	0	0	0	0	0	100	0	0	0
74	73	SHIMIZU CORP., Tokyo, Japan†	1,259.4	12,567.5	672.7	30	34	0	0	0	19	15	0	0
75	78	TAKENAKA CORP., Osaka, Japan†	1,255.0	9,486.0	738.0	22	42	0	0	0	0	35	0	0
76	81	TAV CONSTRUCTION, Istanbul, Turkey	1,253.0	1,481.7	1,015.6	15	0	0	0	0	0	85	0	0
77	62	KBR, Houston, Texas, U.S.A.†	1,200.0	2,352.0	NA	0	0	0	0	0	100	0	0	0
78	93	YAPI MERKEZI INSAAT VE SANAYI AS, Istanbul, Turkey†	1,170.1	1,237.3	233.0	0	0	0	0	1	0	99	0	0
79	**	ALARKO CONTRACTING GROUP, Istanbul, Turkey	1,071.9	2,730.9	1,037.0	0	0	0	0	3	0	97	0	0
80	85	HANWHA ENGINEERING & CONSTRUCTION CORP., Seoul, S. Korea†	1,017.0	2,697.4	672.0	26	0	10	0	0	54	10	0	0
81	82	AECOM, Los Angeles, Calif., U.S.A.†	982.7	8,322.2	1,509.4	39	2	1	0	0	45	12	0	0
82	90	ARABIAN CONSTRUCTION COMPANY SAL, Beirut, Lebanon†	970.5	1,121.5	1,252.4	85	0	0	2	0	8	0	0	0
83	74	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE), Beijing, China†	935.3	935.3	1,820.5	4	0	42	30	0	3	21	0	0
84	**	TBEA CO. LTD., Changji, Xinjiang, China†	912.7	4,565.5	4,319.8	0	16	84	0	0	0	0	0	0
85	135	LIMAK INSAAT SANAYI VE TICARET AS, Ankara, Turkey	908.0	1,624.0	400.0	5	0	13	0	0	0	82	0	0
86	86	ANT YAPI SANAYI VE TICARET CJSC, Istanbul, Turkey†	889.4	990.2	439.0	100	0	0	0	0	0	0	0	0
87	94	SOCIETA ITALIANA PER CONDOTTE SPA, Rome, Italy†	889.3	1,455.7	643.1	14	0	0	2	0	0	79	0	0
88	68	CHINA PETROLEUM PIPELINE ENG'G CO. LTD., Landfang, Hebei, China†	881.0	2,344.0	2,003.9	0	0	0	0	0	99	0	0	0
89	122	RIZZANI DE ECCHER, Pozzuolo del Friuli, Italy†	869.9	1,026.1	476.2	38	0	0	1	0	0	53	0	0
90	103	CHINA JIANGXI CORP FOR INT'L ECON. & TECH. COOP., Nanchang, China†	830.3	935.7	1,486.1	43	0	10	11	1	0	34	0	0
91	132	CONTRACTING AND TRADING CO. "C.A.T.", Beirut, Lebanon†	824.8	825.5	520.0	1	0	0	6	0	87	6	0	0
92	137	GAP INSAAT YATIRIM VE DIS TICARET AS, Istanbul, Turkey	822.6	847.2	NA	31	0	0	0	0	15	54	0	0
93	128	CHINA ELECTRIC POWER EQUIPMENT & TECHN. CO. LTD., Beijing, China†	810.1	1,028.8	115.4	0	0	100	0	0	0	0	0	0
94	117	ZHEJIANG CONSTRUCTION INVESTMENT GRP., Hangzhou, Zhejiang, China†	799.6	10,808.3	920.9	84	0	0	0	1	0	1	0	15
95	111	ZHONGMEI ENGINEERING GROUP LTD., Nanchang, Jiangxi, China†	797.4	797.4	691.2	22	0	1	19	0	0	58	0	0
96	109	CHINA ZHONGYUAN ENGINEERING CORP., Beijing, China	797.3	797.3	NA	0	0	100	0	0	0	0	0	0
97	99	BONATTI SPA, Parma, Emilia Romagna, Italy†	796.0	846.0	701.0	0	0	0	0	0	100	0	0	0
98	**	UNIVERSAL ACARSAN HEALTHCARE & HOSPITAL CONSTR., Gaziantep, Turkey	790.0	790.0	NA	100	0	0	0	0	0	0	0	0
99	100	CTCI CORP., Taipei, Taiwan†	787.0	2,104.1	699.3	0	7	3	0	6	82	2	0	0
100	91	THE ARAB CONTRACTORS CO., Cairo, Egypt†	765.0	2,286.0	1,000.0	34	0	0	1	4	0	60	0	0

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**TECNICAS REUNIDAS AND
DAEWOO E&C** on Aug. 5 were
selected to build a 230,000-bbl-per-
day refinery at Al Wusta, Oman.

