A REPORT FROM THE FEDERATION
OF SWEDISH INNOVATION COMPANIES

DECEMBER 2019

SECTOR REVIEW

A Swedish, Nordic
and International Survey of
The Consulting Engineering
and Architectural Groups

Innovationsföretagen
almega

KEY FIGURES 2018 (2017)

94.5 billion — The sector turnover in Sweden was SEK 94.5 billion (SEK 86 billion)

8 percent — The increase in turnover was 8 % compared to 2017[1]

26.5 billion — Swedish groups generated revenues of SEK 26.5 billion in subsidiaries abroad (SEK 17.4 billion)

72 700 employees — The industry had a total of 72700 employees in Sweden (66 200)

7 percent — Personnel growth was 7 % compared to 2017[2]

22 400 employees — Swedish groups employed 22400 persons in subsidiaries abroad (16000)

11 200 companies — The industry consisted of some 11200 companies in Sweden

SEK **1 324k** — Turnover per employee was SEK 1324k (1218k) *

7.1 percent — The average operating margin (EBITA) was 7.1% (7.4%) *

6.9 percent — The average profit margin (EBT) was 6.9% (7.1%)

5.1 percent — The average net margin was 5.1% (4.7 %)

34 percent — The share of women within the industry was 34% (35%)

[1] In this year's review, companies with a collective turnover of SEK 1.3 billion have been added to the survey. Therefore, the real growth rate is 8% and not 10%.
[2] In this year's review, companies that collectively employ 1800 persons have been added to the survey. Therefore, the real growth rate is 7% and not 10%.
* The key figures are calculated from the figures of the 300 largest firms, that jointly represent 79% of the industry's total turnover and 77% of all personnel within the industry.

THE SECTOR REVIEW

The Sector Review has been published by Innovationsföretagen (Federation of Swedish Innovation Companies), formerly Svenska Teknik&Designföretagen (the Swedish Federation of Consulting Engineers and Architects) since 1995. It is a compilation of the architectural, engineering consultancy and industrial consultancy sectors in Sweden, the Nordic region and Europe. The Review presents ranking lists of the largest corporate groups on the respective markets, interesting key business ratios, news about structural transactions and information on the development and economy within the sector over the past year.

Since 2005, Innovationsföretagen's counterparts in the neighbouring Nordic countries have contributed to the Review. The organisations that participate in this report are FRI in Denmark, RIF & Arkitektbedriftene (the architectural association) in Norway, SKOL & ATL (the architectural association) in Finland and FRV & Samark (the architectural association) on Iceland.

The figures in the Review are based on the latest available data that we have been able to find on the respective firms. For more than half the firms, figures presented correspond to annual reports for 2018. The remaining firms have split financial years. In most cases, we have received their annual reports for 2018/19. We report figures from last available annual report. In some cases those are 2017/2018. For the sake of simplicity, we refer to the compiled figures as for 2018.

The corporate information in the Review has been acquired via the databases Soliditet (Sweden) and Factiva Dow Jones Companies & Executives (Europe), from the Nordic organisations, directly from companies or via the companies' home pages. The survey covers some 2,000 companies in Sweden, the Nordic region and Europe. Collecting the information is an extensive and time-consuming task, and in some cases it is impossible to obtain reliable information. The information on the international companies is more difficult to access. In Sweden, annual reports are public documents. This is not the case in all countries, and many firms are reluctant to disclose their figures. In these cases, we use the most recent material we can find. Consequently, all companies that appear in – or should appear in – the Review are requested to contact Innovationsföretagen and to submit their details in order to make sure that the information published on them is correct.

We would like to thank those companies that have helped us by submitting their annual reports or figures!

We would especially like to thank Charlotte Bergman (ELU Konsult), Sara Lindmark (i3tex), Erik Landgren (KIWA Inspecta), Per-Henrik Johansson (Liljewall), Viktor Svensson (Rejlers), Søren Adamsen (Cowi), Grethe Bergly (Multiconsult), Geir Syrtveit (ViaNova Plan og Trafikk), Sveinn Ingi Ólafsson (Verkis), Jyrki Keinänen (A-Insinöörit) for their contributions to the report through the interviews!

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Cover photo: The reconstruction of the National mueseum in Stockholm won the ROT-prize (for reconstruction projects) and the Steel building prize. Designed by Wingårdhs and Tengbom architects

Photo: Linn Ahlgren, Nationalmuseum.

Innovationsföretagen in cooperation with Pär Ek Grafisk Form (Graphic design).

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THE FEDERATION OF SWEDISH INNOVATION COMPANIES

The Federation of Swedish Innovation Companies (Innovationsföretagen) is an employer and sector-oriented organisation that represents the interests of innovative companies in the knowledge-intensive service sector. We represent the interests of some 720 member firms that together have some 39 000 employees. It is our task to create the preconditions necessary for a world-leading architectural and engineering sector.

The Federation of Swedish Innovation Companies is part of Almega, which is Sweden's foremost organisation for service firms and the largest association within Svenskt Näringsliv, (Confederation of Swedish Enterprise) which both deals with the preconditions for the service sector and the business community in general as well as Sweden's competitive standing in the world.

We are members of several international sector organisations: FIDIC and EFCA, the respective global organisations for engineering consultants, and ACE – the European sector organisation for architectural organisations. We also participate in the Nordic networks for industry associations RiNord, for consulting engineers, and Nordiskt Praktikermöte, for architectural organisations.

Name change and federation establishment

Innovationsföretagen (The Federation of Swedish Innovation Companies) is the new name for the organisation that was previously known as Svenska Teknik&Designföretagen (the Swedish Federation of Consulting Engineers and Architects). The name was changed in January and adopted at the Federation's Annual General Meeting in April 2019.

The change in name signals a clear desire to focus on the value creation of the member companies and on the contribution made to both clients and society. Much of the work conducted by the members of the Federation is founded on creativity, problem solving and innovation, based on a profound knowledge of technology, design, social development and cultures.

The basic starting point for the name change is a sector in a state of change. The roles that have been traditionally held by architects and engineering consultants are rapidly changing and are also creating a need for a new narrative on the sector.

Since 1 January 2019, the Federation of Swedish Innovation Companies has been a separate association within Almega and Svenskt Näringsliv (Confederation of Swedish Enterprise), which clarifies our role as an employer organisation and our involvement in supporting the member companies in agreement developments and ongoing labour law issues.

Business operations

As a sector and employer organisation, we work for greater visibility and competitiveness for the sector with the aim of creating the best possible preconditions for innovation and for our member companies. We serve as a mouthpiece for our members and drive questions relating to sector development through information, debate and dialogue with politicians and other decision-makers. Among the important issues facing us are research and innovation, competence provision, balanced terms and conditions, skilled public procurement, sustainability and continued digitalisation. We support our members in employer questions, offer competitive collective agreements, attractive insurance schemes, relevant forms of training and seminars, and publish practical handbooks. Through us, member companies also acquire a valuable network of sector colleagues, experts and leading labour law specialists.

Focus areas for 2020

During 2020 we will prioritise the following areas:

- Improved visibility for Sweden's innovation- and design-oriented firms.
- Balanced terms and conditions, including standard agreements and public procurement.
- Education and competence development.
- A renewed collective agreement and the long-term development of the negotiation process.
- Improved value proposition for our member companies.

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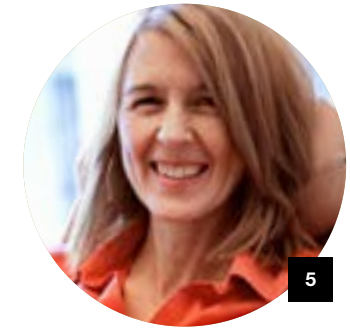


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Innovationsföretagen
almega

Federation staff

1 **Anders Persson,** Business Policy Manager
2 **David Cramér,** Chief Analyst
3 **Eskil Sellgren,** Consultant, Construction group
4 **Hanna Byström,** Head of Negotiations
5 **Helena Arvidsson,** Federation Assistant, Project Manager
6 **Helena Dahlberg,** Federation Lawyer
7 **Jannice Johansson Steijner,** Consultant, Architectural Advisory Service, Development Issues
8 **Linda Fritzner,** Acting Head of Communications
9 **Linnea Kvist,** Head of Communications (on parental leave)
10 **Maria Elinder,** Labour Law
11 **Magnus Höij,** Director General of the Federation

There are also a number of colleagues at Almega who support the work of the Federation of Swedish Innovation Companies.

The Board of the Federation of Swedish Innovation Companies 2019–2020 consists of:

Mikael Vatn, Etteplan Sweden, Chairman
Charlotte Bergman, ELU Konsult
Jan Mattsson, Sweco Architects
Johan Dozzi, Tyréns
Ljot Strömseng, Norconsult
Magnus Meyer, WSP Sweden
Niklas Sörensen, Ramboll Sweden
Ulla Bergström, White arkitekter
Sara Lindmark, i3tex
Magnus Höij, Innovationsföretagen

Magnus Höij,
Director General of the Federation of Swedish Innovation Companies

THE SECTOR REVIEW 2019 REFLECTS AN INDUSTRY UNDERGOING CONTINUED GROWTH

This can be seen partly from our figures: membership has grown over a long period of time in terms of both number of employees and turnover.

However, equally important is the increasingly advanced position that many of our member companies and our sector occupy in social debate and politics. It is a position of strength that indicates both the courage of our member companies but at the same time bears witness of a greater interest shown by the world around in what we have to offer.

At the time of writing it is easy to find headlines in the newspapers concerning a growing uncertainty on the market. There is talk of an approaching recession in many places. This must be taken seriously, and for many of our members measures will need to be taken that are very painful.

However, at the same time I am convinced that the services and the advice given by our members will be in greater demand than ever. The need for good basic input, carefully considered solutions and a sound perspective will simply grow in importance. Driving forces such as threats to the climate, changes in living patterns, the drive for digitalisation and globalisation or a changed demography, will require new solutions and new technology.

Quite simply – more innovation.

MAGNUS HÖIJ
DIRECTOR GENERAL,
FEDERATION OF SWEDISH
INNOVATION COMPANIES


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MEMBER COMPANIES AND SECTORS OF THE FEDERATION OF SWEDISH INNOVATION COMPANIES

The member companies of the Federation of Swedish Innovation Companies are innovative companies within the knowledge-intensive service sector with a focus on architectural and engineering know-how. The feature that unites the companies is a high level of innovational strength, a research-oriented approach, a high service content, a high level of value creation, well-educated employees and a high level of competitiveness. Research, development and innovation are of central importance for the companies' activities, but in different ways and to a varying extent.

ARCHITECTS

An architect is concerned with the planning and design of environments and spacial areas, where the goal is to adapt them both functionally and aesthetically to the surroundings in which they are located, and to the program for which they are to be used. In order to achieve this, an architect analyses the specific structure and design of a building or location, its connection with the surroundings, its history and its possible future. In addition, a study is made and an understanding is reached on how people use the environment and the connections that exists between them. In general, architects have a strong focus on sustainability, with involvement and competence in both social and ecological sustainability.

Employers can be private companies, for example estate agents or local authorities, but also private persons. The assignments fall within society's entire breadth of physical environment: housing, offices, parks, courtyards, commercial centres, public buildings, city-planning, etc.

Those instruments that an architect uses to create a building include sketching, model-making, drawings in plan and section with 2D- and 3D-modelling.

Architects can also work with furniture design, community development, structural design, design, brand name architecture, environmental impact surveys and as inspection managers in accordance with the Planning and Building Act and as planning permit reviewers, etc.

ENGINEERING CONSULTANTS, BUILDING AND CIVIL ENGINEERING

Engineering consultants in the fields of building and civil engineering plan and design the society, towns and cities of the future, which includes buildings, infrastructure in the form of roads, bridges and wastewater installations and access to resources such as electricity and water. They work with private and public sector employers, such as property developers, building contractors, local authorities, industrial, power suppliers, harbours and infrastructure administrators, and are involved in all phases of the assignment and in all types of project within the sphere of community development.

In the energy field we work on the full cycle within energy planning, production and distribution, such as bioenergy, thermal heat, hydropower, wind and solar power and other forms of renewable energy.

Also included among engineering consultants are project- and process managers. Project managers plan, manage and direct. The project manager coordinates the various assignments and tasks that are included in the project. A process manager plans the implementation of the development work by proposing a plan, model and/or structure. It is also the role of the process leader to subsequently lead groups by contributing with their own knowledge, ideas, methods and tools in order to process questions and information.

The large engineering consultancies also offer management services, social analysis, surveys on behalf of public and private sector employers, advisory services and decision-making input, inventories and inspections in conjunction with the acquisition of business operations and assets, environmental services, energy efficiency improvements and specialist know-how within a number of different areas.

INDUSTRIAL CONSULTANTS AND TECH COMPANIES

There have for many years been engineering consultancies that have specialised in helping other companies and public service employers with engineering know-how and calculations in connection with product development, production and advanced designs and structures. In a state of ever harsher international competition, they have developed into full-service design houses and have to a growing extent taken over the technical development of traditional firms and possess every form of competence that is needed to develop competitive products, systems and services. They include areas of competence such as design, mechanics, technical calculations, electronics, built-in systems and software as well as prototype development and user interfaces. Products and systems that are newly developed also need to be produced and delivered. Here, the companies help with production development, production technology the automation of manufacturing processes, test systems, quality controls and the production of testing equipment, production equipment and tool production.

Those companies that are referred to as industrial engineering consultants, simplified industrial consultants, have continuously, and in tune with technical development and digitalisation, steadily broadened their fields of operation. Knowledge that is essential for the ability of the manufacturing industry to meet increasingly stiff

ILLUSTRATION: BLITEKNIKKONSULT.NU

> INNOVATIVE COMPANIES WITHIN THE KNOWLEDGE INTENSIVE SECTOR

international competition and to increase the level of productivity in production. The industrial consultants provide direct access to the latest technology, create the necessary preconditions for effective system and product development and facilitate rapid changeover.

The companies also supply services, technical solutions, training and entirely new types of systems for technical information, user manuals, service, assembly and repairs. With new kinds of tools and instruments such as AR, 3D, digital twins and interactive digital models, effective processes are created that minimise faults, reduce costs and give better client experience.

TESTING, INSPECTION AND CERTIFICATION

TIC companies (Testing, Inspection and Certification) offer above all services in the fields of inspection, testing and certification. Many companies also offer technical consultation and project management within safety and training. The activities concern many sectors – everything from the building industry and energy supply to the process industry, drinking water, real estate, foodstuffs and agriculture. The sector contributes to greater safety on building sites, inside the home, and in the rest of society, for both people and property. Sample services are design inspections, the inspection of anything from lifts to amusement parks and nuclear power plants, tests, life-span surveys, work environment in a number of different areas testing – and simulations in advanced calculation programs. Some of the companies develop custom-made solutions for complex and dangerous environments. Companies that are concerned with inspection and certification shall be authorised by the authority SWEDAC to perform, among other tasks, safety inspections. The company shall have routines, for example technical instructions and checklists, and the technicians shall have adequate training. SWEDAC conducts regular audits to make sure that inspections are carried out in a safe way.

RESEARCH AND DEVELOPMENT

Research and development are the core of the companies' activities. The international competition that exists requires the constant development of specialist know-how as well as the development of new knowledge and new develoment methods. The companies cooperate with the academic world, institutes and client companies. By combining the latest theoretical knowledge with practical applications in a large number of different areas, the companies can solve numerous major social challenges, develop world-leading products and services, convert the research carried out in academic life into practical use and handle major issues such as solutions to climate changes. At present, major changes are taking place in connection with sustainability challenges, climate change, the electrification of transportation, AI and digitalisation.

The ongoing work of the companies in connection with research and development contributes to the survival of their clients, productivity development and competitiveness. All the member companies work with research and development in some way or another. Several of them cooperate very closely with academic research and work intensively on innovation projects. The member companies are a part of the Swedish knowledge cluster, as knowledge clusters, as research institutes as tech companies and are a natural link between academic life and the business community. The link between theory and application.

THE SECTOR'S DEVELOPMENT IN 2018 AND 2019

The sector continued to grow and consolidate in 2018, at the same time as it entered a weakening phase following several years of growth and strong order books. There is much to be said for the fact that the peak was passed in 2018. Even though the market continues to be strong, the volume of incoming orders has reined in, the profitability level has lowered, the order books are not so well filled, profitability has decreased and the consolidation rate has slowed down. The profit margin has decreased to 6.9% from 7.1% during 2017. The operating margin has dropped to 7.1% from 7.4% in 2017.

Companies in the sector

The sector is defined in this report as engineering consulting companies in the fields of building and construction, industrial engineering and tech companies, architectural firms, TIC companies (Test, Inspection and Certification), and research and development companies.

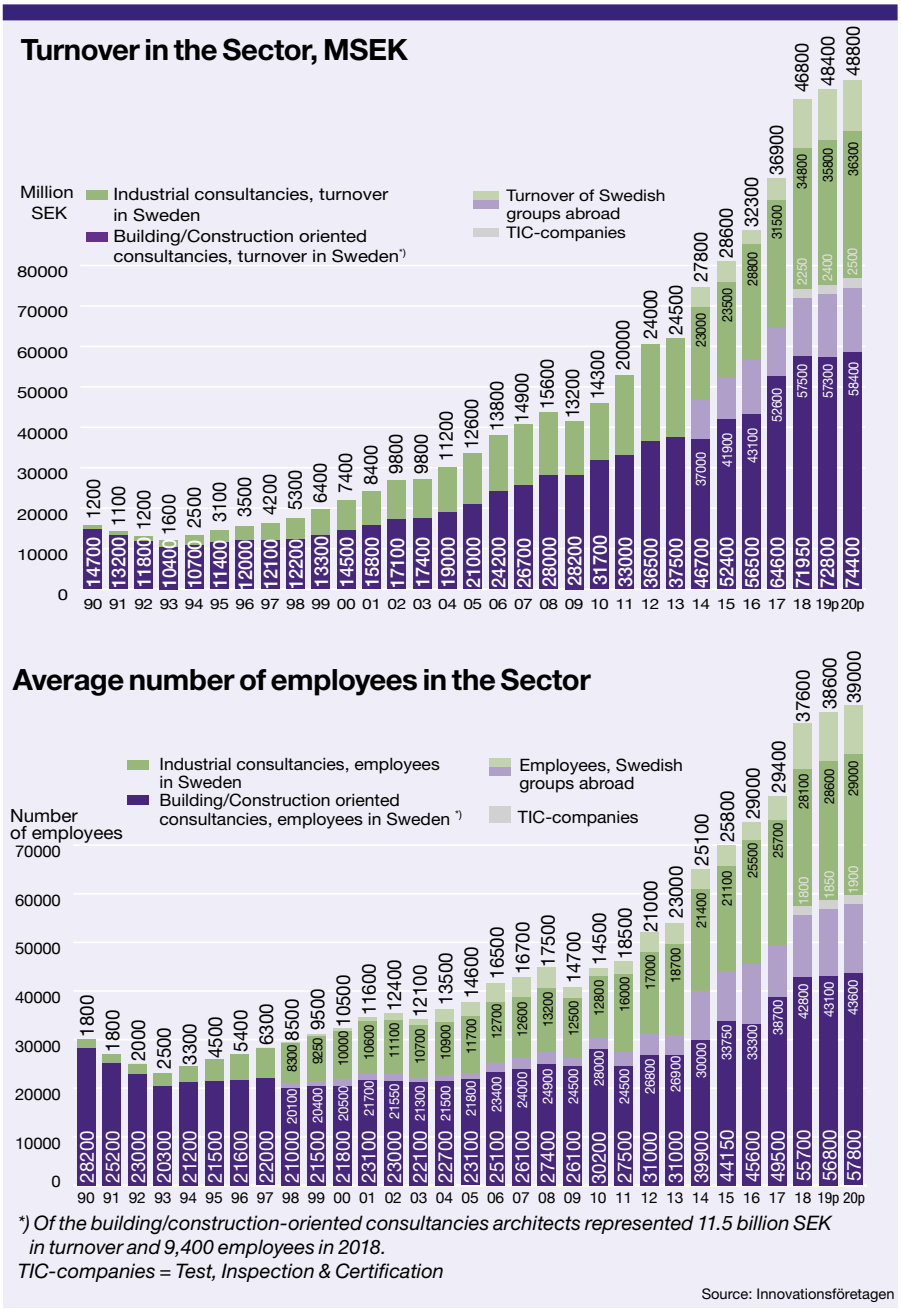
The sector consists of just over 11 100 companies. 9 654 of which have 0-2 employees, 20 have more than 500 employees and 13 groups have over 1 000 employees. The consolidation trend has continued but is now beginning to slow down somewhat. The major groups, however, continue to be large, both nationally and internationally.

The size distribution is basically the following:

Number of employees	Number of companies
501–	20
101–500	44
51–100	63
21–50	172
11–20	148
3–10	1 056
0–2	9 654
	11 157

The sector continues to grow

Together, the just over 11 000 companies in the sector had a turnover of SEK 94.5 billion and some 72 700 employees in 2018. During 2017, the sector had a turnover of SEK 86 billion and employed 66 200 staff. The number of companies that are included in the review and come under the sector definition has increased during the year, which serves to



*) Of the building/construction-oriented consultancies architects represented 11.5 billion SEK in turnover and 9,400 employees in 2018.
TIC-companies = Test, Inspection & Certification

Source: Innovationsföretagen

> THE INDUSTRY IN SWEDEN TURNED OVER 94.5 BILLION SEK AND EMPLOYED 72,700 PERSONS IN 2018.

explain some of the growth – equivalent to SEK 1.3 billion and 1 800 employees. The real growth was SEK 7.2 billion and 4 700 employees, which corresponds to a growth of 8% and 7% respectively. The overseas subsidiaries of the Swedish groups developed significantly during the course of the year. They had a turnover of SEK 26.5 billion and employed 22 400 personnel abroad. This is to be compared with SEK 17.4 billion and 16 000 employees during 2017. A large part of the growth lies, of course, in ÅF's acquisition of the Finnish company Pöyry at the end of 2018. But a large number of other acquisitions have also been made by other players. Furthermore, Technia's foreign operations have been included in the review. These are equivalent to just over SEK 900 million.

Key Business Ratios

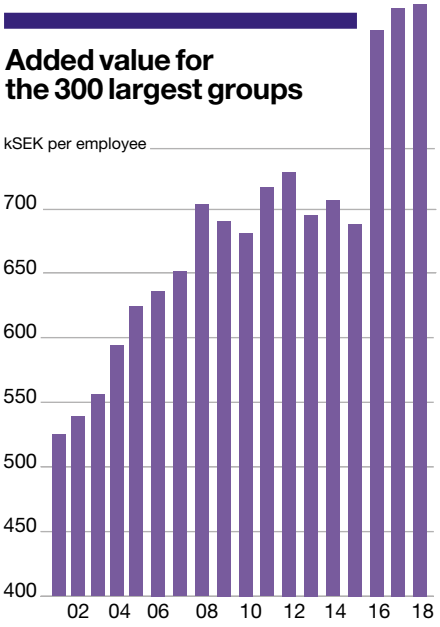
Key Business Ratios are calculated on the basis of the annual reports from the 300 largest groups from where there are full details available for use. They may therefore differ marginally from the figures reported by the entire sector.

The turnover per employee increased to SEK 1324k during 2018 from SEK 1299k in 2017. With the foreign subsidiaries, the turnover per employee amounted to SEK 1281k, this too an increase from the previous year when it was SEK 1264k.

The profitability, however, weakened somewhat, as expected, when the record order backlogs from previous years

[3] ÅF Pöyry changed name to AFRY in November of 2019. Read more about this under structural deals.

Added value for the 300 largest groups

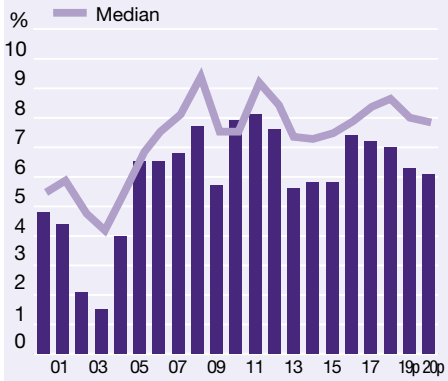


Source: Innovationsföretagen

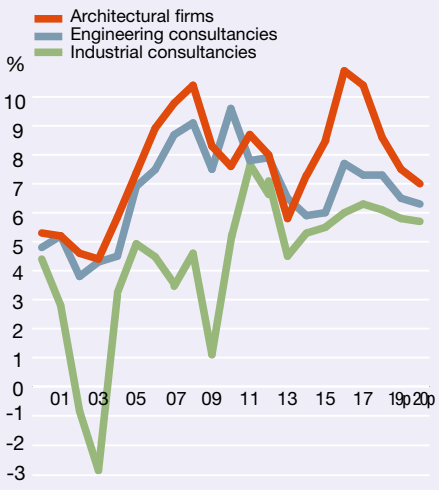
Development by sectors

	Turnover per employee, kSEK													Result after financial items per employee, kSEK											
	08	09	10	11	12	13	14	15	16	17	18	19p	20p	08	09	10	11	12	13	14	15	16	17	18	19p	20p
The top 300 groups	1 037	1 017	1 065	1 130	1 161	1 150	1 165	1 182	1 230	1 302	1 326	1 322	1326	78	46	85	92	88	64	67	69	91	94	92	83	81
Construction oriented	1 102	1 086	1 125	1 150	1 171	1 194	1 181	1 213	1 286	1 354	1 386	1 368	1 379	101	81	104	92	92	76	71	77	106	107	104	91	89
of which																										
Archictural firms	1 063	1 098	1 099	1 132	1 158	1 214	1 159	1 177	1 264	1 283	1 290	1 290	1 296	110	87	84	98	92	63	84	100	138	133	111	97	91
Engineering consultancies	1 107	1 184	1 129	1 153	1 174	1 093	1 184	1 219	1 290	1 372	1 410	1 388	1 400	101	80	107	90	92	79	70	73	106	103	104	90	88
Industrial consultancies	949	964	954	1 099	1 148	1 093	1 143	1 136	1 153	1 237	1 250	1 265	1 260	44	-17	45	91	82	49	61	58	70	79	77	73	72

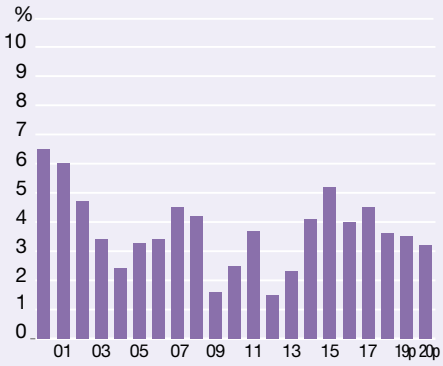
Profit margins in the top 300 groups



Profit margins



Change in payroll costs/employee



Source: Innovationsföretagen

> SWEDISH GROUPS TURNED OVER 26.5 BILLION SEK AND EMPLOYED 22,400 PERSONS IN THEIR SUBSIDIARIES ABROAD IN 2018.

dropped to more normal levels and price development slowed down. The profit margin (EBT) among the 300 largest companies was 6.9% during 2018, down from 7.1% in 2017. The operating margin also decreased. It was 7.1% compared with 7.4% the year before. The operating margin is measured in this context in accordance with Swedish practice; after depreciation - EBIT in international terms. Internationally, use is often made of EBITDA – the operating margin before depreciation. The EBITDA margin was 8.6% in 2018, which was also lower than in 2017 when it was 9.2%. The net margin (the year's result after tax) increased, however, to 5.1% from 4.7% the previous year. Indications during the year suggest that the profitability has continued to weaken slightly during 2019 but that it will possibly level off in 2020. The listed companies enjoyed a strong start to the year in terms of profitability, but the trend has subsequently slowed down. The average profit margin (EBT) for the first three quarters indicates a weakening by about 1 percentage compared with 2018. Innovationsföretagen member surveys also indicate a similar pattern. There, the profit margin is measured, which was good at the beginning of the year but which then dropped substantially during the third quarter. Here, however, it should be remembered that the vacation months fall under the measuring period. But even compared with the same period previously our profitability is worse. So, the picture of a decreasing profitability is borne out.

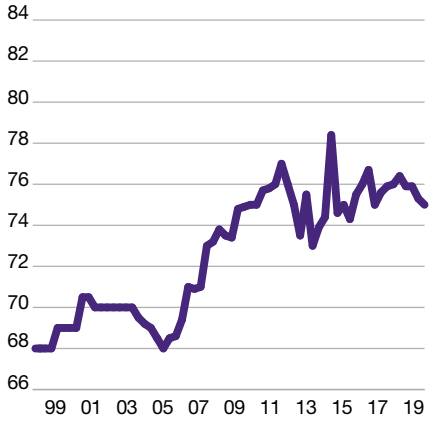
Investments in Sweden

	2018		2019 p	2020 p
	billion SEK	%	%	%
Dwellings	262.0	-4	-8	-5
Other premises	176.6	11	4	-1
Industrial buildings	8.2	0	-18	4
Infrastructure and installations	96.3	6	3	4
Total construction oriented investments	**543.1**	**2**	**-2**	**-2**
Investments by manufacturing industries in machines and tools, according to Innovationsföretagen and Statistics Sweden	**55.1**	**-5**	**-7**	**±2**

Building and industrial investments in 2018 and forecasts for 2019 and 2020.

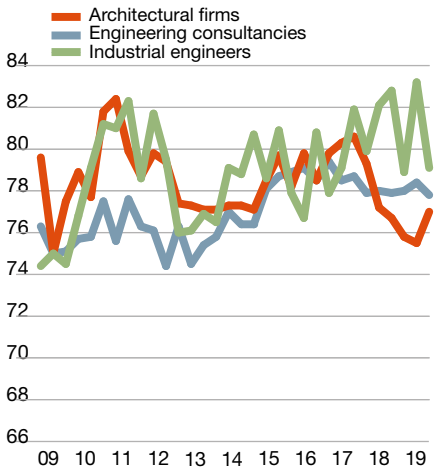
Source: Statistics Sweden and Swedish Construction Federation

Annual billing ratio, listed companies



The billing level of the listed companies, weighted according to the size of the respective company.

Average billing ratio per sector



From member surveys for the report Investeringssignalen, weighted according to the size of the respective company.

Value added

The value added per employee increased to SEK 858k during 2018 from SEK 855k in 2017. The value added is equivalent to the increase in value that companies add in their production and is also referred to as the companies' contribution to GNP. In purely concrete terms it is a company's sales minus the cost of inputs. The calculations are made by adding together the company's payroll costs and social fees, operating profit and depreciations. Together these make up the value added. The value is then divided by the mean number of employees in order to arrive at the value added per employee. In the graph that shows the development of the value added over time, a clear jump can be seen between 2015 and 2016, from levels of around SEK 700k to a little over SEK 800k per employee. This is a consequence of changes in the Annual Reports Act that came into force in 2016 which mean that smaller companies do not need to provide information on salaries and social fees with a specific specification of pension costs. The effects of the change, however, were greater than the mere fact that only the pension costs were included. Since the only account of salary expenses is now the personnel costs in the Profit and Loss Account, it now means that competence development costs are included. This is the reason for the large increase between 2015 and 2016. In other words, the value added includes more costs than before.

Financial strength

Financial strength is one way of measuring how a company's assets appear in

Stockholm Loop, Masmo Skyline and Footboat designed by Belatchew architects. Won Architectural Review MIPIM Future Project Awards.

ILLUSTRATION. BELATCHEW ARKITEKTER

relation to its debts. In this context we measure shareholders' equity against the total assets. A general rule of thumb is that a company should have a financial strength of over 30%. At the same time, it should not be too high. This would mean that the company's capital is inactive and is not generating any income. The financial strength in the sector was 38% in 2018, which is a decrease from 40% during 2017. However, the financial strength in general is sound within the sector even though the tendency is for it to be somewhat lower now than it was 5-10 years ago. Part of the reason for this is without doubt the increasing consolidation level. When the acquisition of companies increases, the borrowing level also increases, which should affect the financial strength to a certain extent.

Payroll costs

Payroll costs per employee increased by 3.6% between 2017 and 2018. Since 2014, the increases in payroll costs have been between four and just over five per cent. So, the result for 2018 could mark a break in trend. The payroll costs are measured as personnel costs per employee as they are reported in the annual reports. For the smaller companies all personnel-related costs have been measured since 2016 whereas in the case of the larger companies, payroll costs and social fees have been calculated. In the payroll cost calculations, the same basic data is used for both the comparative years. In other words, if only personnel costs are available in the profit and loss accounts this value is used for both years. In this way, the figures will be comparable even if the way in which wages and salaries are reported in the annual reports is changed. It could, however, be argued that the term used should be personnel costs rather than payroll costs, since for most companies it is these costs that have been reported since 2016. The average personnel cost was SEK 780k during 2018, which is an increase of 3.6% from the SEK 753k figure in 2017.

Billing level (graph on page10)

The billing level in the sector has been increasing for many years. It has been one of the main instruments with which to balance salary increases in order to retain profitability, when price development has been unable to match the salary increases. The difference with billing level compared to other Key Business Ratios is, of course, that there is a ceiling. In other words, it cannot continue to increase for ever. In order to retain innovation and competitiveness as a company, investments have to be made in research and development and in competence development. In addition, administration and sales must be paid for as overhead costs. So, it is a question of finding as high a utilisation capacity as possible that makes it possible to cover these costs and resources. The billing level among the member companies approached 80% during 2016 and 2017. In 2018, the increasing trend slowed down and this year stopped, with the billing level dropping to average levels of just over 78%. Architectural companies had average billing levels of 78.8% during 2015 and 79.4% in 2016, only to peak at 80.1% in 2017. During 2018 it dropped to 76.6% and in the first four-month periods this year it has been on a level of 76.4%. In the case of the engineering consultancies, the billing level has been more even. It was 78.6% in 2015, 79.0% in 2016, 78.4% in 2017 and 78.0% during 2018. So far during 2019 it has been on a level of 78.1%. The billing level among the industrial consultants appears to have peaked this year. It was 79.1% in 2015 and 78.5% in 2016. This was followed by 80.3% in 2017 and 81.3% in 2018. So far this year it has maintained a level of 81.2%.

The listed companies show a similar development pattern as the member companies in general. They have remained at billing levels of 76% to settle in 2018 immediately below at 75.7% on average. So far this year it has been on a level of 75.1%.

The likely development in the future

Trummens Strand residential block, designed by Fojab. Won the Wood construction prize of Växjö in 2019.

PHOTO: ANDERS BERGÖN

Malmö market hall, designed by Wingårdh architects. Won Malmö built society award.

PHOTO: ANDRÉ PIHL

INTERVIEW
ERIK LANDGREN
MANAGING DIRECTOR, KIWA INSPECTA SWEDEN

> THE INDUSTRY GREW BY 8% IN TERMS OF TURNOVER IN 2018.

"WE ARE A PARTNER THAT GUARANTEES THE QUALITY OF PRODUCTS AND SERVICES"

There is talk of a recession. How do you see market development over the period 2020–21?

We forecast continued positive development. In our sector we are needed in many cases as a partner to drive operations. Our activities safeguard the quality of products and services, and also give us access to the market.

Even in somewhat more difficult times our clients take the chance to safeguard their future operations through expansion and the upgrading of existing production facilities, etc. This means that there is a need for our services and that we can be a good partner for future growth among our clients.

How do you regard and how do you drive innovation in your company?

Constantly developing and adding services for the benefit of our clients is something that we

Erik Landgren, Managing Director, Kiwa Inspecta Sweden

are looking at all the time. Being a full-service supplier of TIC (Test, Inspection and Certification) services is important because we can make things easier for our clients and be a partner for them throughout the entire product and process life cycle.

Employer branding will be increasingly important in the struggle to attract talented personnel. How does the younger generation function and what approach do you take in order to be an attractive employer?

We have today a solid programme for new and more established employees incorporating, among other features, a leadership programme for our talents. This is conducted in both Sweden and at group level.