RANK 2017	RANK 2016	FIRM	2016 REVENUE \$ MIL.		2016 NEW CONTRACTS \$ MIL	GENERAL BUILDING	MANUFACTURING	POWER	WATER SUPPLY	SEWER / WASTE	INDUS. / PETROLEUM	TRANSPORTATION	HAZARDOUS WASTE	TELECOM
			INT'L	TOTAL										
101	110	BL HARBERT INTERNATIONAL, Birmingham, Ala., U.S.A.	763.2	1,253.9	870.7	100	0	0	0	0	0	0	0	0
102	97	CGCOC GROUP CO. LTD., Beijing, China†	742.8	748.4	1,197.1	18	0	0	38	2	0	41	0	0
103	112	NORINCO INTERNATIONAL COOPERATION LTD., Beijing, China	741.0	758.3	1,502.4	4	0	49	0	0	1	33	0	0
104	92	CHINA GENERAL TECHNOLOGY (GROUP) HOLDING CO. LTD., Beijing, China†	727.1	2,799.1	2,845.8	0	15	69	2	0	0	15	0	0
105	98	NATA CONSTRUCTION TOURISM TRADE AND INDUSTRY CO., Ankara, Turkey†	718.0	1,124.0	18.0	0	0	0	0	0	0	94	0	6
106	129	CHINA NONFERROUS METAL IND.'S FOREIGN ENG'G & CONSTR., Beijing, China	694.6	762.3	1,657.9	0	0	0	0	0	100	0	0	0
107	**	MCCONNELL DOWELL, Hawthorn, Victoria, Australia	694.0	1,262.0	636.0	9	0	2	17	0	23	37	0	0
108	116	XPCC CONSTRUCTION & ENGINEERING (GROUP) CO., Urumqi, Xinjiang, China†	664.8	4,268.5	NA	64	0	0	1	0	6	29	0	0
109	133	MAPA INSAAT VE TICARET AS, Ankara, Turkey	662.6	1,124.6	120.7	34	0	0	21	0	0	45	0	0
110	101	CALIK ENERJI SAN. VE TIC. AS, Ankara, Turkey†	643.0	643.0	714.5	0	0	100	0	0	0	0	0	0
111	106	BAUER AG, Schrobenhausen, Bavaria, Germany†	633.8	1,022.3	716.7	29	3	18	9	3	11	23	0	4
112	118	TEKFEN CONSTRUCTION AND INSTALLATION CO. INC., Istanbul, Turkey†	623.0	935.0	2,493.0	7	0	0	0	0	9	32	52	0
113	108	C.M.C. DI RAVENNA SOCIETE COOPERATIVA, Ravenna, Italy, Italy†	622.9	1,136.5	1,016.8	1	0	19	29	0	0	43	0	0
114	123	ATLAS TEXAS CONSTRUCTION AND TRADING INC., Katy, Texas, U.S.A.†	622.0	647.0	435.6	100	0	0	0	0	0	0	0	0
115	95	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD., Nanjing, Jiangsu, China†	621.5	1,875.6	815.4	85	0	0	5	2	0	8	0	0
116	145	ANHUI FOREIGN ECONOMIC CONSTRUCTION (GROUP) CO. LTD., Anhui, China†	601.4	707.2	367.5	60	0	0	1	0	0	39	0	0
117	105	SHANGHAI CONSTRUCTION GROUP, Shanghai, China	600.5	27,853.4	582.3	43	0	4	0	4	3	46	0	0
118	**	STANTEC INC., Edmonton, Alberta, Canada†	569.0	569.0	341.3	0	0	7	33	59	0	0	0	0
119	113	COMSA CORP., Barcelona, Catalonia, Spain	563.0	1,137.0	NA	0	0	0	0	0	0	87	0	0
120	147	DIA HOLDING FZCO, Dubai, U.A.E.†	555.8	555.8	NA	100	0	0	0	0	0	0	0	0
121	178	IMPRESA PIZZAROTTI & C. SPA, Parma, Italy†	554.2	863.8	1,119.2	61	0	0	2	0	0	37	0	0
122	61	GRUPO ISOLUX CORSAN SA, Madrid, Spain†	553.9	797.8	782.4	0	0	0	0	1	35	64	0	0
123	143	SICIM SPA, Busseto (PR), Italy†	538.0	541.0	700.0	0	0	0	0	0	100	0	0	0
124	125	SINOPEC ZHONGYUAN PETROLEUM ENGINEERING LTD., Puyang City, China†	535.9	982.2	348.3	0	0	0	0	0	100	0	0	0
125	157	SEMBOL ULUSLARARASI YATIRIM TARIM PEYSAJ INSAAT, Istanbul, Turkey	521.0	521.0	NA	100	0	0	0	0	0	0	0	0
126	124	CHINA GEO-ENGINEERING CORP., Beijing, China†	517.3	703.8	679.9	15	0	2	33	1	0	35	0	0
127	131	ZHONGDING INTERNATIONAL ENG'G CO. LTD., Nanching, Jiangxi, China†	514.6	514.6	262.0	68	0	19	0	0	10	1	0	0
128	146	DOGUS INSAAT VE TICARET AS, Istanbul, Turkey†	512.4	732.0	383.0	0	0	0	0	0	0	100	0	0
129	160	SINOSTEEL EQUIPMENT & ENGINEERING CO. LTD., Beijing, China	492.3	1,006.0	1,072.1	0	0	0	0	0	100	0	0	0
130	141	KUZU GROUP, Istanbul, Turkey	475.0	592.2	145.0	100	0	0	0	0	0	0	0	0
131	168	CHINA WU YI CO. LTD., Fuzhou, Fujian, China†	470.0	1,862.0	485.1	31	0	0	3	0	11	53	0	1
132	107	DONGFANG ELECTRIC CORP., Chengdu, Sichuan, China†	464.7	5,291.8	278.5	0	0	100	0	0	0	0	0	0
133	119	CHINA HUANQIU CONTRACTING & ENGINEERING CORP. LTD., Beijing, China†	461.9	1,596.6	3,516.8	0	0	0	0	0	100	0	0	0