We face a challenge, however, in explaining what we are doing within TIC and the opportunities the job offers. We have so many interesting things to offer. At Kiwa you can work on anything from the inspection of fairgrounds to making calculations for advanced designs within the nuclear power industry. TIC is a unique business sector that is extremely developmental and offers an enormous variety in the choice of everyday work.

Which skills are likely to be in greater demand in the future?

We have a constant need for people with technical drive. Our operations are also becoming increasingly digitised. So, we see a major demand for driven and competent employees with the right background technically. However, equally important are but at the same time curiosity, drive and the desire to develop.

How can consultants help in developing a sustainable society?

This is one of the aspects that for me makes our sector so enjoyable to work in. Those services we provide have a direct link with sustainability. Being able, within a project, to work on extending the lifetime of a plant, environmental audits, energy audits, wind and solar power, risk analyses and testing and inspection for safety and performance to reduce the risk of environmental impact, are only some of the tasks we perform on a daily basis that have a direct impact on sustainability.

How do you solve the profitability equation with increasing salaries and stagnating prices?

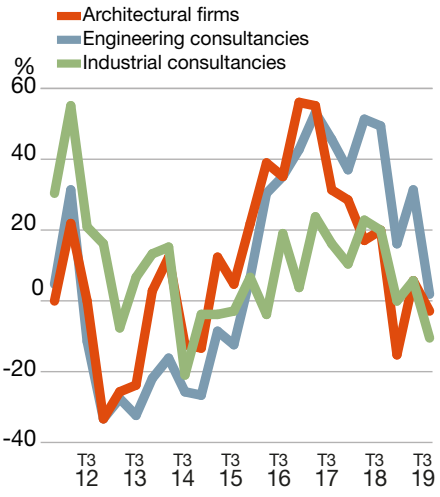
This is, of course, something that most business sectors are facing. I can see, however, that we really add a unique value to our clients' products and processes, and at the same time this is something that our clients can also see.

is that the average billing level will stabilise around the current level. However, it may increase somewhat for the architectural companies in the coming year or so.

Architectural companies

The architectural sector had a turnover of SEK 11.5 billion in Sweden in 2018. The number of employees in architectural companies increased to 9 400 compared with 9 000 the year before. The turnover per employee was SEK 1223k for the entire architectural sector. Among the 300 largest companies it was somewhat higher with a figure of SEK 1290k per employee. Swedish architectural firms had a turnover of SEK 1.5 billion and employed 900 personnel in foreign subsidiaries. Profitability decreased somewhat during 2018, which was only to be expected in light of the downswing in the housing sector in parallel with a growing share of public sector assignments. The operating margin

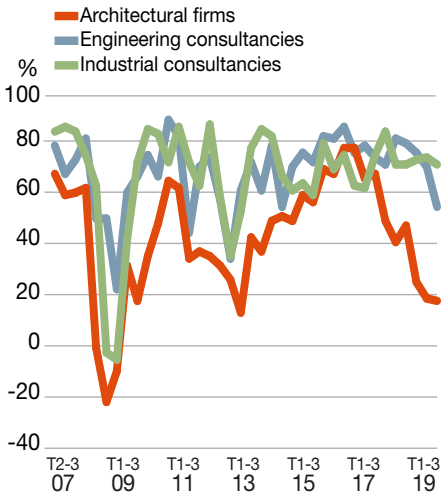
The Group's opinion about the development of the price situation



The price trend graphs show net figures for the proportion of firms that have raised their prices minus those that have lowered their prices over the past six-month period

Source: Innovationsföretagen

Manpower development

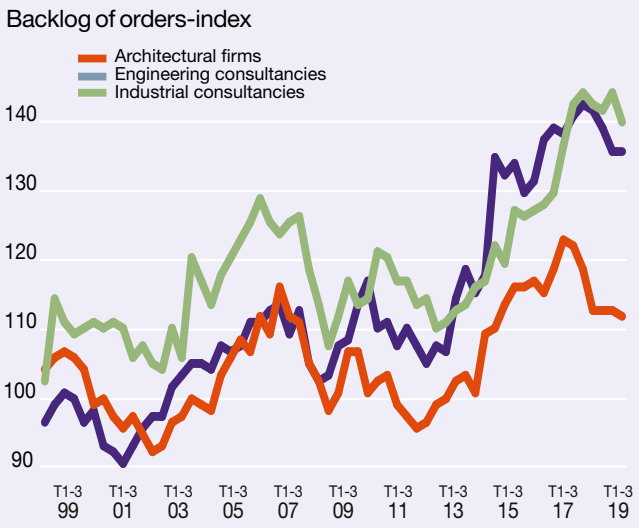


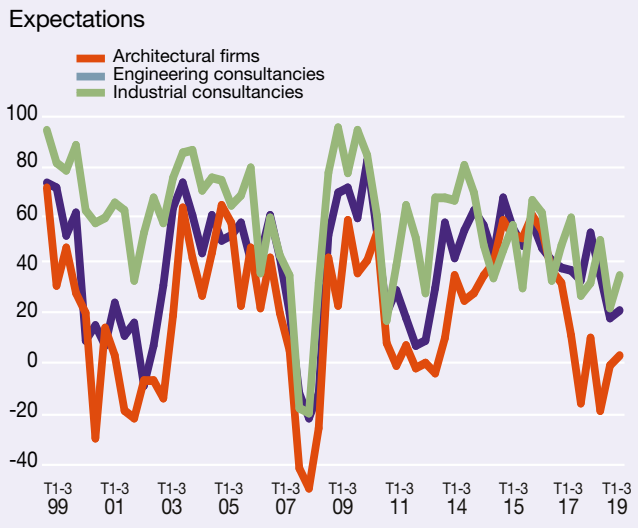
The expectations regarding how manpower will develop show net figures between the proportion of firms which believe their working force will increase minus those who believe it will decrease over the coming six-month period.

Source: Innovationsföretagen

> THE OPERATING (EBITA) MARGIN DROPPED TO 7.1% IN 2108, FROM 7.4% IN 2017.

Backlog of orders – index compared with order forecasts (expectations)

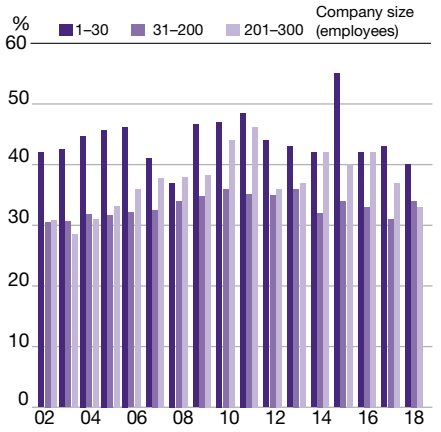




The order backlog index is based on questionnaire surveys among STD member firms, and is calculated by weighing between the orders in hand per employee and the order level in 2, 3, 6 and 12 months' time. The expectations' curve represents net figures for the proportion of firms that anticipate an improved order situation minus those that expect a worse order situation in 6 months' time.

Source: Innovationsföretagen

Equity ratio



Source: Innovationsföretagen

A comparison with other consulting industries

Turnover/employee (kSEK)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Management consultants	1820	1800	2075	2015	1890	1880	1906	1912	1823	1817	1924	2114	2336	2314
IT consultants (adm.)	1170	1135	1440	1270	1290	1480	1545	1627	1703	1917	1987	1858	1879	1953
Lawyers' offices	1595	1655	1750	1730	1690	1770	1840	1773	1921	1986	2104	2132	2177	2272
Market surveyors	1070	1085	1280	1355	1295	1445	1465	1459	1437	1423	1466	1461	1448	1524
Public relations and communication *)	1170	1265	1285	1320	1260	1235	1295	1269	1736	1808	1806	1849	1941	2028
Auditors	1135	1250	1250	1230	1275	1280	1320	1332	1402	1433	1491	1524	1552	1546
and as per our table on page 9														
Architects and building engineering consultant	992	1034	1102	1102	1086	1125	1150	1171	1941	1181	1213	1286	1354	1386
Industrial engineering consultants	910	886	915	949	964	954	1099	1148	1093	1143	1136	1153	1237	1250

It is interesting to make a comparison with other knowledge-intensive sectors as it gives an indication of the different fee levels between various consulting industries. The following comparative figures from the 20–50 largest companies in a few selected sectors have been collected using Soliditets' business tool; Nordic Business Key.

Source: Innovationsföretagen and Soliditets Nordic Business Key

was 9.2%, down from 11.4% in 2017. The profit margin was 8,6% compared with 10.3% the previous year. Profitability has continued to weaken during 2019. But there is much to indicate that the trend will level off in 2020. The slowdown in the architectural sector in general and the housing sector in particular has probably bottomed out this year. There are indications that the market situation has now stabilised at a somewhat lower level than over the period 2015–2018.

Industrial consultants (industrial engineering and tech companies)

The industrial consultancy sector developed significantly in size during 2018. It had a turnover of SEK 34.8 billion and em-

INTERVIEW
SARA LINDMARK
MANAGING DIRECTOR, I3TEX

"WE LIVE INNOVATION BECAUSE WE ARE DOING NEW THINGS ALL THE TIME"

There is talk of a recession. How do you see market development over the period 2020–21? What do you regard as being the trends and challenges?

We are optimistic and look forward to a stabilisation and more time to develop both relations and our business in a somewhat longer term. Our strategy is to offer product development to a number of different sectors, and this has proved to be a strength during various fluctuations in the economy. Even though the automotive sector seems to be slowing down, demand within, for example, medical technology and digitisation is increasing.

The challenge will continue to be in attracting the finest talents and matching them with client requirements – at the right time and at the right price.

With a sector in a state of change it feels more important than ever to have a clear strategy when it comes to size, services offered, skills, etc. How do you feel about this and what is your strategy?

It is an extremely exciting change, and as a medium-sized service company we will continue to be fast, close at hand and smart. We regard ourselves as being "an unusually large small engineering consultancy", and we wish to retain this feeling on, above all, our growth journey. Because we need quite simply to grow and become larger in order to be able to do more of what we are passionate about and to be a long-term and stable partner for our clients.

We have set up ambitious growth goals and are in the process of breaking them down into required levels within 1000 days. Among other things, all our employees have been asked to tell us what they consider to be their dream project. We then use this in our 1000-day planning scheme,

Sara Lindmark, Managing Director, i3tex

which is conducted at regional level.

In order to succeed, we take strength and energy from our vision to develop tomorrow's products for a better world. We are really passionate about using our skills in engineering – as well as our involvement for human-beings and the environment – to make the world a little better every day and step by step.

We are also undergoing comprehensive development by setting values for the whole of i3tex, which means that all we are and all we do shall be thoroughly permeated by enjoyment, consideration and endeavour. We are doing this on a process-by-process basis and are convinced that honest and clear values will be a strength when it comes to developing our employees, attracting new talents and in gaining even greater confidence from the market and our clients.

How does i3tex regard and drive innovation?

Innovation is part of our DNA. We live innovation because we do new things all the time. The clients appoint us in order to create something that does not exist today. We have an innovation process that we use for both our own idea and product development and in the work that we do for our clients. The very fact that we conduct our own product development gives us credibility at the same time as we develop our own competence, creativity and methods, which creates value for our clients.

We also see our innovation work as a way of benefitting society. We invite in everyone who wishes to contribute to a better world in order to find solutions in cooperation! We will perhaps start an innovation hub or incubator of some kind.

Employer branding will be increasingly important in the struggle to attract talented personnel. How does the younger generation function and what approach do you take in order to be an attractive employer?

This is a reality, and our approach is always to place the employees' perspective in the forefront when discussing development and making decisions. One practical example of this is our work on setting values – where we started with the employee and manager processes. Our leadership policy clearly expresses the fact that leadership involves, among other things, removing obstacles and facilitating the professional and personal development of our employees. Our managers shall always investigate the possibility of saying YES. Nobody shall through force of habit say NO.

We have an Advisory Board manned by employees that meets in order to discuss proposals and listen to opinions. Employees are free to apply for membership to the Advisory Board, but above all it is our value carriers that are members. It has naturally been the case that we have more members from the younger generation and even more from among senior employees. We of course want to be the best workplace for both groups.

In order to increase the proximity between i3tex as a company and all our consults, we have introduced the concept of Buddies. A Buddy is an employee who takes an extra special responsibility for a handful of his colleagues. Sometimes, the role also includes mentorship.

How can consultants help in developing a sustainable society?

By making the right choices in their assignments, every day. This requires both competence on our own part as consultants but also among our clients, who order the projects. The requirements and direction of a project are set at an early stage and it is here that important decisions are made. We want to help by acting as an advisor in the early stages, but regardless of how we become involved in the process we want to take part in creating a sustainable product.

We have developed our own method for increasing the awareness of both ourselves and our clients. We call it the Better World index. It is attracting a growing number of enquiries and increasing interest from both clients and our sector colleagues. BWi means that we investigate and rank all our projects on the basis of how well they fulfil our five Better World criteria: Reduce the burden on the environment, reduce human suffering, improve people's everyday life, increase people's security and facilitate communication and information flows

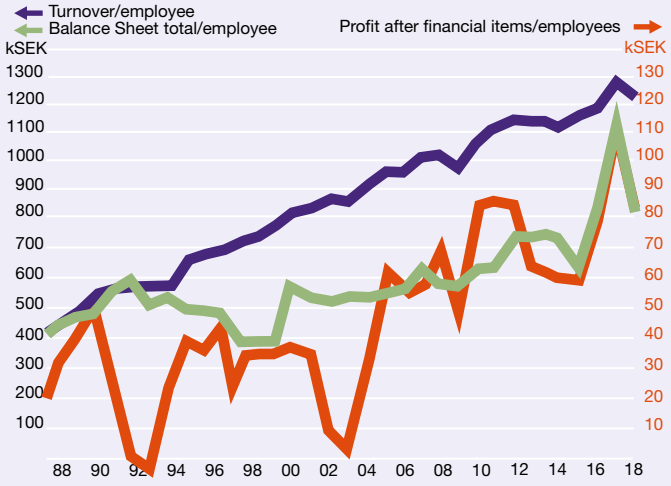
We follow up the results on an ongoing basis and in this way obtain a direct indication of how well we are fulfilling our vision of developing tomorrow's products for a better world.

Attracting more women to the engineering profession is also important for a more sustainable form of development. For us it is self-evident that a broad representation makes decision-making easier. An extended number of perspectives and greater experience will enrich all aspects from ideas and demands to selection and implementation. As a company we already enjoy equality on a management level, and we are trying hard to recruit more female consultants. It is a long-term task which includes, among other things, involvement in IGE Day, Introduce a Girl to Engineering Day.

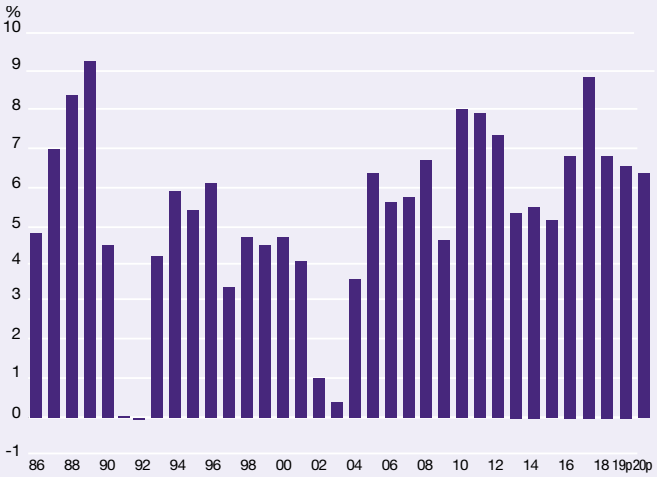
ployed 28 100 personnel in Sweden. This is an increase from the SEK 31.5 billion and 25 700 employees reported for 2017. The turnover per employee was SEK 1238k for the entire industrial consulting sector and SEK 1250k for the industrial consultancies among the 300 largest consulting companies. Swedish industrial consultants and tech companies turned over SEK 12 billion and employed 9 500 personnel in subsidiaries abroad. This is a substantial increase compared with last year when they turned over and employed SEK 5.4 billion and 4 900 employees respectively. A large part of the reason for this is ÅF's acquisition of Pöyry, which is now characterised as a foreign subsidiary. The inclusion of Technia's operations abroad in this year's review also

> THE SHARE OF WOMEN IN THE INDUSTRY WAS 34% IN 2018.