134	121	YUKSEL INSAAT CO. INC., Ankara, Turkey†	455.2	596.9	542.4	41	0	0	19	0	0	40	0	0
135	162	TAISEI CORP., Tokyo, Japan†	454.0	12,135.0	44.0	17	0	1	0	0	0	47	0	0
136	134	GHELLA SPA, Rome, Italy†	451.0	687.0	246.0	0	0	14	1	4	0	77	0	0
137	142	WALBRIDGE, Detroit, Mich., U.S.A.†	451.0	1,450.6	179.0	0	100	0	0	0	0	0	0	0
138	96	ANDRADE GUTIERREZ ENGENHARIA, Belo Horizonte, Minas Gerais, Brazil	448.0	1,253.0	33.0	14	0	0	9	0	37	40	0	0
139	167	CHINA SHANDONG INTERNATIONAL ECO. & TECHN. COOP. GRP., Jinan, China	437.1	437.1	315.3	30	0	0	0	0	27	44	0	0
140	151	ONUR TAAHHUT TASIMACILIK INSAAT TICARET VE SANAYI, Ankara, Turkey†	433.9	477.9	240.9	0	0	0	0	0	9	55	0	0
141	249	SHANGHAI ELECTRIC GROUP CO. LTD., Shanghai, China†	432.2	1,129.6	2,737.9	0	0	100	0	0	0	0	0	0
142	115	BEIJING CONSTRUCTION ENGINEERING GROUP CO. LTD., Beijing, China†	429.9	7,178.9	645.5	95	0	0	1	0	0	3	0	0
143	150	JIANGSU NANTONG SANJIAN CONSTR. GROUP CO., Haimen, Jiangsu, China†	428.8	8,370.0	NA	100	0	0	0	0	0	0	0	0
144	165	PUNJ LLOYD LTD., Gurgaon, Haryana, India†	428.0	698.0	48.0	0	0	0	0	0	100	0	0	0
145	140	PER AARSLEFF A/S, Viby J, Denmark†	425.9	1,560.7	421.7	0	49	6	0	1	0	44	0	0
146	183	YANJIAN GROUP CO. LTD., Yantai, Shandong, China†	419.7	1,717.0	382.6	63	10	6	0	0	9	8	0	0
147	127	ANHUI CONSTRUCTION ENGINEERING GROUP CO. LTD., Hefei, Anhui, China†	416.4	7,680.0	46.9	76	0	0	3	5	0	16	0	0
148	188	CADDELL CONSTRUCTION CO. (DE) LLC, Montgomery, Ala., U.S.A.	414.7	576.3	603.8	100	0	0	0	0	0	0	0	0
149	153	SHENYANG YUANDA ALUMINUM INDUS. ENG'G CO. LTD., Shenyang, China†	412.8	1,102.7	528.1	97	0	0	0	0	0	3	0	0
150	130	CHINA HENAN INT'L COOP. GROUP CO. LTD., Zhengzhou, Henan, China	404.8	404.8	1,054.6	0	0	1	6	9	0	84	0	0

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			INT'L	TOTAL										
151	148	NUROL CONSTRUCTION AND TRADING CO. INC. , Istanbul, Turkey†	392.9	1,128.4	14.3	71	0	0	4	0	0	25	0	0
152	156	SENER INGENIERIA Y SISTEMAS SA , Las Arenas (Getxo), Vizcaya, Spain†	392.1	406.4	504.6	0	17	65	0	0	18	0	0	0
153	144	SHANGHAI URBAN CONSTRUCTION (GROUP) CORP. , Shanghai, China†	388.4	5,420.1	805.3	0	10	0	0	0	0	90	0	0
154	**	GULSAN CONSTRUCTION , Ankara, Turkey	380.8	849.5	NA	0	0	0	0	0	0	100	0	0
155	**	GRUPO EMPRESARIAL SAN JOSE SA , Madrid, Spain†	380.7	646.3	421.9	86	3	0	0	0	0	11	0	0
156	138	ILK CONSTRUCTION , Istanbul, Turkey	376.8	376.8	27.7	27	0	0	0	0	66	7	0	0
157	149	BLACK & VEATCH , Overland Park, Kan., U.S.A.†	363.3	1,637.1	74.1	0	0	36	5	31	28	0	0	0
158	173	ESER CONTRACTING , Ankara, Turkey	360.8	363.8	NA	37	0	0	4	2	0	57	0	0
159	186	YUNNAN CONSTRUCTION & INVEST. HOLDING GROUP CO. , Kunming, China†	355.7	355.7	308.5	82	0	3	1	0	5	8	0	0
160	176	SINOPEC OILFIELD SERVICE SHENGLI CORP. , Dongying, Shandong, China	344.3	1,221.1	189.0	0	0	0	0	0	100	0	0	0
161	139	GILBANE BUILDING CO. , Providence, R.I., U.S.A.	343.2	4,677.1	805.5	41	0	0	0	0	51	2	6	0
162	155	GAMA , Ankara, Turkey†	337.9	803.0	385.2	1	0	75	2	0	21	0	0	0
163	179	CHINA NATIONAL COMPLETE PLANT IMP. & EXP. CORP. , Beijing, China†	335.2	335.2	713.4	27	0	0	0	0	73	0	0	0
164	114	METKA , Marousi, Greece†	333.9	464.2	249.2	0	0	98	0	0	0	0	0	0
165	158	STFA CONSTRUCTION GROUP , Istanbul, Turkey	333.7	359.8	481.4	0	0	0	0	1	0	92	0	0
166	**	TEPE INSAAT SANAYI AS , Ankara, Turkey†	333.5	399.0	NA	12	0	0	0	0	52	36	0	0
167	169	KAYI INSAAT SANAYI VE TICARET AS , Istanbul, Turkey†	321.3	341.3	350.0	88	0	0	0	0	12	0	0	0
168	174	ESTA INSAAT SANAYI LOJISTIK VE DIS TIC. ANONIM SIRKETI , Istanbul, Turkey	318.3	318.3	128.5	100	0	0	0	0	0	0	0	0
169	**	WOOD GROUP , Houston, Texas, U.S.A.†	317.4	1,499.6	289.5	0	0	0	0	0	99	0	0	0