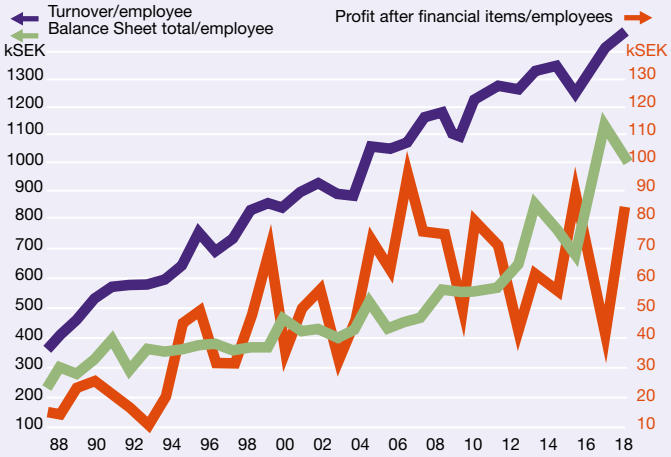
The top 30 Swedish groups



Profit margin in the top 30 groups



Group no. 31–50



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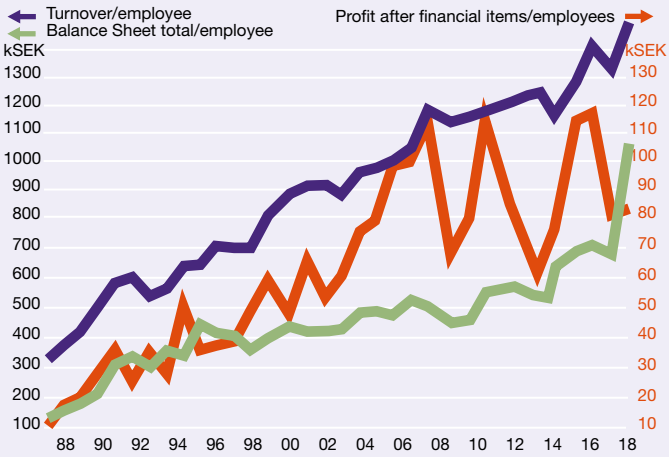

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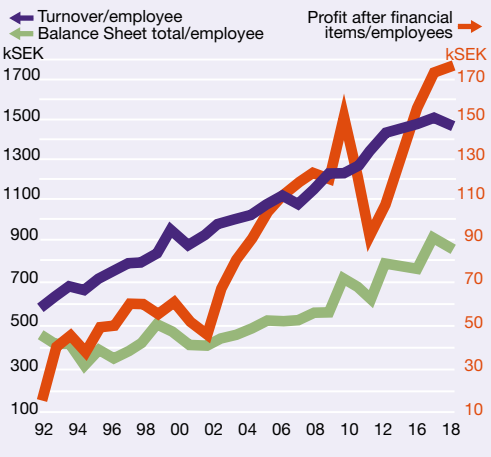

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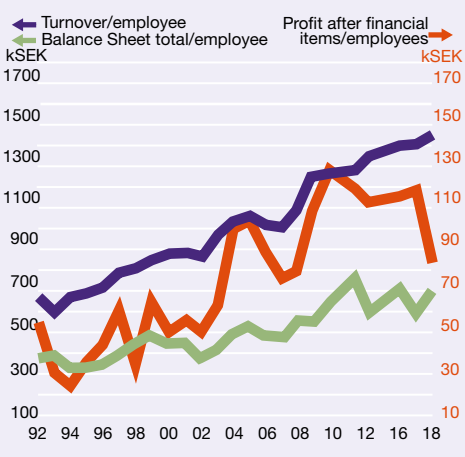
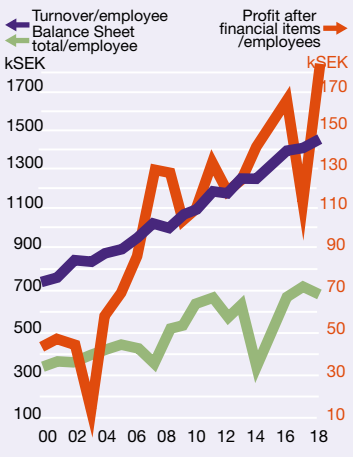


Group no. 201–300



Source: Innovationsföretagen

INTERVIEW
CHARLOTTE BERGMAN
CEO,
ELU KONSULT

"WE HAVE A CLEAR STRATEGY – WE SHALL CONTINUE TO WORK WITH DESIGN AT THE CUTTING EDGE OF TECHNOLOGY"

There is talk of a recession. How do you see market development over the period 2020–21? What do you regard as being the trends and challenges?

We saw the first signs of a slowdown as early as two years ago when the housing sector started to lose momentum. Despite this we have experienced – and continue to experience – a healthy demand for our services in consulting and design. We can perhaps foresee a somewhat calmer market development over the next few years, but within construction and infrastructure the demand remains strong. Trends such as urbanisation and a growing population result in the need to continue with the upgrading and development of new infrastructure, housing, care facilities, schools, etc., so we do not predict any dramatic downturns in the market. One major mutual challenge facing the sector involves, of course, contributing in a better way towards more sustainable building, which both deals with the effects of climate changes and means that the impact on the climate is minimised.

With a sector in a state of change it feels more important than ever to have a clear strategy when it comes to size, services offered, skills, etc. How do you feel about this and what is your strategy?

Our strategy remains clear – we shall continue to work with design at the cutting edge of technology. And preferably in technically complicated projects so that our clients and partners experience us as being one of the foremost consultants and designers on the market. Our development

Charlotte Bergman, CEO, ELU Konsult

strategy is to grow organically, and we have long experience of integrating new employees into the organisation. By standing for quality, involvement and advanced technical competence, we believe that both clients and personnel will continue to provide us with fresh confidence as a partner or client

How do you solve the profitability equation with higher salaries and stagnating prices?

So far, we have had the benefit of being able to reconcile the equation, but we of course need to work constantly on investing in and developing our tools, methods and personnel in order to be able to supply the added value that our clients are prepared to pay for.

Are other business models, such as fixed price, a good solution for low prices?

Fixed price may be a good alternative provided the project and the preconditions are right. But it is important not to ignore the risks that are involved.

In the case of increases in productivity, such as time saving or the re-utilisation of earlier work, who acquires the savings? You or the client?

In the best of possible worlds the answer is "both", but it depends, of course, on which form of payment applies. If we finish the project quicker than planned (Yes, it does sometimes happen!) we can take on a new project, which is also a profit. We always try to put the client's project and challenges in focus, and then it may sometimes mean more work (volume) for us but savings for the client in the form of a more optimised design with less material consumption, or a more production-friendly approach. Also, both the effects frequently involve a profit, both from the sustainability and the climate points of view.

How do you regard and how do you drive innovation in your company?

Innovation is an in-word at present and it is sometimes used in a way that makes its true meaning difficult to interpret – is everything that is new always innovative?

Most activities have to renew themselves more or less continuously in order to be relevant for their market, and this, of course, also applies to us. At ELU we have for many years had a systematic way of working with technical development. It exists in our DNA and is one of our foremost drivers for positioning ourselves at the cutting edge of technology. In our case, innovation and development take place on the one hand in projects based on experienced client demands, and on the other through thesis work in which we every year allow gifted students and future designers to help us develop new methods and tools that the market needs.

Employer branding will be increasingly important in the struggle to attract talented personnel. How does the younger generation function and what approach do you take in order to be an attractive employer?

A number of factors are needed in order to be attractive to both the younger and the somewhat older generations. The latter are very important in this context in serving as mentors for the younger employees. At ELU we focus on transferring knowledge and experience between employees and departments, which I believe everyone appreciates and benefits from.

In our experience, the most important thing is to be able to offer interesting and developmental work. Other parameters are clear-cut values and a corporate culture that contributes to a community spirit and a sense of involvement. Quite simply, we want to have a good time and enjoy ourselves at work, regardless of our age. It is also a question of showing that we as a company are involved in solving at least some of the numerous challenges that surround us.

How can consultants help in developing a sustainable society?

Well, I'm afraid there's no short and simple answer to that question!

From what we have so far seen in history, developments in technology and engineering have been of decisive importance in providing people with better living conditions. Today we can also see that technology has contributed partly to having an impact on the climate that will require major changes in our way of life and behaviour.

As consultants we must continue to develop and offer technology and methods that both directly and indirectly reduce our emissions, decrease our consumption of resources and introduce more recycling and waste recovery. This is easier said than done and requires - above all - extensive cooperation between all the players in the sector.

contributed, with approximately SEK 900 million and 460 employees. The positive profitability trend has also slowed down in the case of the industrial consultancies. The profit margin decreased to 6.1% in 2018, from 6.3% the year before. The operating margin, however, increased marginally to 6.7% from 6.6% in 2017. The profitability level in other words levelled off in 2018 to begin turning downwards again in 2019. Member surveys conducted in 2019 show, however, that the year started strongly only to weaken during the second 4-month period.

Engineering consultancy companies (building and construction)

Engineering consultancy companies in the field of building and construction had a turnover of SEK 46 billion during 2018 divided between 33 400 employees. There

THE TOP 50 ARCHITECTURAL GROUPS

	19	18	Group	Annual report	Turnover MSEK	(Previous year)	Em-ployees
IF	1	1	SWECO Architects (incl Årstiderne & Tovatt Architects & Planners) *	18	1850.0	1408.0	1200
IF	2	2	White Architects	18	870.7	918.7	673
IF	3	3	Tengbom group	18	685.4	705.6	702
	4	5	AFRY, incl. Gottlieb Paludan, SandellSandberg, Koncept Ark & Design *	18	391.5	399.1	267
IF	5	4	PE Architects	18	389.0	295.5	278
IF	6	6	Tyréns architects	18	290.0	250.0	230
IF	7	8	Arkitekterna Krook & Tjäder	18	242.6	206.0	215
IF	8	7	Wingårdh group	18	227.0	211.1	180
IF	9	12	Link Arkitektur AB	18	204.5	176.4	162
IF	10	10	Arkvision, fmr Mälarholmen (Ettelva Ark & M.E.R.)	18	202.0	184.7	100
IF	11	9	Liljewall architects	18	195.7	201.4	181
IF	12	15	Semrén & Månsson architects	17/18	180.8	159.1	172
IF	13	16	Arkitema AB (Cowi)	18	179.1	148.0	135
IF	14	11	FOJAB AB	17/18	176.9	177.8	133
IF	15	13	AIX Arkitekter AB	18	130.0	60.4	98
IF	16	14	Norconsult architects (incl Monarken) *	18	127.8	162.7	155
IF	17	18	ÅWL Arkitekter AB	18	125.7	130.4	97
IF	18	34	MAF Arkitektkontor AB	17/18	117.8	59.3	44
IF	19	24	Byrån för Arkitektur & Urbanism (BAU)	18	115.6	91.8	74
IF	20	19	Archus AB	18	112.7	119.2	62
IF	21	21	A & P Arkitektkontor AB	18	110.0	96.6	46
IF	22	22	Reflex Arkitekter (acquired Ripellino Ark, Sept-19) *	18/19	107.8	83.6	82
IF	23	17	Nyréns Arkitektkontor AB	18	107.1	139.9	91
	24	26	Cedervall Arkitekter	18	106.2	80.1	87
IF	25	25	BSV Arkitekter & Ingenjörer (acquired Outside Landskapsarkitekter) *	18	99.9	86.7	91
IF	26	28	BSK Arkitekter AB	18	97.7	77.1	60
IF	27	20	Brunnberg & Forshed Arkitektkontor AB	18	89.2	106.1	68
IF	28	31	Carlstedt Arkitekter AB	18	84.1	62.6	58
	29	27	Strategisk Arkitektur Fries & Ekeroth AB	18	76.0	77.4	49
IF	30	32	Kanozi Sverige AB *	17/18	72.9	61.4	64
	31	29	Wester+Elsner Arkitekter AB	18	72.8	72.7	46
IF	32	30	Equator Stockholm AB	18	70.2	68.7	53
IF	33	39	Här! (fmr SYD ARK Konstruera)	18/19	69.8	49.0	45
IF	34	56	Metod Arkitekter i Uppsala AB	18	62.7	33.3	26
IF	35	23	C.F. Møller Sverige AB	18	58.4	93.3	45
	36	33	Codesign Sweden AB	17/18	57.9	59.9	50
IF	37	38	Lindberg Stenberg Arkitekter AB	18	55.8	49.2	49
IF	38	37	Okidoki AB	18	53.7	50.2	52
	39	41	ABAKO Arkitektkontor AB	18	52.0	47.0	40
IF	40	35	Gatun Arkitekter (fmr Scheiwiller Svensson)	18/19	51.5	58.1	39
IF	41	40	Yellon AB	18	49.1	47.7	46
IF	42	55	Elinder&Sten Arkitekter AB	17/18	47.1	33.5	26
IF	43	45	Arkitektgruppen G.K.A.K AB	18	45.7	39.8	34
IF	44	60	Studio Stockholm Arkitektur AB	18	45.5	32.8	25
IF	45		We Group (fmr PP Arkitekter et al)	18	45.5	32.1	28
IF	46	48	Thomas Eriksson Arkitektkontor AB	18	45.0	38.4	29
	47	43	DinellJohansson AB	18	44.2	43.7	32
IF	48	44	Landskapslaget AB	18	43.8	39.9	35
	49	42	Kjellander & Sjöberg AB	17/18	43.6	45.3	47
IF	50	53	Arkitektbyrån Design Göteborg AB *	18	40.3	35.3	31

IF = Member of Innovationsföretagen (Federation of Swedish Innovation Companies) (*) = lack of conforming figure/proforma/assumed. The 50 largest architectural groups had a turnover of SEK 8,765 million in 2018 (SEK 8,070 million in 2017). The average number of employees was 6,539 (6,276) and the turnover per employee SEK 1286k (SEK 1263k). The list contains those groups in which architectural activities dominate.

Source: Innovationsföretagen

was therefore strong growth in this market segment too. In 2017, the engineering consultants had a turnover of SEK 41.6 billion and 29 700 employees. The turnover per employee in this segment was SEK 1377k whereas for the companies among the 300 largest in the sector it was SEK 1410k. This is an increase compared with SEK 1400k during 2017. The Swedish groups also turned over SEK 13 billion and employed 12 000 personnel in subsidiaries abroad. This is an increase of SEK 2 billion and 2 000 employees compared with last year. The profitability remained relatively unchanged in 2018 compared with 2017. The profit margin remained the same at 7.3%. The profit margin was somewhat lower, 7.2% during 2018 compared with 7.4% in 2017. The engineering consultancies started the year on a strong footing, in a similar way as the architects and the industrial consultants, but also witnessed a weaker profitability level later in the year. They have enjoyed continued healthy demand during 2018 and 2019 even though the backlog of orders slowed down compared with the record years 2016–2017. They have not noticed the slowdown, however, as much as the architectural companies – due mainly to the continued strong trend for investments in premises, infrastructure and other facilities. The prospects for the future look very positive, seen not least with a view to the investments in infrastructure, but also energy and power plants.

TIC-companies (Testing, Inspection and Certification)

TIC-companies, which we previously called inspection and certification companies, also grew in size in 2018. The TIC-companies we have in our review are relatively few in number. But they grew to a turnover of SEK 2.5 billion during 2018, from SEK 2 billion in 2017. However, the number of employees remained unchanged at 1 800. The turnover per employee was thereby SEK 1260k, which is a clear increase from SEK 1179k per employee that was reported for 2017. Profitability continued to increase. The profit margin grew to 4.3% from 3.0% in 2017.

THE TOP 50 GROUPS WITHIN INDUSTRIAL ENGINEERING

	19	18	Group	Annual report	Turnover MSEK	(Previous year)	Em-ployees
	1	1	AFRY, divisions (incl. acquisitions) *	18	13760.0	8460.3	10229
IF	2	2	Sigma Group (industry, technology, IT) *	18	3845.4	3366.4	3764
	3	3	Combitech AB	18	2314.6	2173.3	1762
IF	4	7	Rejlers (industry & energy) incl. acquisitions *	18	2122.0	1275.0	1700
IF	5	5	SWECO (Industry & Energy) *	18	1949.0	1844.0	1339
	6	6	HIQ International AB	18	1852.7	1787.9	1478
IF	7	4	Semcon AB	18	1842.2	1849.5	2041
	8	8	Alten Sweden	18	1404.5	1172.5	1592
	9		Technia (AddNode Group)	18	1132.0	920.0	555
IF	10	9	WSP Industry	18	920.0	854.0	883
	11	10	Altran Sweden	18	608.2	649.5	507
IF	12	11	Knightec (acquired Dewire, Jan-19) *	18	588.2	485.8	634
IF	13	12	Etteplan Sweden (acquired Teknifo, Oct-19) *	18	537.5	445.0	492
IF	14	13	COWI Industry	18	475.0	385.0	445
IF	15	21	Devport AB	18	334.5	235.2	349
IF	16	15	Avalon Innovation AB	18	318.9	286.2	183
IF	17	25	Ansys Sweden	18	316.9	188.5	28
	18	16	Z-Dynamics (Infotiv & Combine)	18	302.6	281.4	277
IF	19	18	Consat AB	18	291.6	269.6	201
	20	17	Eurocon Consulting (acquired pidab, Jan-19) *	18	281.5	277.5	259
IF	21	20	Hitachi Rail STS Sweden (fmr Ansaldo STS)	18	272.0	236.6	59
	22	19	Elektroautomatik i Sverige AB	18	258.4	248.0	117
IF	23	34	Escenda Engineering AB	17/18	216.4	125.1	130
	24	23	Essiq AB	17/18	199.1	175.5	173
IF	25	27	Expleo Technology Nordic (fmr Engineeringpartner Automotive)	18	182.8	175.7	158
IF	26	22	Projektengagemang (PE Industry)	18	179.9	217.4	177
IF	27	30	HRM EDAG Engineering AB	18	164.8	160.6	133
IF	28	28	i3tex AB	18	159.4	174.8	187
IF	29	32	Segula Technologies AB	18	154.4	134.7	171
	30	37	Optronic Partner PR AB	18	152.0	113.5	48
IF	31	47	One Nordic (Konsult & Mätteknik) AB	18	146.2	87.4	94
IF	32	59	Automations Partner i Helsingborg AB	18	140.8	68.1	39
IF	33	29	FS Dynamics AB	18/19	139.8	167.1	141
	34	39	Technogarden Engineering	18	138.9	104.0	114
	35	33	T-Engineering AB	18	133.1	127.3	72
IF	36	31	Core Link AB	18	119.6	148.2	50
IF	37	36	Cactus Utilities & Rail *	18	118.4	118.1	70
IF	38	40	Havd Group	18	115.0	103.1	35
	39		Processkontroll Elektriska i Stenungsund	18	114.3	78.8	42
IF	40	38	Condesign AB	18	112.3	104.1	126
	41	55	Chematur Engineering AB	18	111.8	78.2	34
	42	35	QRTECH AB	18	111.1	121.9	75
	43	44	Svensk Konstruktionstjänst AB	18	101.2	89.7	35
IF	44	49	Conmore Ingenjörsbyrå AB	18	99.5	86.8	123
	45	50	Veryday AB (part of McKinsey)	18	97.9	96.5	61
	46	45	Devex Mekatronik AB	18	97.6	88.5	102
IF	47	42	Prose AB	17	93.9	98.8	76
IF	48	56	Deva Mecaneyes AB	18	93.5	76.5	81
IF	49	41	AcobiaFlux AB *	18	93.2	100.4	58
	50		Nuvia Nordic AB	18	90.9	58.8	77

IF = Member of Innovationsföretagen (Federation of Swedish Innovation Companies) (*) = lack of conforming figure/proforma/assumed. The 50 largest groups within industrial engineering had a turnover of SEK 39,406 million in 2018 (SEK 31,287 million in 2017). The average number of employees was 31,576 (25,972) and the turnover per employee SEK 1205k (SEK 1144k). The list only includes groups where industrial engineering consultancy is the dominating activity.