170	191	TTCL PUBLIC CO. LTD. , Bangkok, Thailand†	317.0	488.0	NA	0	0	11	25	0	64	0	0	0
171	**	CHINA NUCLEAR ENGINEERING CORP. LTD. , Beijing, China†	316.0	4,923.8	1,247.2	16	0	50	0	1	21	7	0	0
172	203	LOTTE ENGINEERING & CONSTRUCTION CO. LTD. , Seoul, S. Korea†	302.6	4,039.6	189.5	17	0	18	0	0	47	18	0	0
173	180	COMBINED GROUP CONTRACTING CO. (K.S.C.) , Safat, Kuwait	301.5	757.2	310.4	70	0	0	0	0	0	30	0	0
174	215	THE WALSH GROUP LTD. , Chicago, Ill., U.S.A.†	298.6	5,052.2	281.5	57	0	0	0	16	0	25	0	2
175	182	IC ICTAS INSAAT SANAYI VE TICARET AS , Istanbul, Turkey†	285.7	917.5	NA	0	0	0	0	0	0	100	0	0
176	193	ASLAN YAPI VE TICARET AS , Ankara, Turkey	273.0	275.2	85.3	100	0	0	0	0	0	0	0	0
177	**	SHANGDONG DEJIAN GROUP CO. LTD. , Dezhou City, Shandong, China	270.3	752.2	29.6	88	0	0	0	0	11	0	0	0
178	159	MOHAMMED ABDULMOHSIN AL-KHARAFI WLL , Kuwait City, Kuwait†	268.7	738.5	262.0	13	0	0	32	22	0	31	0	0
179	185	NANTONG CONSTRUCTION GROUP CO. LTD. , Nantong, Jiangsu, China†	264.2	2,414.3	41.2	91	0	0	0	0	9	0	0	0
180	171	BEIJING URBAN CONSTRUCTION GROUP CO. LTD. , Beijing, China†	263.6	9,653.0	485.1	69	0	0	0	3	2	26	0	0
181	194	CHINA DALIAN INT'L ECO. & TECH. COOP. GRP. LTD. , Dalian, Liaoning, China†	259.5	284.0	90.9	26	0	0	0	0	5	69	0	0
182	152	GYM (GRANA Y MONTERO) , Lima, Peru	254.0	1,185.0	211.0	3	0	0	0	0	38	0	0	0
183	187	KINDEN CORP. , Tokyo, Japan	253.0	4,296.0	NA	23	32	1	4	4	16	3	0	18
184	175	HAZAMA ANDO CORP. , Tokyo, Japan	249.0	3,351.0	NA	8	64	0	5	0	9	13	0	0
185	204	JIANGSU NANTONG LIUJIAN CONSTR. GROUP CO. , Rugao City, Jiangsu, China†	241.5	4,576.4	107.0	100	0	0	0	0	0	0	0	0
186	217	METAG INSAAT TICARET AS , Ankara, Turkey	235.3	270.0	64.1	4	14	0	0	0	0	82	0	0
187	206	SMK GROUP , Ankara, Turkey	235.3	285.5	64.1	4	0	0	14	0	0	82	0	0
188	190	STRUCTURE TONE , New York, N.Y., U.S.A.†	227.1	4,010.6	198.0	77	0	0	0	0	0	0	0	23
189	154	SSANGYONG ENGINEERING & CONSTRUCTION CO. LTD. , Seoul, S. Korea†	227.0	704.0	438.0	65	0	0	0	0	0	35	0	0
190	222	AE ARMA-ELECTROPANC , Istanbul, Turkey†	226.7	262.8	109.1	77	0	0	0	0	0	23	0	0
191	228	BARNARD CONSTRUCTION CO. INC. , Bozeman, Mont., U.S.A.†	220.9	617.0	NA	0	0	100	0	0	0	0	0	0
192	221	MATRIX SERVICE CO. , Tulsa, Okla., U.S.A.†	217.8	1,323.5	NA	0	0	78	0	0	22	0	0	0
193	196	CHINA GANSU INT'L CORP. FOR ECO. & TECHN. COOP. , Lanzhou, China†	216.3	261.2	372.7	41	0	2	0	0	29	28	0	0
194	195	SUMMA TURIZM YATIRIMCILIGI AS , Ankara, Turkey†	210.9	210.9	153.0	75	0	0	0	0	0	25	0	0
195	126	ALBERICI-FLINTCO , St. Louis, Mo., U.S.A.†	210.3	2,003.8	277.5	3	4	1	5	1	85	2	0	0
196	200	BAYBURT GRUP AS , Ankara, Turkey†	206.3	790.9	NA	0	0	0	0	0	0	100	0	0
197	177	ICM SPA IMPRESA COSTRUZIONI MALTAURO , Vicenza, Italy	204.0	346.9	398.8	66	0	0	4	0	0	30	0	0
198	**	CENTURI CONSTRUCTION GROUP , Phoenix, Ariz., U.S.A.†	203.9	1,139.1	166.2	0	0	0	0	5	95	0	0	0
199	192	SUMITOMO MITSUI CONSTRUCTION CO. LTD. , Tokyo, Japan†	201.4	2,724.9	170.6	5	20	0	13	0	0	61	0	0
200	231	ANEL ELEKTRIK , Istanbul, Turkey†	198.7	216.1	324.0	7	0	1	0	0	0	93	0	0

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			TOTAL	INT'L										
51	57	CONSOLIDATED CONTRACTORS GROUP, Athens, Attica, Greece	6,124.7	6,124.7	3,499.0	19	0	1	0	0	49	30	0	0
52	51	PCL CONSTRUCTION ENTERPRISES INC., Denver, Colo., U.S.A.	6,012.3	3,533.6	6,202.4	60	1	4	2	2	22	8	0	0
53	46	SINOPEC ENGINEERING (GROUP) CO. LTD., Beijing, China	5,928.0	2,180.5	4,149.7	0	0	0	0	0	100	0	0	0
54	50	POSCO ENGINEERING & CONSTRUCTION, Incheon, S. Korea	5,822.9	1,483.6	NA	50	4	13	0	2	18	11	0	0
55	60	SAMSUNG ENGINEERING CO. LTD., Seoul, S. Korea	5,802.5	3,565.8	4,135.1	0	31	2	5	10	51	0	0	0
56	53	CHINA NATIONAL MACHINERY INDUSTRY CORP., Beijing, China	5,760.2	3,992.2	15,413.3	17	9	45	8	0	8	12	0	0
57	59	TUTOR PERINI CORP., Sylmar, Calif., U.S.A.	5,711.9	170.7	3,735.1	57	0	0	0	0	0	43	0	0
58	58	THE WHITING-TURNER CONTRACTING CO., Baltimore, Md., U.S.A.	5,504.7	0.0	7,700.0	80	2	1	0	1	5	3	0	8
59	62	SHANGHAI URBAN CONSTRUCTION (GROUP) CORP., Shanghai, China	5,420.1	388.4	8,546.0	15	2	0	4	2	0	77	0	0
60	13	ODEBRECHT ENGENHARIA E CONSTRUCAO SA, Sao Paulo, SP, Brazil	5,397.6	4,167.8	1,349.5	5	0	25	10	1	12	46	0	0
61	55	DONGFANG ELECTRIC CORP., Chengdu, Sichuan, China	5,291.8	464.7	5,507.6	0	0	100	0	0	0	0	0	0
62	64	CHIYODA CORP., Yokohama, Kanagawa, Japan	5,192.4	4,325.6	3,135.6	0	1	3	0	0	92	2	0	0
63	70	TECNICAS REUNIDAS, Madrid, Spain	5,128.1	5,024.3	1,039.9	0	0	8	1	0	90	1	0	0
64	67	THE WALSH GROUP LTD., Chicago, Ill., U.S.A.	5,052.2	298.6	3,815.1	28	0	1	6	8	0	57	0	0
65	54	JGC CORP., Yokohama, Japan	5,020.0	4,395.0	3,568.0	1	0	1	0	0	94	0	4	0
66	75	CLARK GROUP, Bethesda, Md., U.S.A.	4,970.5	0.5	6,416.8	82	0	1	0	0	0	16	0	0
67	**	CHINA NUCLEAR ENGINEERING CORP. LTD., Beijing, China	4,923.8	316.0	7,522.8	44	0	36	0	1	13	2	0	0
68	72	GILBANE BUILDING CO., Providence, R.I., U.S.A.	4,677.1	343.2	7,218.7	86	0	0	0	0	7	1	1	4
69	68	BALFOUR BEATTY US, Dallas, Texas, U.S.A.	4,640.5	59.8	4,690.8	83	0	0	0	2	0	14	0	0
70	65	JIANGSU NANTONG LIUJIAN CONSTR. GROUP CO. LTD., Rugao, Jiangsu, China	4,576.4	241.5	5,448.8	54	17	5	4	1	11	2	0	7
71	**	TBEA CO. LTD., Changji, Xinjiang, China	4,565.5	912.7	7,742.6	0	49	51	0	0	0	0	0	0
72	66	SNC-LAVALIN INC., Montreal, Quebec, Canada	4,371.7	2,865.2	5,203.7	13	0	21	0	0	52	15	0	0
73	69	KINDEN CORP., Tokyo, Japan	4,296.0	253.0	NA	57	5	18	1	3	2	2	0	12
74	74	XPCC CONSTRUCTION & ENG'G (GROUP) CO. LTD., Urumqi, Xinjiang, China	4,268.5	664.8	NA	54	0	5	3	0	1	38	0	0
75	61	OHL SA (OBRASCON HUARTE LAIN SA), Madrid, Spain	4,248.9	3,375.7	3,997.0	17	0	0	2	0	6	74	0	0
76	80	PORR AG, Vienna, Austria	4,131.0	2,104.0	4,368.0	38	0	0	0	0	0	62	0	0
77	84	LOTTE ENGINEERING & CONSTRUCTION CO. LTD., Seoul, S. Korea	4,039.6	302.6	6,093.8	69	5	4	0	1	8	12	0	1
78	82	ORASCOM CONSTRUCTION LTD., Dubai, U.A.E.	4,033.0	3,975.0	3,751.5	33	0	18	1	0	26	15	0	0
79	78	STRUCTURE TONE, New York, N.Y., U.S.A.	4,010.6	227.1	4,215.3	87	0	0	0	0	6	0	0	7
80	81	PENTA-OCEAN CONSTRUCTION CO. LTD., Tokyo, Japan	4,002.1	1,527.7	3,971.8	40	2	0	2	10	4	42	0	0
81	98	DPR CONSTRUCTION, Redwood City, Calif., U.S.A.	3,997.5	5.0	4,243.0	65	0	0	0	0	18	0	0	17
82	92	RENAISSANCE CONSTRUCTION, Ankara, Turkey	3,932.7	3,257.3	2,862.5	49	2	10	1	0	19	14	0	0
83	109	TOYO ENGINEERING CORP., Chiba, Japan	3,849.7	3,216.9	1,040.2	0	0	24	0	0	74	0	0	0
84	103	SWINERTON INC., San Francisco, Calif., U.S.A.	3,829.7	0.0	5,975.0	67	0	33	0	0	0	0	0	0
85	85	MORTENSON CONSTRUCTION, Minneapolis, Minn., U.S.A.	3,816.6	179.5	4,134.3	53	4	31	0	1	0	4	0	7
86	90	SHAPOORJI PALLONJI AND CO. PVT. LTD., Mumbai, Maharashtra, India	3,812.2	1,654.5	2,100.0	80	0	0	0	0	0	20	0	0
87	86	ACCIONA INFRAESTRUCTURAS, Madrid, Spain	3,785.5	2,287.6	5,025.9	14	7	11	23	3	2	39	0	0
88	73	TODA CORP., Tokyo, Japan	3,648.0	77.0	4,286.0	61	8	1	3	3	3	16	3	0
89	89	STROYGAZMONTAZH LLC, Moscow, Russia	3,641.0	0.0	1,335.1	6	0	0	0	0	79	14	0	0
90	97	HENSEL PHELPS, Greeley, Colo., U.S.A.	3,547.1	135.3	2,867.2	61	6	0	0	2	0	23	0	8
91	105	MCCARTHY HOLDINGS INC., St. Louis, Mo., U.S.A.	3,454.0	0.0	3,786.0	64	3	15	0	2	6	10	0	0
92	71	JACOBS, Dallas, Texas, U.S.A.	3,377.7	1,610.1	3,800.5	1	3	3	0	0	72	2	16	2