Source: Innovationsföretagen

The profit margin increased to 4.4% from 3.6%. The TIC-companies that are included in our review are in principle all foreign-owned. Consequently, there are no operations in foreign subsidiaries to report. On the other hand, some of their parent companies appear in the Finnish and the European lists.

Price development

Following several years of positive price trends, price development has now slowed down, levelled off and, in certain cases, come to a standstill. Developments have been somewhat different depending on the field of operations concerned. The architects enjoyed a positive trend from the end of 2015 until the end of 2018, with increasing prices. When the housing sector started to slow down, the price increases also stopped. The engineering consultancies have been enjoying a positive trend since the beginning of 2016, but the average fees are now beginning to level off. The industrial consultants have been somewhat behind in this economic cycle. For them, the price development began to improve towards the end of 2016 and then slowed down in 2018 and during 2019.

In the member surveys during the year, the companies respond to how the price development has been for the average fees during the latest measurement period. The answers give a net total which shows the difference between the proportion of companies that have increased their prices minus those that have decreased their prices. All net amounts over zero mean that more companies have raised rather than lowered their average fee, and vice versa. The description above is based on the net amount over time. The net amount during 2017 was on average +24 for the industrial consultants, +40 for the architectural companies and +48 for the engineering consultants. During 2018, they were +15, +23 and +41 respectively. So far during 2019 (two four-month periods) they have been on levels of -5, +3 and 18 respectively. So, the net amounts are clearly lower this year than they were two years ago. However, the net amounts say

INTERVIEW
PER-HENRIK JOHANSSON
MANAGING DIRECTOR, LILJEWALL

"I FEEL CAUTIOUSLY OPTIMISTIC WHEN REVIEWING THE MARKET FOR **ARCHITECTS** IN THE IMMEDIATE FUTURE"

How do you see the market for architects in the coming period? Will the slowdown continue or is the market improving?

I am cautiously optimistic about the market for architects in the immediate future. The situation differs somewhat between our market areas and offices, but the overall picture is good. The slowdown that we experienced at the end of summer 2018 has not continued, but instead the situation has improved and stabilised. It should not be forgotten that we went from an extremely high level to what is now a "normal" level. The downturn was experienced above all in the Stockholm area.

Liljewall has a broad base of assignments and clients, which is a strength since our market areas move differently during a business cycle. The market segment that is now expanding as far as we are concerned is projects in the fields of care facilities, educational premises and sports installations. Many of the installations and facilities that were built in the 60s and 70s now need to be renovated or replaced. We had anticipated a downturn in housing, but this has not yet happened. What we have noted, however, is that we are working on fewer tenant-owned and more rented apartments, and on special-purpose housing, such as retirement homes,

Per-Henrik Johansson,Managing Director, Liljewall

apartments with special service (BmSS), etc.

What do you see in terms of trends and challenges on the market?

Digitisation is something we have been working on for many years, but it feels now as though the pace is speeding up and a lot is starting to happen. Much of the work entails increasing the efficiency of processes, but we also see opportunities for new services and business opportunities. The climate challenge is another part that influences our work and will affect us even more over the next few years. The sustainability issues have been on our agenda for a long time, but the acute situation regarding the climate will be of the utmost importance for our work.

With a sector in a state of change it feels more important than ever to have a clear strategy when it comes to size, services offered, skills, etc. How do you feel about this and what is your strategy?

Liljewall is a firm of architects, and architecture – in the widest sense of the word – is our core business. The starting point for our market areas, special skills and support functions stems from this standpoint. Being a large office is no end in itself. However, what could drive this development is the demanding competence and development work that is needed. It requires resources – a situation that is made easier if you are a large firm. We cooperate with other companies and what we do not have "in house" we try actively to complement in the network. Since the demands for specialisation are increasing, we predict that the need for networking and cooperation will also increase.

The housing sector has slowed down despite the fact that there is still a housing shortage. What is needed in order for the market to start growing again? How can we build cheaper apartments?

There is no simple answer to the question of how to solve the housing shortage and how we can build apartments at a reasonable price. It is a matter that cannot be handled by the building sector alone. Parts of it are the result of political decisions that have led to increasing economic disparities, which has in turn meant that many people cannot afford the apartments that are being built today. In order to reach the economically weakest groups I believe we have to accept some form of social building.

Our tax regulations need to be reviewed in order to acquire greater mobility on the existing housing market and to avoid the locking-in effect that we have today. Mortgage requirements, etc. tend to shut younger people out from the housing market. In this context, more alternatives are needed such as subsidised home saving schemes and shared rental contracts.

We also need to increase the amount of shared housing with the joint utilisation of floor space, community living and collective living in order to reduce costs for the individual. I also think that we need to accept an increased volume of modular construction and even more industrialised production. The challenge lies in doing this in such a way that it does not detract from the demand for good design and the chance to adapt to the specific location in question. We also need to review the building regulations. There are today far too many special demands in different municipalities which tend in themselves to drive up costs They could increase buildable land areas, provide more detailed development plans with shorter administration periods

How do you regard and how do you drive innovation in your company?

We see innovation and knowledge development as a natural part of our operations. We drive parts of this together with our clients and in our projects. We also allocate funds to be able to develop ideas and possible products, partly through our research

nothing about how much the prices have changed – only how many have raised or alternatively lowered them. But in the member surveys, measurements are also taken of the average fees which are then weighed against the company size counted in terms of number of employees to give an average fee for the period and market segment. Here it is possible to follow the actual development – and it reflects the image that is shown by the net amount above. The average fees appear to have peaked at the end of 2018 beginning of 2019, and thereafter levelled off and decreased somewhat.

Investments within the sector

The table indicating the investments made in the sector shows the investment volumes for 2018 and forecasts for 2019 and 2020. The total building investments amounted to SEK 543.1 billion during 2018 and the investments made by industry in machinery and equipment amounted to SEK 55.1 billion. This was an increase of 2 per cent for building investments compared with 2017 and a decrease of 5 per cent of the investments made by industry in machinery and equipment. Housing constitutes the largest sub-sector, with a volume of SEK 262 billion in 2018. However, housing is in the midst of a slowdown phase following several years of strong growth and investments are anticipated to decrease by 8% during 2019 and 5% in 2020. Nevertheless, investments in infrastructure and other facilities are expected to increase both this and next year.

The employment situation

The need for recruitment continues to be significant throughout the sector but has slowed down somewhat compared with the previous year. The need for recruitment is measured through the net

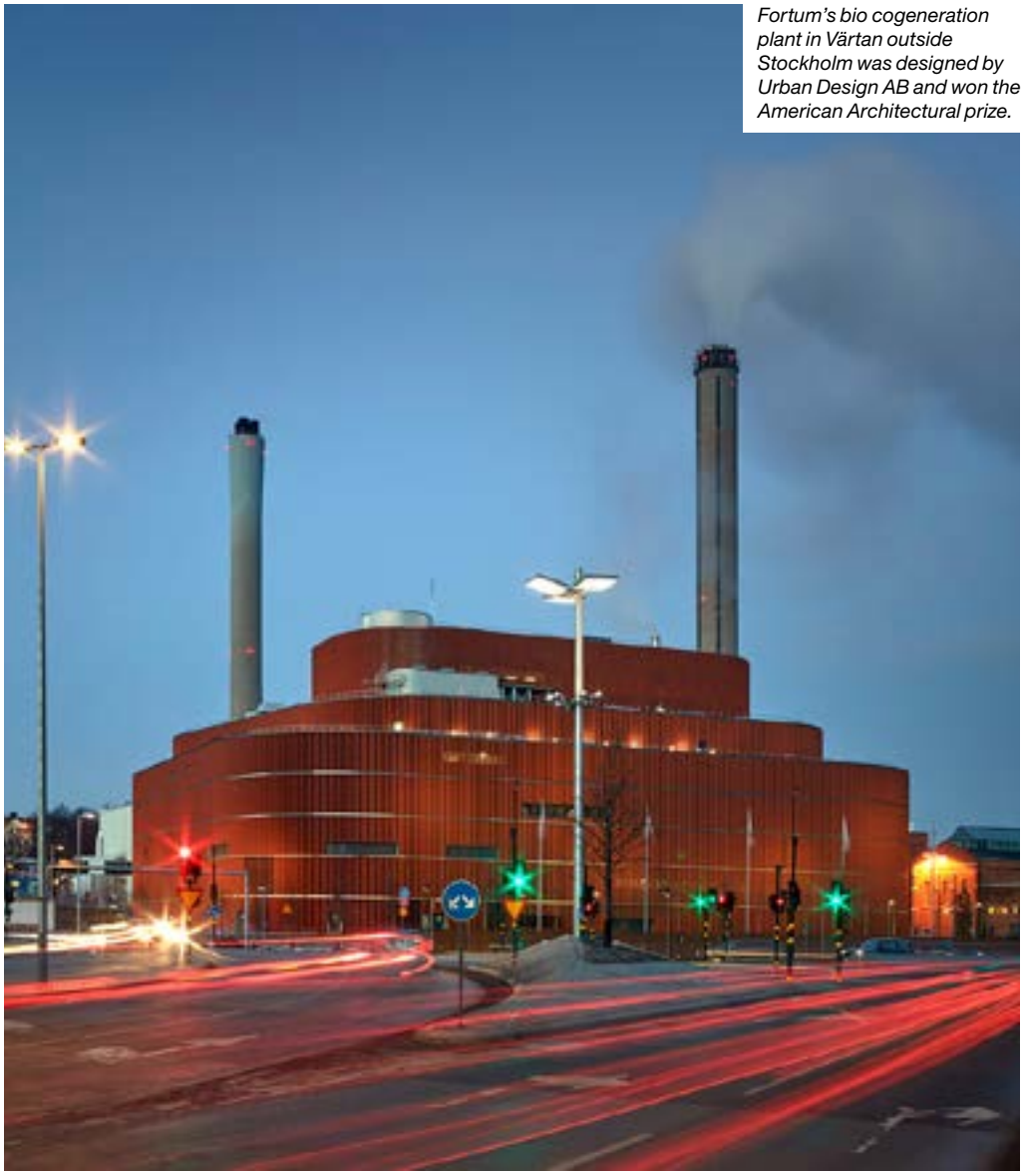
foundation and partly through internal development projects.

Employer branding will be increasingly important in the struggle to attract talented personnel. How does the younger generation function and what approach do you take in order to be an attractive employer?

We are very satisfied with the younger architects and building engineers who we recruit. One stage of being an attractive employer begins as early as during student years. We are engaged at our various colleges and universities as teachers, lecturers, critics, supervisors, course leaders, etc. We offer ongoing architect-training, to which a large number of people apply. As a new graduate, you are quickly given opportunities to take responsibility and join groups for exciting major projects right from the start. We have a wide range of social and healthcare-related activities and devote time to maintaining our corporate culture. We are employee-owned, which many find attractive.

How can architects help in developing a sustainable society?

Architects have a great opportunity to steer development towards the construction of a more sustainable society. We often come in at an early stage of the process when the preconditions are being formed. Even though we are unable to do more than our employer accepts, we have the possibility – with our knowledge – to advance and weigh different alternatives. Architects also have knowledge on and the possibility to visualise how attractive buildings and places are created.



Fortum's bio cogeneration plant in Värtan outside Stockholm was designed by Urban Design AB and won the American Architectural prize.

PHOTO: ROBIN HAYES/FORTUM

amount between the proportion of companies that need to recruit minus the number of companies that need to cut down on their personnel strength. The net amount has for several years been on levels of around 70–90, where the engineer-oriented companies are often positioned higher than the architectural companies. During 2018 and 2019, the need for recruitment has decreased, above all among architectural companies. In the latest member survey (September 2019), 59% of the participating companies stated they had a recruitment requirement and 7% a need to cut back. This gives a net amount of +50 (57-7) and applies for all market segments together. The net amount per segment can also be compared with the average for 2016, 2017, 2018 and 2019 (two four-month periods) respectively. In the case of the engineering consultants, the net amounts were: +86, +79, +83, +66. The net amounts for the industrial consultants were: +73, +78, +76, +77. A comparatively even development. The net amounts for architects were: +78, +64, +39, +18. In other words, a clearly downward trend for the architects.

The shortage of engineers is generally greater than it is for architects, where the supply matches the demand better. The reason why the net amounts lie on these high levels is that there is structural shortfall in available competence. There are in other words a number of vacancies that are not filled. For a number of years, we have calculated a figure that shows how many personnel are lacking in the sector. The figure this year (June) was 5 500, which is a reduction compared with 2018 when the shortfall amounted to 7 000 personnel. So, the reduced need for recruitment is marked, at the same time as there are thousands of vacancies that

> PERSONNEL COSTS INCREASED BY 3.6% IN 2018.

need to be filled. There is a miss-match between supply and demand. Above all, more senior consultants are required within almost all fields of competence. Companies solve this problem by recruiting from each other, which is a driving force behind staff turnover and salary increases. The proportion of recruitments in 2018 coming from competitors was 48%, which is a decrease from 2017 when the figure was as high as 55%. This was also the year when staff turnover in the sector was at its highest – on average 18%. The figure dropped in 2018, against expectations, to 17%. The indications so far this year are that it will perhaps end up at about 16–17% in 2019. Here too, the engineering companies are on slightly higher levels than the architectural companies. The industrial consultancies had a staff turnover as high as 25.9% in 2018 and 22.8% in 2017. This year it is expected to end up at about 20%. The engineering consultancies have been on levels of 16–18% during recent years.

The decrease in the need for recruitment in the sector could lead to a slowdown in the payroll cost spiral. Salary increases have been on a level of 4–5% for some years but dropped to 3.6% in 2018. It is reasonable to believe that the trend could continue during 2019 and 2020 when order volumes return to more normal levels and the capacity utilisation levels thereby decrease somewhat. This could lead to fewer recruitments from competitors, which happened between 2017 and 2018 and which to a large extent drive the spiral. So, it is possible that wage and salary increases will be on levels of between 3–4% for the coming year or so.

Age and gender structures

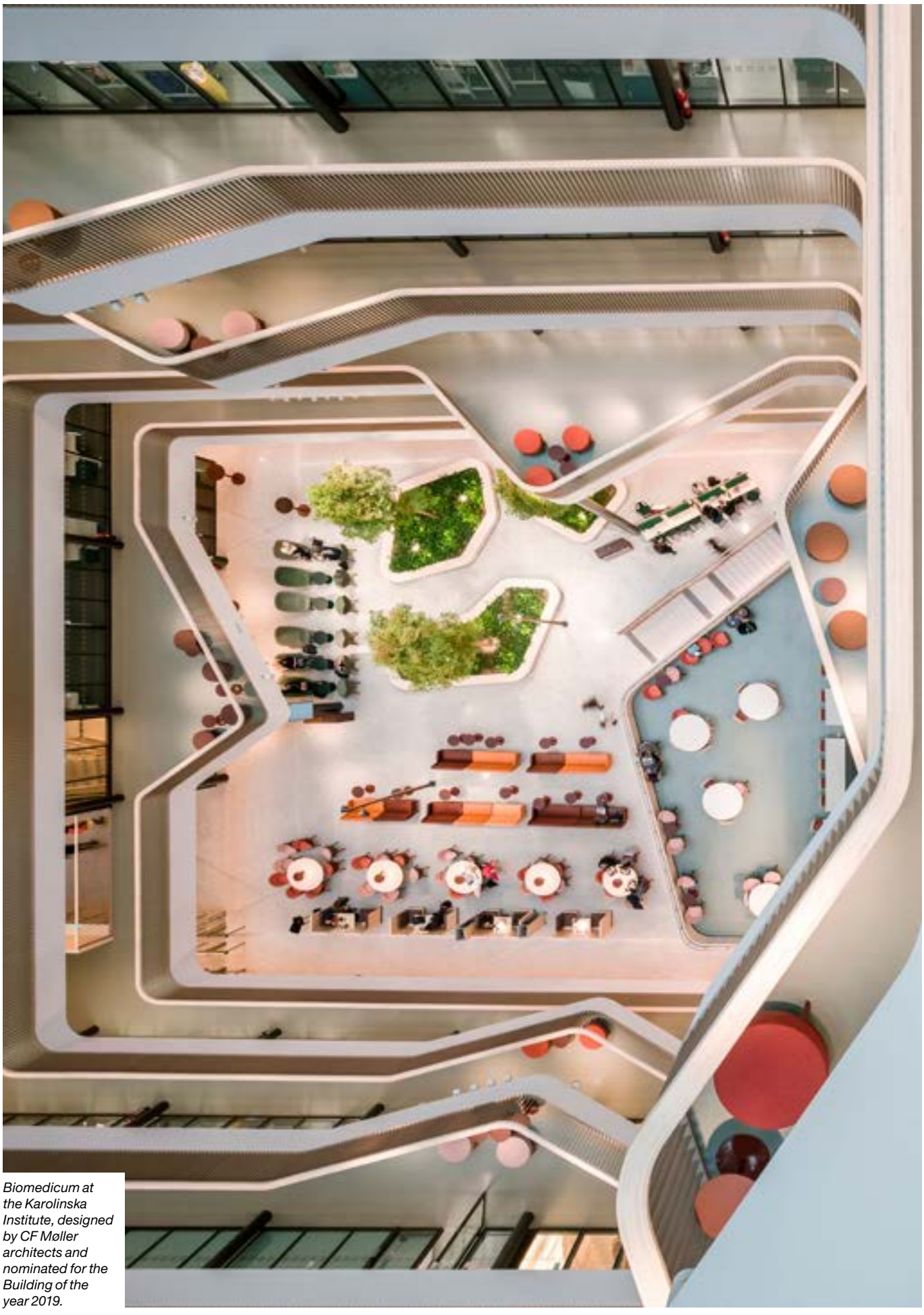
The member companies of Innovationsföretagen have an integrated personnel force of approximately 39 000 in Sweden. This is equivalent to just over half the number of staff employed within the entire sector. According to the Confederation of Swedish Enterprise salary statistics, 34% of the integrated personnel force during 2018 were women. Which is somewhat lower than the year before when the corresponding figure was 35%. The trend is anyway towards an upswing. Ten years ago, approximately one in every four employees in the sector was a woman. The proportion of women holding managerial positions increased during 2018 to 30%, from 26.9% the year before and the proportion of women who were represented on boards of directors increased to 22%, compared with 21% the previous year. In November 2019, 12% of the managing directors in the 300 largest companies in the sector were women. This is an increase from the 11% compared with the figure noted for the previous year.