93	100	ZACHRY GROUP, San Antonio, Texas, U.S.A.	3,367.3	0.0	1,990.3	0	0	21	0	0	79	0	0	0
94	95	HAZAMA ANDO CORP., Tokyo, Japan	3,351.0	249.0	NA	46	11	5	6	1	4	10	18	0
95	93	SACYR, Madrid, Spain	3,264.0	1,679.0	2,245.0	12	0	6	5	13	8	48	0	0
96	107	JE DUNN CONSTRUCTION GROUP, Kansas City, Mo., U.S.A.	3,208.3	0.0	NA	84	7	0	0	0	0	1	0	8
97	102	ASTALDI, Rome, Italy	3,139.4	2,656.9	4,987.7	11	0	14	0	0	0	72	0	0
98	96	MAEDA CORP., Tokyo, Japan	3,014.0	46.0	4,013.0	51	9	11	3	3	0	19	0	0
99	**	LENLEASE, New York, N.Y., U.S.A.	2,985.4	0.0	4,351.1	93	0	1	0	0	6	0	0	0
100	126	HOLDER CONSTRUCTION CO., Atlanta, Ga., U.S.A.	2,939.0	0.0	2,118.0	68	0	0	0	0	0	2	0	30

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			TOTAL	INT'L										
101	128	CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP., Beijing, China	2,931.4	1,262.7	4,231.4	0	0	0	0	0	100	0	0	0
102	94	POLIMEKS INSAAT TAAHHUT VE SAN. TIC. AS, Istanbul, Turkey	2,921.5	2,921.5	NA	51	0	0	0	0	0	38	0	0
103	114	SUFFOLK CONSTRUCTION CO., Boston, Mass., U.S.A.	2,905.1	0.0	5,014.0	100	0	0	0	0	0	0	0	0
104	91	ELLISDON CORP., Mississauga, Ontario, Canada	2,896.8	10.1	NA	58	1	6	4	0	2	27	0	3
105	88	ROYAL BOSKALIS WESTMINSTER NV, Papendrecht, The Netherlands	2,861.0	2,253.0	2,802.0	0	0	18	0	0	32	33	0	0
106	115	JAN DE NUL GROUP (SOFIDRA SA), Capellen, Luxemburg	2,809.0	2,797.0	2,820.0	7	0	0	0	3	11	33	0	0
107	79	CHINA GENERAL TECHNOLOGY (GROUP) HOLDING CO. LTD., Beijing, China	2,799.1	727.1	5,976.8	74	4	18	0	0	0	4	0	0
108	217	ALARKO CONTRACTING GROUP, Istanbul, Turkey	2,730.9	1,071.9	1,037.0	0	0	58	0	1	0	40	0	0
109	104	SUMITOMO MITSUI CONSTRUCTION CO. LTD., Tokyo, Japan	2,724.9	201.4	2,946.4	55	5	0	4	1	3	32	0	0
110	110	HANWHA ENGINEERING & CONSTRUCTION CORP., Seoul, S. Korea	2,697.4	1,017.0	3,030.0	45	4	8	0	1	23	19	0	0
111	101	TURNER INDUSTRIES GROUP LLC, Baton Rouge, La., U.S.A.	2,641.4	0.0	63.5	0	0	1	0	0	98	0	1	0
112	116	BESIX, Brussels, Belgium	2,611.3	1,732.5	2,325.2	63	0	0	8	1	0	28	0	0
113	108	MOTA-ENGIL, Porto, Portugal	2,554.0	1,901.0	2,644.0	20	0	2	8	18	0	52	0	0
114	118	GRANITE CONSTRUCTION INC., Watsonville, Calif., U.S.A.	2,514.6	4.3	670.6	3	1	10	4	6	1	76	0	0
115	137	BARTON MALOW CO., Southfield, Mich., U.S.A.	2,425.5	170.0	1,823.8	61	29	9	0	0	1	0	0	0
116	123	NANTONG CONSTRUCTION GROUP CO. LTD., Nantong, Jiangsu, China	2,414.3	264.2	1,987.2	86	4	3	1	0	6	0	0	0
117	120	BRASFIELD & GORRIE LLC, Birmingham, Ala., U.S.A.	2,406.1	0.0	3,068.2	91	1	1	2	0	2	1	0	2
118	77	KBR, Houston, Texas, U.S.A.	2,352.0	1,200.0	NA	0	0	0	0	0	100	0	0	0
119	76	CHINA PETROLEUM PIPELINE ENGINEERING CO. LTD., Landfang, Hebei, China	2,344.0	881.0	3,588.6	0	0	0	0	0	99	0	0	1
120	112	THE ARAB CONTRACTORS CO., Cairo, Egypt	2,286.0	765.0	4,058.0	29	0	1	10	18	1	42	0	0
121	**	CHINA ALUMINUM INTERNATIONAL ENGINEERING CORP. LTD., Beijing, China	2,233.3	67.1	6,755.1	33	0	0	10	2	40	0	0	0
122	163	MAIRE TECNIMONT GROUP, Milan, Italy	2,177.2	1,766.7	1,593.3	1	1	8	0	0	87	3	0	0
123	136	ZHEJIANG COMMUNICATIONS CONSTRUCTION GROUP CO., Hangzhou, China	2,145.5	161.6	4,734.6	0	0	0	0	0	0	100	0	0
124	111	DANIELI & C. OFFICINE MECCANICHE SPA, Friuli Venezia Giulia, Italy	2,135.0	1,989.0	1,850.0	0	0	0	0	0	100	0	0	0
125	139	CTCI CORP., Taipei, Taiwan	2,104.1	787.0	2,537.8	3	4	35	0	8	45	5	0	0
126	144	AUSTIN INDUSTRIES, Dallas, Texas, U.S.A.	2,094.7	0.0	3,920.2	47	0	0	0	0	1	34	0	0
127	124	CITIC CONSTRUCTION CO. LTD., Beijing, China	2,062.1	2,005.2	1,814.9	72	10	0	5	0	2	7	0	0
128	127	ALBERICI-FLINTCO, St. Louis, Mo., U.S.A.	2,003.8	210.3	2,312.7	60	4	5	8	3	18	2	0	0
129	131	PRIMORIS SERVICES CORP., Dallas, Texas, U.S.A.	1,996.9	11.2	2,800.0	3	1	5	0	3	62	25	0	1
130	135	MICHELS CORP., Brownsville, Wis., U.S.A.	1,979.0	148.0	3,015.6	2	0	20	0	4	54	16	0	3
131	125	CHINA JIANGSU INT'L ECON.-TECH. COOP. GRP. LTD., Nanjing, Jiangsu, China	1,875.6	621.5	2,373.8	92	0	0	2	1	0	3	0	0
132	140	CHINA WU YI CO. LTD., Fuzhou, Fujian, China	1,862.0	470.0	3,198.0	67	1	2	1	0	7	22	0	0
133	106	VAN OORD DREDGING & MARINE CONTRACTOR, Rotterdam, The Netherlands	1,798.6	1,362.0	2,766.5	0	0	23	0	0	8	69	0	0
134	141	JOANNOU & PARASKEVAIDES GROUP OF COS., Guernsey, Channel Islands, U.K.	1,747.3	1,747.3	2,351.0	41	0	5	0	1	2	52	0	0
135	146	YANJIAN GROUP CO. LTD., Yantai, Shandong, China	1,717.0	419.7	1,890.9	73	5	2	0	0	6	13	0	0
136	164	CLAYCO INC., Chicago, Ill., U.S.A.	1,691.0	0.0	1,848.1	90	10	0	0	0	0	0	0	0
137	142	THE YATES COS. INC., Philadelphia, Miss., U.S.A.	1,683.9	0.4	1,907.0	23	41	3	0	0	25	7	0	0
138	**	JSC MOSINZHPROEKT, Moscow, Russia	1,674.0	0.0	204.0	11	0	0	0	0	0	89	0	0
139	178	DEVCON CONSTRUCTION INC., Milpitas, Calif., U.S.A.	1,660.0	0.0	1,000.0	100	0	0	0	0	0	0	0	0
140	**	GRAHAM, Calgary, Alberta, Canada	1,655.0	163.0	1,693.0	51	3	2	2	9	9	23	0	0
141	154	BLACK & VEATCH, Overland Park, Kan., U.S.A.	1,637.1	363.3	552.7	0	0	59	2	9	6	0	0	24
142	156	LIMAK INSAAT SANAYI VE TICARET AS, Ankara, Turkey	1,624.0	908.0	550.0	3	0	15	3	0	2	78	0	0
143	121	CHINA HUANQIU CONTRACTING & ENGINEERING CORP. LTD., Beijing, China	1,596.6	461.9	4,372.9	0	0	0	0	0	100	0	0	0
144	147	PER AARSLEFF A/S, Viby J, Denmark	1,560.7	425.9	1,880.5	17	16	8	1	15	5	39	0	0
145	199	AMEC FOSTER WHEELER, Atlanta, Ga., U.S.A.	1,540.0	159.0	916.2	3	1	81	0	0	12	0	0	0
146	148	PERFORMANCE CONTRACTORS INC., Baton Rouge, La., U.S.A.	1,522.3	0.0	1,250.0	0	0	4	0	0	96	0	0	0
147	**	LLC VELESTROY, Moscow, Russia	1,521.0	0.0	1,100.0	12	0	7	0	0	81	0	0	0
148	134	WORLEYPARSONS, North Sydney, NSW, Australia	1,507.0	1,383.0	299.0	0	0	0	0	0	98	0	1	0
149	198	HARBIN ELECTRIC INTERNATIONAL CO. LTD., Harbin, Heilongjiang, China	1,502.4	1,502.4	2,388.7	0	0	100	0	0	0	0	0	0
150	**	WOOD GROUP, Houston, Texas, U.S.A.	1,499.6	317.4	968.4	3	1	2	0	0	92	0	1	0

RANK 2017	RANK 2016	FIRM	2016 REVENUE \$ MIL.		2016 NEW CONTRACTS \$ MIL.	GENERAL BUILDING	MANUFACTURING	POWER	WATER SUPPLY	SEWER / WASTE	INDUS. / PETROLEUM	TRANSPORTATION	HAZARDOUS WASTE	TELECOM
			TOTAL	INT'L										
201	224	CROSSLAND CONSTRUCTION CO. INC., Columbus, Kan., U.S.A.	1,029.6	0.0	1,084.0	76	7	0	5	2	0	11	0	0
202	193	CHINA ELECTRIC POWER EQUIPMENT & TECHNOLOGY CO., Beijing, China	1,028.8	810.1	115.4	0	0	100	0	0	0	0	0	0
203	**	RIZZANI DE ECCHER, Pozzuolo del Friuli, Italy	1,026.1	869.9	496.6	40	0	0	1	0	0	46	0	5
204	207	BAUER AG, Schrobenhausen, Bavaria, Germany	1,022.3	633.8	1,016.1	29	5	16	6	3	13	24	0	4
205	201	THE BOLDT CO., Appleton, Wis., U.S.A.	1,017.2	0.0	866.7	64	5	24	0	0	7	0	0	0
206	190	SINOSTEEL EQUIPMENT & ENGINEERING CO. LTD., Beijing, China	1,006.0	492.3	1,649.0	0	0	0	0	0	100	0	0	0
207	200	MAKYOL INSAAT SANAYI TURIZM VE TICARET AS, Istanbul, Turkey	1,003.0	118.0	469.0	0	0	0	0	0	0	100	0	0
208	215	SALFACORP SA, Santiago, Region Metropolitana, Chile	996.0	91.0	894.0	18	0	12	0	0	0	6	0	0
209	174	ANT YAPI SANAYI VE TICARET CJSC, Istanbul, Turkey	990.2	889.4	439.0	100	0	0	0	0	0	0	0	0
210	159	SINOPEC ZHONGYUAN PETROLEUM ENGINEERING LTD., Puyang City, China	982.2	535.9	798.3	0	0	0	0	0	100	0	0	0
211	206	CHINA JIANGXI CORP FOR INT'L ECON. & TECH. COOP., Nanchang, China	935.7	830.3	1,524.2	45	0	9	10	1	0	35	0	0
212	150	CHINA INTERNATIONAL WATER & ELECTRIC CORP. (CWE), Beijing, China	935.3	935.3	1,820.5	4	0	42	30	0	3	21	0	0