The average age among the 39 000 members of Innovationsföretagen was 40.2 during 2018, which was somewhat lower than in 2017 when it was 40.4. The average age of female employees was somewhat lower: 38.8 compared with 41.0 among men

Slowdown and stabilisation

The record years 2016–2017, and a few months into 2018, were followed by a slowdown. This is almost exactly ten years after the Lehman Brothers applied for bankruptcy protection, which became the symbol and marked the beginning of the financial crisis that followed. Then, ten years ago, the feelings of crisis spread quickly, and many people anticipated a vastly weakened market from that point on. For some industrial consultants, above all those working in the vehicle industry, it became reality. Several thousand consultants became unemployed within a very short time. But for the sector as a whole, and for the building and construction sector in particular, it was merely a temporary hack in the curve. Subsequently, development continued as usual. A long period of growth followed, with a few minor fluctuations here and there, only to come to the record years 2016–2017, if regarded in terms of volumes. The housing market slowed down in the second half of 2018 and suddenly the feelings of risk, similar to those experienced in 2008, again began to spread. A slowdown in housing investments by a few per cent was interpreted as a crisis in the building sector. Admittedly, the crisis was much bigger in 2018, above all in the world at large. And it is a fact that the housing sector has slowed down. The investments are decreasing and the number of housing units on which work has started per year is decreasing. But they are still levels that are well over the average for the past ten-year period, and these years have not been experienced as crisis years. There has been a certain lack of perspective in the descriptions given of the economic cycles and the market. The overall boom has passed its zenith and is now beginning to slow. It is impacting on the demand for the manufacturing industry's products and services, which in turn affects the order trends among industrial consultancies and tech-companies to a certain extent. At the same time, the investments in machinery, equipment, product and process development tends to increase in longer periods of demand. So, it is not always the case that a worse economy can be directly translated into the industrial consultants' market situation. The building and construction sector, on the other hand, may in turn receive increased infrastructure and construction investments during a recession. At the same time, private investments in commercial property, offices and the experience industry will probably decrease. Employers can shift things around, but the long and short of it is that it will remain unchanged

Development in 2019 has continued as 2018 ended. The order volumes have decreased, even though they continue to be very good. Billing levels have slowed and swung downwards from a very high level to high levels, even though they continue to be very good. Price developments have slowed down now that the market situation has stabilised, the proportion of public sector clients has increased, and private clients have decreased. This usually results in a greater pressure on prices. The need for recruitment has decreased



Biomedicum at the Karolinska Institute, designed by CF Møller architects and nominated for the Building of the year 2019.

PHOTO: CF MØLLER

PHOTO: HUFTON + CROW

Kiruna's new City Hall Kristallen (the Crystal), designed by Henning Lars Architects and nominated to Building of the year 2019.

Juvelen (the Jewel) in Uppsala, designed by Utopia architects with ambition of becoming the most sustainable building in the Nordic region.

European Spallation Source (ESS) in Lund, Southern Sweden. Built by Skanska and designed by AFRY and Sweco. Won the AEC Excellence Awards of 2019.

but is still high. The development in payroll costs has slowed down, even though it remains high, at least compared with the price development. This has led to a slowdown in profitability during the year.

It seems as though development has levelled off towards the end of 2019. The order levels appear to have stabilised at new, more normal levels. The companies appear to be more positive towards future orders. Half the member companies believed (in September) in unchanged orders in hand up until March 2020. 35% believed in an increase and 14% in a decrease. Housing projects are not decreasing in volume as much anymore. Some companies reported an increase in incoming orders for housing projects. This should not be over-interpreted. It will take some time before the housing market becomes stable and the number of projects starts to increase again. It is a question of the rotation on the market, which was obstructed by more rigorous amortisation requirements and stricter salary ceilings, which led to greater difficulty for young people and those who have recently moved to the large cities in gaining access to the housing market. The range of housing units and the price structure offered for newly constructed housing also need to be varied. The housing shortage remains, however. Some 65 000 new units need to be built per year according to Boverket, the National Board of Housing, Building and Planning in order to meet the demand. We came very close to this level in 2017 (64 100 commenced housing units). But the average for the period 2008 – 2018 is 38 220 commenced housing units. The forecast for 2019 is 42 500. There is, in other words, enough room to increase the building tempo again and, not least, the need for more housing. In addition to this, there are other-premise investments, infrastructure and power and energy installations. Both the investments in the infrastructure sector and in the construction sector are expected to increase during the coming years. There are major demands for infrastructure

and, in the climate changeover, a major need for investment in new (and perhaps old) energy sources. Both the investments in the infrastructure sector and in the construction sector are expected to increase during the coming years. Investments are needed in public sector buildings such as educational premises, care premises and administrative offices. At present, private investments are slowing down in commercial premises and the experience (hotels, restaurants, etc) industry at the same time as the situation is stable in the office sector. Exactly what impact internet trading will have on commercial premises is beginning to be an interesting subject for speculation. On the one hand it could result in less of a demand for the major shopping centres that are located outside most urban areas. And on the other it could lead to a re-establishment of commercial premises in town and city centres, which could serve as showrooms for products that are then purchased online. Regardless of what kind of development there will be, large commercial areas could become available for other purposes and needs.

So, when the sector is experiencing a slowdown period it could be interesting to market conditions for the future. To put it briefly, things look pretty good anyway. The demand is substantial in many areas which bodes well for projects for engineering consultants and architects for many years to come. The industrial consultants will also be needed in connection with the product, process and equipment development that will be needed for the manufacturing industry in the future. Servicification, digitalisation, and climate changeover are terms that all of us will link with industrial engineering and tech companies for many years to come. Whether or not the slowdown phase is currently levelling off and becoming stable, or if it continues to cool the sector down for a little longer, is of course interesting and an important question today. The feeling is that the sector will stabilise itself during the next year or so. The need for the services of our member companies is substantial and the future looks bright. Things may be a bit shaky here and there – but they are moving forward.

Swedish structural deals

Consolidation has slowed down somewhat during the second half of 2019, but there have nevertheless been a number of interesting transactions. Growth among Swedish groups abroad is a trend that is definitely continuing. Descriptions are given below of some of the transactions that have taken place during the year together with some news about management changes.

Sweco makes acquisitions abroad

During 2019, **Sweco** has made five acquisitions that have added a further 1 200 employees to the Group. Over 1 100 of them were made in foreign operations. The acquisitions commenced in Finland as early as in January with the purchase of **Linnunmaa Ltd**, with 17 employees and specialising in technical safety skills and environmental services. After this, the company's sights were set on Great Britain through the acquisition of **MLM Group**, which offers services in design, transport infrastructure and environment. Distributed over 13 offices in London, Ireland and the South of England, and with 460 employees, MLM had a turnover of GBP 40 million in 2018. After the acquisition, Sweco UK will have a turnover of GBP 108 million with 26 offices and 1 340 employees.

June saw the acquisition of the German power transmission and electricity distribution experts imp **GmbH**, with 380 employees. Following this transaction, Sweco has an annual turnover of EUR 135 million and 1 420 employees in Germany, spread over 35 offices. In July, the firm of urban and rural planners and building architects **Tovatt Architects & Planners**, with 20 employees in Stockholm and Eskilstuna, was acquired. August saw the acquisition of the Finnish company **NRC Group's** department in railway infrastructure, with a total of 320 employees in Finland and Sweden. The Swedish operations consisted of **Nordic Infrapro** with a turnover of SEK 74.2 million and 49 employees.

In April, **Inission AB** acquired **Sweco Elektronik** i Västerås, which in 2018 had a turnover of SEK 36 million and 23 employees. The company will change its name to **Inission Västerås AB**.

Knightec purchases Dewire

In January, **Knightec** acquired IT consultants **Dewire**, specialising in digital solutions, which in 2017/2018 had a turnover of SEK 80 million and 75 employees. Following this acquisition, Knightec will have just over 700 employees, 200 of whom active in software and digitalisation.

In February, **Tyréns** acquired **VVS-konsulterna i Skellefteå AB** with 12 employees thereby strengthening its offering in installation. **Elektroautomatik i Sverige AB** was acquired in February by **Storskogen i Invest AB**, a corporate group that buys up and develops small and medium-sized companies.

We Consulting + IKKAB = Vinnergi

We Consulting merged with electrical consultants **IKKAB** to form **Vinnergi** which will together have 280 employees in 19 locations in Sweden and Norway with a turnover of some SEK 370 million. The services offered by the Group lie within telecom, real estate & industry, and infrastructure. October saw the acquisition of **Apexa Competence** in Gothenburg with 12 employees and a turnover of SEK 12 million, thereby strengthening its position in the west of Sweden.

In March, **Norconsult** acquired **Johnels & Moberg Arkitekter** i Göteborg with 9 employees and in **May Bitcon AB**, specialised in industrial automation, with ten employees. In January, **Eurocon Consulting** acquired the process consultancy **Pidab** with 24 employees and a turnover of SEK 8 billion. In June, **Rejlers** acquired parts of the Finnish company **Neste Engineering Solution's** operations consisting of 333 em-

INTERVIEW
VIKTOR SVENSSON
CEO AND MANAGING DIRECTOR, REJLERS

"WE INTEND TO DOUBLE OUR INVESTMENTS IN **EMPLOYER BRANDING**"

There is talk of a recession. How do you see market development over the period 2020–21? What do you regard as being the trends and challenges?

I think we'll be seeing a somewhat weaker market in comparison with the past ten years. We've experienced a historically strong economy since the financial crisis. I don't predict a total collapse but rather a lowering in level to a point where our sector will have to work a little harder on the sales side. I see it as being both an opportunity and a challenge – it is the tougher times that separate the wheat from the chaff.

If we look at how the large Nordic groups are developing, it looks as though the Nordic area will increasingly become a large and important domestic market. What are your reflections on this?

Viktor Svensson, CEO and Managing Director, Rejlers

Yes, that could well be the case. The Nordic region is the world's 11th or 12th largest economy with a high level of digitisation and innovation as well as a low level of corruption and other factors that tend to disturb progress. It is a fantastic region with short decision routes in which to operate in the short and long terms.

How do you solve the profitability equation with higher salaries and stagnating prices?

Our highly skilled engineers deserve a qualitative system of wage development. Then, at the other end, it is the responsibility of the engineering consultancy sector to guarantee a matching pattern of wage development among clients for the important values that we create. There is considerable room for improvement in the latter case.

Employer branding will be increasingly important in the struggle to attract talented personnel. How does the younger generation function and what approach do you take in order to be an attractive employer?

Above all, the younger generation values greater flexibility than earlier generations. This is the biggest difference, and we must address it. The week still has its 40 working hours, but how and when the work is done must be more and more up to the individual – especially in a digital world.

We at Rejlers will, as an absolute minimum, double our investments in employer branding over the coming years. It is high time to tell the world why the engineers out there should join us on our exciting journey and be colleagues with 2 400 awesome consultants in four countries.

ployees in Finland, Sweden and Abu Dhabi, thereby strengthening the range of services offered to the process industry and the energy area. In September, **Pondra AB** was acquired with 18 employees specialising in defence and safety.

ÅF + Pöyry = AFRY

At the end of 2018, **ÅF's** acquisition of the Finnish firm **Pöyry** was announced, which meant that the group increased in size by just over SEK 6 billion in turnover and nearly 5 000 employees. The new constellation **ÅF Pöyry** now has a turnover of approximately SEK 19 billion and 15 000 employees. The new group is divided into 5 divisions: Infrastructure, Energy, Process Industries, Industrial and Digital Solutions and Management Consulting. In November, the Group's new trademark – **AFRY** – was launched.

During 2019, AFRY acquired the Spanish firm **AF-Incepal**, with a focus on the pulp industry, and with 40 employees and a turnover of SEK 35 million, electrical consultants **Sonny Svensson Konsult AB** with 10 employees, **CTT-Systems** electronics unit in Gustavsberg with some ten employees, and the defence and transport consultancy **Cervino Consulting**, with 22 employees.

PE continues with its acquisitions

At the end of 2018, **Projektengagemang (PE)** acquired **Integra Engineering**, specialists in structural design, with 200 employees and a turnover of SEK 200 million. At the beginning of 2019, they purchased **Mats & Arne Arkitektkontor** with operations in Gothenburg and Stenungsund shared between 23 employees. In September, Managing Director **Per Hedebäck** left the company and was replaced for the time being by Chairman of the Board **Per-Arne Gustavsson**.

In September, **Reflex Arkitekter** acquired **Ripellino Arkitekter** with 28 employees and a turnover of SEK 26 million. In the summer, **Scheiwiller Svensson** changed its name to **Gatun Arkitekter**. The older spelling of the word "gatan" (street) symbolises the street perspective where the town or city resides. **Johanna Frelin** relinquishes the post of Managing Director at **Tengbom** at year-end to take up the position of Managing Director for Riksbyggen. No announcement has yet been made for a replacement. **Katarina Ringstedt** gave up the post of Managing Director of **Carlstedt Arkitekter** in October and was replaced for the time being by **Siv Axelsson** as Acting Managing Director.

In May, **Erik Landgren** took on the role of Managing Director for **Kiwa Inspecta** Sverige after **Maria Lustin**, who has been Acting Managing Director since March 2018. In the same month, the acquisition of **FORCE Technology's** Swedish operations, equivalent to 158 employees and SEK 163 million in turnover, was announced. In October, **Etteplan Sweden** acquired **Teknifo AB**, specialising in technical product documentation, with 20 employees.

THE 30 LARGEST GROUPS IN SWEDEN

(THE FIGURES REPRESENT ACTIVITIES IN SWEDEN)

	2019	2018	Group	Service	Annual report	Turnover MSEK	Turnover in Sweden MSEK	Employees	Employees in Sweden
	1	1	Afry, fmr ÅF Pöyry (5 acquisitions in 2019) *	MD	18	20217.5	**11089.8**	14964	**8071**
IF	2	2	SWECO (5 acquisitions in 2019) *	MD	18	19828.1	**7326.5**	16502	**5722**
IF	3	3	WSP Sverige (acquried Orbicon, Sept-19)	MD	18	4908.1	**4908.1**	4124	**4124**
IF	4	4	Sigma Group	I,CE	18	4006.5	**3582.0**	3985	**2850**
IF	5	5	Ramboll Sweden	MD	18	2339.2	**2339.2**	1676	**1676**
	6	6	Combitech AB	I	18	2314.6	**2314.6**	1762	**1762**
IF	7	7	Tyréns (acquired VVS-Konsulterna i Skellefteå, Feb-19) *	MD	18	2845.4	**2111.1**	2747	**1923**
IF	8	8	COWI AB (incl Arkitema) *	MD	18	1543.1	**1722.2**	1177	**1312**
	9	9	HIQ International AB	I	18	1852.7	**1480.7**	1478	**1165**
	10	13	Alten Sweden	I	18	1404.5	**1404.5**	1592	**1592**
IF	11	12	Rejlers (acquired Neste Engineering Solutions & Pondra) *	E,I,CE	18	2789.4	**1401.9**	2222	**1161**
IF	12	10	Semcon AB	I	18	1842.2	**1372.7**	2041	**1225**
IF	13	11	Projektengagemang (acquired Mats & Arne Arkitektkontor, Jan-19) *	MD	18	1246.4	**1246.4**	1044	**1044**
IF	14	15	Kiwa Inspecta, incl.Technology & Nuclear (acquired Force Technology) *	CT	18	942.4	**942.4**	770	**770**
IF	15	14	White architects	A,PM,Env	18	870.7	**788.7**	673	**641**
IF	16	21	Norconsult AB (acquired Johnels Moberg Ark & Bitcon AB) *	CE,Env,A	18	740.4	**740.4**	541	**541**
	17	16	Structor group	CE,PM, Env	18	739.9	**739.9**	480	**480**
IF	18	18	Dekra Sweden (Industrial + Automotive) *	CT	18	707.5	**707.5**	596	**596**
	19	17	Veolia Water Technologies AB	Env	18	678.3	**678.3**	132	**132**
IF	20	19	Tengbom group	A,IA	18	685.4	**651.6**	702	**676**
	21	20	Altran Sweden	I	18	608.2	**608.2**	507	**507**
IF	22	23	Bengt Dahlgren AB	M,Enr,Env	18	594.3	**594.3**	451	**451**
IF	23	24	Knightec (acquired Dewire, Jan-19) *	I	18	588.2	**588.2**	634	**634**
IF	24	26	Etteplan Sweden (acquired Teknifo, Oct-19) *	I	18	537.5	**537.5**	492	**492**
IF	25	25	Bjerking AB	CE,M,A	18	503.9	**503.9**	393	**393**
	26	28	Forsen AB	PM	18	438.3	**438.3**	206	**206**
IF	27	29	ELU Konsult AB	CE	17/18	375.4	**375.4**	185	**185**
	28	32	AVL MTC Motortestcenter AB	I	18	374.2	**374.2**	263	**263**
IF	29	31	IVL, Svenska Miljöinstitutet	Env,Enr	18	353.2	**353.2**	300	**300**
IF	30	27	Niras Sweden AB	PM	18	338.1	**338.1**	159	**159**

IF = Member of Innovationsföretagen, Federation of Swedish Innovation Companies. (*) = lack of conforming figure/proforma/assumed – = missing figure
PM = Project Management, A = Architecture, CE = Civil/Structural Engineering, CT = Certification and testing, Env = Environment, Enr = Energy, E = Electrical, M = Mechanical/HEVAC, I = Industrial, MD = Multi Disciplinary

EXPLANATORY TEXT ON THE TABLES RELATING TO THE 30 LARGEST GROUPS IN SWEDEN AND THE 300 LARGEST SWEDISH GROUPS

The list of the 300 largest Swedish groups presents entire Swedish corporate groups, i.e. it also includes their international operations with subsidiaries abroad. In the case of the foreign companies, only their Swedish operations are presented.

The list of the 30 largest groups in Sweden presents only Swedish operations, even in the case of the larger Swedish groups. In other words, international operations in foreign subsidiaries are not included. The list shows which groups have the largest operations in Sweden.