213	226	TEKFEN CONSTRUCTION AND INSTALLATION CO. INC., Istanbul, Turkey	935.0	623.0	3,888.0	5	0	0	0	0	6	21	68	0
214	185	BI GROUP, Astana, Akmola, Kazakhstan	933.6	0.1	594.4	74	0	1	2	0	0	23	0	0
215	**	CLUNE CONSTRUCTION CO., Chicago, Ill., U.S.A.	922.0	0.0	922.0	100	0	0	0	0	0	0	0	0
216	227	SELLEN CONSTRUCTION CO., Seattle, Wash., U.S.A.	921.0	0.0	59.0	100	0	0	0	0	0	0	0	0
217	176	IC ICTAS INSAAT SANAYI VE TICARET AS, Istanbul, Turkey	917.5	285.7	NA	0	0	0	0	0	0	100	0	0
218	231	AVALONBAY COMMUNITIES INC., Arlington, Va., U.S.A.	915.2	0.0	659.2	100	0	0	0	0	0	0	0	0
219	**	OKLAND CONSTRUCTION CO. INC., Salt Lake City, Utah, U.S.A.	914.4	0.0	982.8	94	5	0	0	0	0	0	0	1
220	**	CORE CONSTRUCTION GROUP, Phoenix, Ariz., U.S.A.	898.5	0.0	982.1	99	0	1	0	0	0	0	0	0
221	**	MIRON CONSTRUCTION CO. INC., Neenah, Wis., U.S.A.	898.4	0.0	NA	66	2	5	0	4	24	0	0	0
222	220	JAMES G. DAVIS CONSTRUCTION CORP., Rockville, Md., U.S.A.	896.0	0.0	NA	100	0	0	0	0	0	0	0	0
223	248	THE MCSHANE COS., Rosemont, Ill., U.S.A.	867.1	0.0	689.0	100	0	0	0	0	0	0	0	0
224	213	IMPRESA PIZZAROTTI & C. SPA, Parma, Italy	863.8	554.2	1,304.1	54	0	0	1	0	0	45	0	0
225	216	PJ DICK - TRUMBULL - LINDY PAVING, Pittsburgh, Pa., U.S.A.	863.0	0.0	1,015.0	38	0	4	0	0	12	46	0	0
226	**	ALSTON CONSTRUCTION, Atlanta, Ga., U.S.A.	860.0	0.0	712.0	100	0	0	0	0	0	0	0	0
227	**	GULSAN CONSTRUCTION, Ankara, Turkey	849.5	380.8	145.5	7	0	18	0	0	0	75	0	0
228	202	AEGION CORP., Chesterfield, Mo., U.S.A.	849.0	159.0	NA	2	0	1	1	47	49	2	0	0
229	**	GAP INSAAT YATIRIM VE DIS TICARET AS, Istanbul, Turkey	847.2	822.6	21.9	30	0	0	0	0	18	52	0	0
230	218	BONATTI SPA, Parma, Emilia Romagna, Italy	846.0	796.0	701.0	0	0	0	0	0	100	0	0	0
231	196	AMES CONSTRUCTION INC., Burnsville, Minn., U.S.A.	845.0	37.0	999.0	2	0	9	4	0	1	72	0	0
232	**	M+W GROUP, Albany, N.Y., U.S.A.	844.7	22.3	900.0	0	100	0	0	0	0	0	0	0
233	182	S&B ENGINEERS AND CONSTRUCTORS LTD., Houston, Texas, U.S.A.	834.2	0.0	139.0	0	0	0	0	0	100	0	0	0
234	**	E.E. REED CONSTRUCTION LP, Sugar Land, Texas, U.S.A.	834.0	0.0	672.0	100	0	0	0	0	0	0	0	0
235	**	CONTRACTING AND TRADING CO. I.C.A.T.I., Beirut, Lebanon	825.5	824.8	520.0	1	0	0	6	0	87	6	0	0
236	209	SUNDT CONSTRUCTION INC., Tempe, Ariz., U.S.A.	813.2	0.0	1,569.0	62	1	8	5	0	1	23	0	0
237	229	HANJIN HEAVY INDUSTRIES & CONSTRUCTION CO. LTD., Seoul, S. Korea	803.0	29.0	1,006.0	45	0	21	0	0	0	34	0	0
238	233	GAMA, Ankara, Turkey	803.0	337.9	385.2	2	0	88	1	0	9	1	0	0
239	117	GRUPO ISOLUX CORSAN SA, Madrid, Spain	797.8	553.9	803.35	11	1	9	1	2	25	50	0	1
240	**	ZHONGMEI ENGINEERING GROUP LTD., Nanchang, Jiangxi, China	797.4	797.4	691.2	22	0	1	19	0	0	58	0	0
241	**	CHINA ZHONGYUAN ENGINEERING CORP., Beijing, China	797.3	797.3	NA	0	0	100	0	0	0	0	0	0
242	237	LEVEL 10 CONSTRUCTION, Sunnyvale, Calif., U.S.A.	792.3	0.0	419.5	100	0	0	0	0	0	0	0	0
243	**	BAYBURT GRUP AS, Ankara, Turkey	790.9	206.3	2,598.4	2	0	0	1	0	0	98	0	0
244	**	UNIVERSAL ACARSAN HEALTHCARE & HOSPITAL CONSTR., Gaziantep, Turkey	790.0	790.0	NA	100	0	0	0	0	0	0	0	0
245	**	FORTIS CONSTRUCTION INC., Portland, Ore., U.S.A.	783.0	0.0	1,140.0	23	0	0	0	0	0	0	0	76
246	245	WEEKS MARINE INC., Cranford, N.J., U.S.A.	780.0	85.1	638.8	0	0	0	10	0	11	74	2	0
247	242	VCC CONSTRUCTION, Irving, Texas, U.S.A.	780.0	0.0	850.0	100	0	0	0	0	0	0	0	0
248	**	THE CONLAN CO., Marietta, Ga., U.S.A.	772.5	0.0	703.7	99	1	0	0	0	0	0	0	0
249	**	THE CIANBRO COS., Pittsfield, Maine, U.S.A.	771.8	0.0	777.4	9	0	12	0	0	60	14	0	0
250	221	GREAT LAKES DREDGE & DOCK, Oak Brook, Ill., U.S.A.	767.6	59.4	306.7	0	0	0	0	0	0	83	17	0