In the case of foreign-owned companies, the same figures are in other words reported in both tables. We have included only the 30 largest groups in this list since most of the remaining groups only operate in Sweden or have marginal activities abroad.

THE TOP 300 SWEDISH CONSULTING ENGINEERING AND ARCHITECTURAL GROUPS

(GLOBAL FIGURES ARE PRESENTED FOR SWEDISH GROUPS)

	2019	2018	Group	Service	Annual report	Turn-over MSEK	(Previous year)	Average number of employees	Profit after financial items MSEK	Added value/ empl. kSEK	Total balance sheet MSEK	CEO/Managing director
	1	2	AFRY fmr ÅF Pöyry (5 acquisitions in 2019) *	MD	18	20217.5	13051.7	14964	8.5%	917	17686.5	Jonas Gustavsson
IF	2	1	SWECO (5 acquisitions in 2019) *	MD	18	19828.1	17306.8	16502	8.0%	857	15060.0	Åsa Bergman (group), Ann-Louise Lökholm Klasson (Sweden)
IF	3	3	WSP Sverige (acquired Orbicon, Sept-19)	MD	18	4908.1	4571.6	4124	1.7%	789	2778.5	Magnus Meyer
IF	4	4	Sigma Group	I,CE	18	4006.5	3510.8	3985	10.4%	761	1903.0	Dan Olofsson
IF	5	6	Tyréns (acquired VVS-Konsulterna i Skellefteå, Feb-19) *	MD	18	2845.4	2211.6	2747	5.6%	725	1670.6	Johan Dozzi
IF	6	5	Rejlers (acquired Neste Engineering Solutions & Pondra) *	E,I,CE	18	2789.4	2505.1	2222	1.8%	753	1499.4	Viktor Svensson
IF	7	7	Ramboll Sweden	MD	18	2339.2	2175.3	1676	3.1%	848	790.9	Niklas Sörensen
	8	8	Combitech AB	I	18	2314.6	2173.3	1762	6.8%	865	841.1	Hans Torin
	9	10	HIQ International AB	I	18	1852.7	1787.9	1478	10.7%	946	1185.8	Lars Stugemo
IF	10	9	Semcon AB	I	18	1842.2	1849.5	2041	6.5%	664	935.5	Markus Granlund
IF	11	11	COWI (incl. Arkitema) *	MD	18	1722.2	1441.7	12312	1.0%	707	723.1	Anders Wiktorson
	12	13	Alten Sweden	I	18	1404.5	1172.5	1592	5.9%	725	653.9	Martin Segerström
IF	13	12	Projektengagemang (acquired Mats & Arne Arkitektkontor, Jan-19) *	MD	18	1246.4	1253.3	1044	5.8%	858	1205.1	Per-Arne Gustavsson, acting CEO
	14	48	Technia (AddNode Group)	I	18	1132.0	920.0	555	1.9%	389	81.8	Jonas Gejer
IF	15	15	Kiwa Inspecta, incl.Technology & Nuclear (acquired Force Technology) *	CT	18	942.4	759.8	770	2.8%	896	460.5	Erik Landgren
IF	16	14	White Architects	A,PM,Env	18	870.7	918.7	673	3.2%	878	338.2	Alexandra Hagen
IF	17	21	Norconsult (acquired Johnels Moberg Ark & Bitcon AB) *	CE,Env,A	18	740.4	648.1	541	3.3%	932	325.0	Ljot Strömseng
	18	16	Structor group	CE,PM, Env	18	739.9	726.9	480	14.4%	1126	318.1	Fladvad, Hulthén, Texte
IF	19	19	Dekra Sweden (Industrial + Automotive) *	CT	18	707.5	675.0	596	4.9%	1511	830.0	Stefan Törngren (Industrial) & Jan Martinsson (Automotive)
IF	20	17	Tengbom group	A,IA	18	685.4	705.6	702	4.0%	748	287.9	Erika Rönnquist Hoh, acting CEO
	21	18	Veolia Water Technologies AB	Env	18	678.3	680.7	132	0.6%	1041	311.8	Fabrice Brochet
	22	20	Altran Sweden	I	18	608.2	649.5	507	1.8%	823	310.5	Fredrik Nyberg
IF	23	23	Bengt Dahlgren AB	M,Enr,Env	18	594.3	532.5	451	10.1%	1028	241.0	no CEO
IF	24	24	Knightec (acquired Dewire, Jan-19) *	I	18	588.2	485.8	634	7.6%	718	226.0	Dimitris Gioulekas
IF	25	27	Etteplan Sweden (acquired Teknifo, Oct-19) *	I	18	537.5	445.0	492	7.6%	823	206.2	Mikael Vatn
IF	26	25	Bjerking AB	CE,M,A	18	503.9	473.8	393	6.2%	938	244.1	Anders Wärefors
	27	29	Forsen AB	PM	18	438.3	409.4	206	3.4%	1084	187.9	Bengt Johansson
IF	28	26	Hifab Group	PM,	18	401.7	446.0	295	3.3%	768	171.0	Patrik Schelin
IF	29	30	ELU Konsult AB	CE	17/18	375.4	338.2	185	9.6%	1145	127.5	Charlotte Bergman
	30	32	AVL MTC Motortestcenter AB	I	18	374.2	316.1	263	2.1%	927	271.1	Erik Osnes
IF	31	31	IVL, Svenska Miljöinstitutet	Env,Enr	18	353.2	327.7	300	0.5%	736	230.1	Tord Svedberg
IF	32	28	Niras Sweden AB	PM	18	338.1	421.5	159	-0.8%	778	131.7	Christian Sandberg
IF	33	40	Devport AB	I	18	334.5	235.2	349	8.9%	652	197.7	Nils Malmros
IF	34	33	Avalon Innovation AB	I	18	318.9	286.2	183	-0.1%	865	185.8	Peter Mattisson
IF	35	49	Ansys Sweden	I	18	316.9	188.5	28	-5.8%	1416	294.7	Richard Belcher
IF	36	42	Atkins Sweden (SNC-Lavalin Group)	CE	18	312.3	213.1	236	7.0%	941	120.8	Johannes Erlandsson
	37	34	Z-Dynamics (Infotiv & Combine)	I	18	302.6	281.4	277	5.3%	748	187.6	Alf Berntsson (Infotiv), Peter Karlsson (Combine)
IF	38	38	Golder Associates AB	CE, Env	18	291.8	242.3	143	10.2%	1005	171.9	Anna-Lena Öberg Högsta
IF	39	36	Consat AB	I	18	291.6	269.6	201	7.6%	930	136.4	Martin Wahlgren
IF	40	63	Vinnergi AB (fmr We Consulting AB & IKKAB. Acquired Apexa Competence) *	E	18	290.9	154.3	236	7.7%	817	79.9	Pierre Wallgren
	41	35	Eurocon Consulting (acquired pidab, Jan-19) *	I	18	281.5	277.5	259	10.9%	858	169.5	Peter Johansson
IF	42	39	Hitachi Rail STS Sweden (fmr Ansaldo STS)	I	18	272.0	236.6	59	10.3%	1752	848.6	Eric Morand
	43	37	Elektroautomatik i Sverige AB	I	18	258.4	248.0	117	11.6%	948	119.0	Jonas Kjellberg
IF	44	44	Arkitekterna Krook & Tjäder	A	18	242.6	206.0	215	8.3%	856	102.0	Johan von Wachenfeldt
IF	45	43	Wingårdh group	A	18	227.0	211.1	180	5.0%	1002	136.6	Gert Wingårdh
IF	46	76	Escenda Engineering AB	I	17/18	216.4	125.1	130	4.5%	729	113.1	Praveen Purushottam Kadle

	2019	2018	Group	Service	Annual report	Turn-over MSEK	(Previous year)	Average number of employees	Profit after financial items MSEK	Added value/ empl. kSEK	Total balance sheet MSEK	CEO/Managing director
IF	47	53	Link Arkitektur AB	A	18	204.5	176.4	162	0.2%	825	61.4	John Lydholm
IF	48	50	Arkvision, fmr Mälarholmen (Ettelva Ark & M.E.R.)	A	18	202.0	184.7	100	16.2%	955	276.3	Christina Karlsson Kazeem (Ettelva), Cecilia Bejden (M.E.R.), Jan Hardenborg
	49	46	Essiq AB	I	17/18	199.1	175.5	173	3.7%	978	70.8	Jonas Sohtell
IF	50	45	Liljewall Architects	A	18	195.7	201.4	181	7.9%	882	62.0	Per-Henrik Johansson Lamond
IF	51	54	Expleo Technology Nordic (fmr Engine-eringpartner Automotive)	I	18	182.8	175.7	158	9.3%	787	76.2	Fredrik Blomberg
IF	52	102	TM-Konsult AB (with Collage Arkitekter) *	CE, I	17/18	181.0	159.6	119	12.5%	888	158.0	Anders Franklin
IF	53	61	Semrén & Månsson architects	A	17/18	180.8	159.1	172	11.1%	792	237.8	Magnus Månsson (group CEO), Ulrika Liss-Daniels (MD)
IF	54	66	Midroc Project Management (acquired Idhammar AB, March-19) *	CE,I	18	179.2	147.5	101	5.2%	979	83.6	Stefan Kronman
	55	92	KeyPlants AB	CE	18	178.9	102.9	26	14.5%	1926	240.6	Jörgen Harrysson
IF	56	52	FOJAB AB	A	17/18	176.9	177.8	133	15.4%	1139	73.5	Daniel Nord & Cecilia Pering (Fojab Arkitekter)
	57	41	Ebab i Stockholm AB	PM	18	174.3	215.4	112	-32.1%	681	107.6	Kaarel Lehiste (group CEO), Katrin Dahl-ström (MD)
	58	58	Exact Svenska Mätcenter AB	CE, Enr	18	171.0	165.5	119	3.9%	696	67.9	Peter Mikes
	59	62	Brandskyddslaget AB	M	18	165.6	158.5	94	15.3%	1335	108.4	Martin Olander
IF	60	60	HRM EDAG Engineering AB	I	18	164.8	160.6	133	1.0%	790	70.3	Jacob Hjelmåker
IF	61	69	Byggnadstekniska Byrån Sverige AB	CE	18	159.9	138.3	120	17.6%	1073	81.6	Erik Löb
IF	62	55	i3tex AB	I	18	159.4	174.8	187	1.3%	702	62.4	Sara Lindmark
IF	63	77	Geosigma AB	CE,Env	18	156.7	124.8	119	11.1%	973	61.9	Per Aspemar
IF	64	71	Segula Technologies AB	I	18	154.4	134.7	171	4.9%	743	54.3	Henrik Nessér
IF	65	70	INCOORD AB	M	18	153.5	135.7	91	16.1%	281	52.5	Tore Strandgård
	66	82	Optronic Partner PR AB	I	18	152.0	113.5	48	9.3%	1005	72.4	Ulrik Stenbacka
IF	67	74	FVB Sverige AB	Enr	18	147.8	128.2	122	8.0%	946	71.6	Leif Breitholtz
IF	68	108	One Nordic (Konsult & Mätteknik) AB	I	18	146.2	87.4	94	5.1%	861	140.0	Jonas Arvidsson
IF	69	73	Riba group	M,Enr	17/18	143.1	129.9	50	8.3%	1046	48.1	Michael Lennse
IF	70	139	Automations Partner i Helsingborg AB	I	18	140.8	68.1	39	9.9%	1259	52.0	Henrik Rosengren
IF	71	57	FS Dynamics AB	I	18/19	139.8	167.1	141	7.9%	748	48.5	Roger Blom
	72	90	Technogarden Engineering	I	18	138.9	104.0	114	3.4%	705	53.4	Stefan Lundin
IF	73	87	Evomatic AB	E	17/18	134.0	106.3	68	-6.0%	598	54.3	Jonas Persson
	74	75	T-Engineering AB	I	18	133.1	127.3	72	4.5%	1416	115.5	Klas Lundgren
IF	75	56	AIX Arkitekter AB	A	18	130.0	60.4	98	6.5%	943	36.6	Gunilla Persson
IF	76	79	Nitro Consult AB	CE	17/18	127.8	121.4	100	-9.6%	721	167.2	Maria Sundesten
	77	93	Iterio AB (Multiconsult)	CE	18	126.6	100.8	83	6.3%	953	50.3	Jonas Jonsson
IF	78	72	ÅWL Arkitekter AB	A	18	125.7	130.4	97	14.1%	1020	57.2	Jacob Haas
IF	79	64	Core Link AB	I	18	119.6	148.2	50	4.0%	866	111.4	Jörgen Jensen
IF	80	81	Cactus Utilities & Rail *	I	18	118.4	118.1	70	9.0%	1066	90.0	Fredrik Bergström, Elisabet Svensson
IF	81	158	MAF Arkitektkontor AB	A	17/18	117.8	59.3	44	19.1%	1244	49.7	Peter Häggmark
IF	82	101	Byrån för Arkitektur & Urbanism (BAU)	A	18	115.6	91.8	74	15.4%	1145	55.7	Peter Walker
IF	83	112	Frankgruppen AB	PM,CE	18	115.0	86.0	48	13.6%	1675	42.6	Magnus Trange
IF	84	91	Havd Group	I	18	115.0	103.1	35	6.9%	795	51.5	Björn Hedenberg
IF	85	85	VBK Konsulterande Ingenjörer	CE	18	114.4	111.7	92	2.8%	959	38.7	Ola Kjellman
	86		Processkontroll Elektriska i Stenungsund AB	I	18	114.3	78.8	42	8.1%	931	43.7	Ingemar Gustavsson
IF	87	80	Archus AB	A	18	112.7	119.2	62	18.5%	1213	46.1	Johnnie Pettersson
IF	88	67	PQR International Group	M,E	18	112.4	143.6	130	5.0%	603	45.7	Mikael Bisther
IF	89	89	Condesign AB	I,E	18	112.3	104.1	126	6.6%	667	46.5	Fredrik Bromander
IF	90	84	Projektledarhuset i Stockholm AB	PM	17/18	111.9	88.3	54	6.2%	1272	38.2	Örjan Kjellström
	91	126	Chematur Engineering AB	I	18	111.8	78.2	34	20.1%	2264	167.7	Fengrui Wang
	92	78	QRTECH AB	I	18	111.1	121.9	75	2.9%	862	48.5	Patrik Sahlsten

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PM = Project Management, A = Architecture, CE = Civil/Structural Engineering, CT = Certification and testing, Env = Environment, Enr = Energy, E = Electrical, M = Mechanical/HEVAC, I = Industrial, MD = Multi Disciplinary

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(GLOBAL FIGURES ARE PRESENTED FOR SWEDISH GROUPS)

	2019	2018	Group	Service	Annual report	Turn-over MSEK	(Previous year)	Average number of employees	Profit after financial items MSEK	Added value/ empl. kSEK	Total balance sheet MSEK	CEO/Managing director
IF	93	97	A & P Arkitektkontor AB	A	18	110.0	96.6	46	6.3%	1008	40.5	Per Ahrbom
IF	94	98	Reflex Arkitekter (acquired Ripellino Ark, Sept-19) *	A	18/19	107.8	83.6	82	114.4%	1069	74.9	Marco Testa
IF	95	96	Helenius Ingenjörsbyrå AB	M	18	107.5	97.9	80	22.1%	1013	43.7	Arne Wallström
IF	96	68	Nyréns Arkitektkontor AB	A	18	107.1	139.9	91	-23.4%	739	36.5	Ulrika Bergström
	97	122	Cedervall Arkitekter	A	18	106.2	80.1	87	4.7%	714	38.8	Björn Stillefors
IF	98	113	BERGAB Berggeologiska Undersökningar AB	CE	18	101.6	85.5	73	11.6%	1037	45.8	Krister Jansson
	99	105	Svensk Konstruktionstjänst AB	I	18	101.2	89.7	35	3.7%	910	30.1	Johan Lantz
IF	100	111	BSV Arkitekter & Ingenjörer (acquired Outside Landskapsarkitekter) *	A,CE	18	99.9	86.7	91	21.1%	884	54.6	Johnny Grauengaard
IF	101	110	Conmore Ingenjörsbyrå AB	I	18	99.5	86.8	123	4.4%	691	34.4	Andreas Svensson
	102	114	Veryday AB (part of McKinsey)	I	18	97.9	96.5	61	19.3%	1476	80.6	Peter Andén
IF	103	157	Systra AB (fmr Dalco Elteknik)		18	97.9	59.4	93	3.4%	653	43.9	Bruno Susak
IF	104	128	BSK Arkitekter AB	A	18	97.7	77.1	60	8.4%	1049	34.9	Stina Ljungkvist
	105	106	Devex Mekatronik AB	I	18	97.6	88.5	102	7.0%	785	30.0	Eric Boström
	106	86	Teodoliten *	CE	18	96.9	109.0	83	18.0%	883	68.0	Joakim Hixén
IF	107	104	Bergsäker AB	CE	18	95.5	90.1	40	17.2%	1482	56.6	Jörgen Sigvardsson
IF	108	95	Prose AB	I/CE	17	93.9	98.8	76	0.6%	824	43.4	Anders Gymnander
IF	109	131	Deva Mecaneyes AB	I	18	93.5	76.5	81	9.7%	877	36.9	Magnus Welén
IF	110	94	AcobiaFlux AB *	I	18	93.2	100.4	58	3.1%	933	31.0	Mikael Nilsson
	111	123	HOAB-gruppen *	PM	18	92.0	80.0	55	0.0%	1205	46.0	Thomas Liljenberg, Peter Svensson, Roger Nordin
IF	112	103	Elecosoft Consultec	A,CE	18	91.1	90.1	68	16.4%	976	62.6	Anders Karlsson
	113		Nuvia Nordic AB	I,CE	18	90.9	58.8	77	7.8%	826	30.4	Tobias Gustavsson
IF	114	88	Brunnberg & Forshed Arkitektkontor AB	A	18	89.2	106.1	68	9.5%	1127	33.2	Staffan Corp
	115	100	TechRoi AB	I	18	88.8	92.6	70	32.0%	1182	53.2	Tommy Christensen
	116	109	Assign Group *	I	18	88.6	86.9	23	3.6%	945	24.0	Stefan Svensson
IF	117	124	ELE Engineering AB	E	17/18	87.0	79.3	87	2.1%	782	24.1	Henrik Eriksson
	118	134	Tjuren Projektpartner AB	PM,M	18	86.6	73.6	40	18.7%	1333	49.3	Niklas Haglund
IF	119	133	Altair Engineering	I	18	86.5	75.2	35	10.2%	1271	23.0	Håkan Ekman
IF	120	118	Teamster AB	I	18	85.0	83.4	44	5.8%	973	29.2	Ulf Mill
	121	132	Exengo Installationskonsult AB	M	18	84.5	75.6	59	14.7%	1153	35.0	Christian Rolf
	122	204	Mitta AB	CE	18	84.4	42.3	84	-3.8%	613	80.4	Tomas Knutsson
	123	200	Licab AB (annual report 16 months)	CE	18	84.3	45.1	49	7.7%	1093	30.4	Andreas Andersson
IF	124	149	Carlstedt Arkitekter AB	A	18	84.1	62.6	58	12.5%	955	34.3	Siv Axelsson, acting CEO
	125	148	Triathlon AB	I	17/18	82.0	63.0	68	8.6%	641	52.6	Fredrik Wadsten
	126	117	App Start-Up AB	I	18/19	81.0	83.4	62	11.9%	1020	31.9	Anders Kallin
IF	127	120	Centerlöf & Holmberg AB	CE	18	79.4	82.6	48	20.5%	1124	42.6	Bengt Andersson
	128	130	Helm (Project Management & Systems) *	PM,CE	18	78.6	76.5	30	9.6%	1152	30.4	Michael Johansson, Michael Claesson, Olof Cyrén
IF	129	107	Adiga AB (DevPort Adiga AB)	I	17/18	77.9	88.0	32	1.5%	706	25.1	Ricardo Heras
	130	153	Dry-IT (acquired by Raksystems, Finland, June-19)	CE, PM	17/18	76.3	60.5	61	3.4%	882	19.5	Jan Havik
	131	127	Strategisk Arkitektur Fries & Ekeroth AB	A	18	76.0	77.4	49	16.6%	1086	31.6	Johanna Munck af Rosenchöld
	132	135	Brandkonsulten Kjell Fallqvist AB	M	18	74.4	72.7	41	23.6%	1458	30.8	Anders Karlsson
IF	133	116	Inhouse Tech *	PM,CE, Env	18	74.2	83.5	47	21.4%	1346	32.6	Anders Sundberg
IF	134	115	E&D Energijägarna & Dorocell AB *	Enr	18	73.6	84.0	18	2.8%	828	50.0	Jan Wikman
IF	135	150	Kanozi Sverige AB *	A	17/18	72.9	61.4	64	20.9%	784	34.0	Helene Brandrup-Wognsen
	136	136	Wester+Elsner Arkitekter AB	A	18	72.8	72.7	46	16.0%	1118	28.9	Fredrik Elsner
IF	137	146	Kadesjös Ingenjörsbyrå AB	CE,M	18/19	71.4	65.4	59	10.7%	893	38.7	Birgitta Lindblad
IF	138	147	Envac AB	Env	18	71.0	64.9	12	88.7%	4269	434.8	Joakim Karlsson
IF	139	138	Equator Stockholm AB	A	18	70.2	68.7	53	13.6%	994	36.3	Annica Carlsson
IF	140	185	Här! (fmr SYD ARK Konstruera)	A,CE	18/19	69.8	49.0	45	-4.5%	706	27.2	Jan Kluge
IF	141	137	Järnvågen AB (Bergström, BEKAB, Indautomat et al)*	I	17/18	69.2	46.8	37	12.3%	928	35.0	Tord Hägglund (chairman)
IF	142	162	IKG Group AB	I	18/19	67.9	58.2	84	2.4%	733	15.0	Magnus Ahlmark
	143	152	Trivector Traffic AB		18	67.6	60.9	47	3.6%	894	24.5	Christer Ljungberg

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IF	144	141	Kåver & Mellin AB*	CE	18	67.0	67.6	54	19.8%	920	27.3	Anders Hedberg
	145	129	ELVA Processautomation AB	M	18	66.8	76.7	12	16.4%	1633	45.6	Mats Andersson
	146	142	Syntronic Production Services AB	I	17/18	66.8	37.8	29	2.3%	543	56.0	Roger Lindholm
	147	295	Incontext AB	I	18/19	66.6	49.6	71	26.3%	897	25.8	Martin Lampinen
IF	148	145	Andersson & Hultmark AB	M	18	65.8	65.6	57	14.8%	978	37.4	Tobias Bodén
	149	144	Pq Projektledning AB	PM	17/18	65.7	59.1	35	12.2%	1325	27.8	Jonas Karlsson
	150	156	MCA, Mission Consultancy Assistance Sweden AB	I	18	65.5	59.5	84	6.3%	663	19.2	Pierre Ebenstein
IF	151	143	NCS Colour AB	I	18	64.7	66.3	26	8.1%	1197	38.1	Elin Askfelt
IF	152	125	Crabat AB *	CE	18/19	64.3	69.0	39	0.9%	836	12.2	Christer Bergström
IF	153	160	Fire Safety Design AB	M	18	64.2	58.7	53	10.0%	1005	22.9	Johan Ohlsson
	154	168	Infrakonsult Sverige AB	CE	17/18	63.2	56.1	31	5.6%	952	17.0	Abderahim Aboudrar
IF	155	262	Metod Arkitekter i Uppsala AB	A	18	62.7	33.3	26	15.1%	1185	22.2	Patrik Tammerman
	156	165	StomKon (StomKonstruktioner Sverige AB)	CE	18	62.3	57.8	4	6.1%	1480	17.8	Terje Klovland
IF	157	179	SCIOR Geomanagement AB	CE	18	62.1	50.0	31	14.8%	1181	28.0	Krister Arnaryd
	158	119	Hedström & Taube Gruppen	PM	18	61.3	83.4	31	20.8%	1371	20.0	Jonas Rondin
	159	208	Clinton Mätkonsult AB	CE	17/18	60.7	41.6	37	9.3%	978	21.5	Johan Nyström
IF	160	243	SEVAB (Styr- och Elinstallationer Väst Teknik)	I	17/18	59.4	36.3	52	-15.3%	428	32.7	Mikael Svensson
IF	161	164	TQI koncernen	M, PM, Env, Enr	17/18	59.0	58.0	81	19.7%	529	33.0	Kenneth Thunvall
IF	162	175	Rotpartner	CE	17/18	58.6	51.5	47	8.7%	536	11.0	Fredrik Olsson
IF	163	172	Koteko AB	I	18	58.5	53.0	35	8.9%	847	31.0	Fredrik Allard
IF	164	161	Tüv Nord Sweden AB	CT	18	58.5	58.7	38	-7.2%	907	24.5	Oksana Leonidova
IF	165	99	C.F. Møller Sverige AB	A	18	58.4	93.3	45	0.9%	747	16.5	Mårten Leringe
	166	155	Codesign Sweden AB	A	17/18	57.9	59.9	50	2.0%	607	12.9	Johan Carpner
	167	140	Berge Consulting AB	I	18	57.8	67.8	53	1.1%	749	20.9	Klas Moreau
	168	187	Bylero AB	CE,PM	17/18	56.9	48.1	44	7.0%	910	35.1	Torbjörn Frilund
IF	169	184	Energi Funktion Komfort, Skandinaviska AB	I,Enr,PM	18	56.0	49.2	61	1.7%	735	23.6	Mikael Lezdins
IF	170	183	Lindberg Stenberg Arkitekter AB	A	18	55.8	49.2	49	18.7%	893	23.2	Dag Lindberg
IF	171	238	EKM kontroll AB	M	17/18	55.1	36.7	26	-0.5%	672	14.5	Per Liljekvist
	172	167	Erfator Projektledning AB (Bravida)	PM,CE	18	55.0	56.9	18	6.9%	1488	13.7	Sven Klockare
	173	188	Jan Håkansson Byggplanering AB	CE,PM	18	54.8	47.9	27	12.0%	1260	39.3	Anders Håkansson
IF	174	241	Loxia Group	PM	18	54.8	36.7	10	7.8%	1385	21.2	Joakim Holtbäck
IF	175	159	High Vision Engineering Sweden AB	I	18	54.7	59.1	36	7.4%	897	16.9	Peter Weston
IF	176	154	Citec AB	I	18	54.3	60.2	32	3.2%	938	14.4	Kenneth Lovidius
IF	177	169	DHI Sverige AB	Env, M	18	54.3	53.8	36	2.0%	844	20.9	Patrik Alm
IF	178	177	Calluna AB	Env	18	54.1	50.9	59	7.2%	670	22.4	Fredrik Ström
IF	179	151	VAP VA-Projekt AB	Env	17/18	54.1	61.0	34	14.5%	1028	22.8	Mikael Melin
IF	180	178	Okidoki AB	A	18	53.7	50.2	52	1.6%	653	15.8	Rickard Stark
	181		Ictech AB	I	18	53.1	41.9	56	4.5%	827	23.6	Richard Hedström
IF	182	219	Bassoe Technology AB	I	18	52.9	39.9	37	-9.5%	994	55.6	Acke Dahlman
IF	183	209	Trafikia AB	CE	18	52.6	41.5	23	5.8%	1042	26.3	Mats Hagström
	184	173	IETV Elektroteknik AB	I	17/18	52.5	76.1	31	16.8%	971	37.2	Krister Karlsson
	185	193	ABAKO Arkitektkontor AB	A	18	52.0	47.0	40	10.0%	917	19.4	Sofia Freiholtz (office manager)
IF	186	194	Projektbyggaren i Blekinge AB	PM,A	18	51.7	46.7	39	16.3%	1070	30.3	Håkan Svensson
IF	187	163	Gatun Arkitekter (fmr Scheiwiller Svensson)	A	18/19	51.5	58.1	39	11.4%	909	20.4	Ari Leinonen
IF	188	181	Electro Engineering koncernen AB	E	18/19	51.3	49.9	38	23.6%	1160	25.2	Bo Andersson
IF	189	203	Smart Eye AB	I	18	50.8	43.2	70	-111.0%	324	204.1	Martin Krantz
	190	196	Konsultgruppen Röda Tråden AB *	CE	17/18	50.7	46.0	29	2.2%		11.2	Lars-Olof Gyllberg
IF	191	191	Mcub AB (Xcub-group) *	I	17/18	50.7	47.4	39	15.6%	736	22.0	Marcus Blomberg
IF	192	225	Elajo Engineering AB	I	18	50.2	39.0	60	12.0%	733	9.0	Matiias Åberg
IF	193	174	Cross Design AB	I	18	49.4	52.3	61	5.9%	536	21.1	Tommy Bergh
IF	194	190	Yellon AB	A	18	49.1	47.7	46	0.3%	789	23.7	Markus Leijonberg
IF	195	253	Rockstore Engineering AB	CE	18	48.9	35.0	18	12.2%	1382	19.5	Krister Knutsson

IF = Member of Innovationsföretagen, Federation of Swedish Innovation Companies. (*) = lack of conforming figure/proforma/assumed – = missing figure
PM = Project Management, A = Architecture, CE = Civil/Structural Engineering, CT = Certification and testing, Env = Environment, Enr = Energy, E = Electrical, M = Mechanical/HEVAC, I = Industrial, MD = Multi Disciplinary

THE TOP 300 SWEDISH CONSULTING ENGINEERING AND ARCHITECTURAL GROUPS

(GLOBAL FIGURES ARE PRESENTED FOR SWEDISH GROUPS)

	2019	2018	Group	Service	Annual report	Turn-over MSEK	(Previous year)	Average number of employees	Profit after financial items MSEK	Added value/ empl. kSEK	Total balance sheet MSEK	CEO/Managing director
	196	212	Conpal AB	CE	18	48.7	40.7	5	7.0%	1772	15.3	Mehmet Apak
	197	166	Solvina AB	I	17/18	48.6	57.5	30	3.9%	891	45.0	Sven Granfors (International), Ulla-Karin Wendt (Nordic)
IF	198	260	Elinder&Sten Arkitekter AB	A	17/18	47.1	33.5	26	24.9%	1292	20.5	Christian Elinder
IF	199	192	Sören Lundgren Byggkonsult AB	CE,PM	17/18	47.1	42.8	29	15.8%	1347	17.4	Anders Harlin
	200	186	Myvi Konsult AB	CE	17/18	47.0	48.6	49	13.3%	840	18.5	Tommy Johansson
IF	201	223	Metron Miljökonsult AB	Env	18	47.0	39.4	23	30.7%	1403	32.5	Ann-Sofie Wessberg
	202	255	Protek Development Sweden AB *	PM,CE	18	46.7	34.8	32	11.3%	1028	18.2	Bengt Ulvsgärd
	203	231	B & B, Bro & Betong Projektledning	CE,PM	17/18	46.0	37.9	22	19.7%	1387	16.6	Magnus Tengblad
IF	204	211	STIBA AB	CE	18	45.9	41.3	31	30.1%	1258	21.4	Joakim Österlund
IF	205	220	Arkitektgruppen G.K.A.K AB	A	18	45.7	39.8	34	9.8%	874	13.3	Sundén, Skoog, Josefsson
	206	198	C&M Projekt i Stockholm AB	CE	18	45.6	45.6	24	13.8%	1293	18.7	Krusbeth Kristensson
	207	176	Calambio Engineering AB	I	17/18	45.6	51.4	12	16.3%	1698	29.2	Thomas Reidenfalk
IF	208	267	Studio Stockholm Arkitektur AB	A	18	45.5	32.8	25	27.1%	1155	37.5	Alessandro Cardinale
IF	209	414	We Group (fmr PP Arkitekter)		18	45.5	32.1	28	17.2%	942	28.0	Mille Örnmark
IF	210	195	Wikström AB	PM, CT, ENV, Enr, M	18/19	45.3	46.3	34	9.6%	1078	17.1	Annika Aarthun
IF	211	229	Thomas Eriksson Arkitektkontor AB	A	18	45.0	38.4	29	12.3%	1080	15.4	Thomas Eriksson
	212	354	PDS Engineering AB	I	18	44.9	20.1	14	8.3%	957	12.7	Ewe Westesson
IF	213	180	BK Beräkningskonsulter AB	CE,I	17/18	44.4	49.9	36	1.2%	963	17.3	Tomas Carlsäng
IF	214	205	DGE Mark och Miljö AB	Env	18	44.3	42.2	35	2.8%	705	14.3	Johnny Sjögren
	215	201	DinellJohansson AB	A	18	44.2	43.7	32	40.4%	1188	53.0	Morten Johansson
IF	216	213	EPG Projektledning AB	PM	18	44.0	40.6	37	8.1%	796	15.0	Dennis Lundmark
IF	217	218	Landskapslaget AB	A	18	43.8	39.9	35	11.6%	937	17.7	Åsa Keane
	218	199	Kjellander & Sjöberg AB	A	17/18	43.6	45.3	47	4.6%	724	13.6	Mi Inkinen
IF	219	257	Projectpartner AB *	PM	18	43.2	34.6	17	17.9%	1455	24.3	Tommy Backman
	220	248	Camatec Industriteknik AB	I	18/19	42.9	35.4	39	7.8%	771	15.0	Johan Ljungner
	221	121	Technity Group *	I	18	42.9	82.4	38	0.2%	691	20.6	Thomas Winberg
IF	222	202	Svenska Teknikingenjörer AB *	I	17/18	42.7	43.3	42	10.8%	648	16.9	Daniel Ångström
IF	223	206	Besiktningsföretaget Ansvarsbesiktning AB	CT	18	42.5	41.8	23	6.2%	917	10.7	John Widmark
IF	224	170	Bro Underhåll & Service BUS AB	CE	17/18	42.0	53.8	33	19.9%	773	23.7	Kent-Arne Svensson
	225	230	Deltatec AB	I	18	42.0	38.4	13	19.7%	1401	23.1	Patrik Storm
	226	252	Mårtensson Consulting		17/18	41.5	35.1	32	27.1%	1047	33.2	Nils Mårtensson
	227	222	KFS Anläggningskonstruktörer AB	CE,PM	17/18	41.1	39.4	29	8.4%	1020	26.2	Patrik Påhlsson
	228	247	Wiretronic AB	I	18/19	41.0	35.9	21	6.9%	883	25.7	Sören Karlsson
IF	229	235	MoRe Research Örnsköldsvik AB	I	18	40.9	37.0	43	0.7%	674	19.1	Stefan Svensson
	230	261	Scanscot Technology AB	CE	18	40.8	33.4	16	16.2%	1453	34.4	Johan Kölfors
	231	210	LMT Elteknik AB	I,E	17/18	40.3	41.4	30	10.5%	972	17.1	Anders Engqvist
IF	232	250	Arkitektbyrån Design Göteborg AB *	A	18	40.3	35.3	31	18.6%	817	19.3	Jan Åkerblad
IF	233	189	Mats Strömberg Ingenjörsbyrå AB	E	18	39.8	47.7	33	11.2%	902	21.0	Peter Granberg
IF	234	236	Säkerhetspartner Norden AB	CE	17/18	39.7	36.9	29	24.5%	1110	25.9	Leif Nyström
IF	235	242	Ca Consultadministration AB	PM	18	39.5	36.4	30	6.6%	1105	18.7	Daniel Dåverhög
IF	236	215	P O Andersson Konstruktionsbyrå AB	M	18	39.3	40.3	18	31.4%	1732	20.1	Mattias Kinhult
IF	237	245	Energi & Miljöteknik i Göteborg AB	E,M	17/18	39.3	36.3	14	7.7%	913	10.3	Andreas Frigård
	238	290	AK-Konsult Indoor AIR AB	Env	18	39.1	28.3	29	9.9%	944	14.6	Thomas Perman
IF	239	224	Looström & Gelin Konstruktionsbyrå AB	CE	17/18	39.0	31.9	29	17.1%	1086	16.6	Björn Sjögreen
	240	348	2xA Entreprenad AB	PM	18	38.9	21.0	27	19.2%	1125	35.9	Thomas Carlsson
IF	241	228	Erséus Arkitekter AB	A	18	38.4	38.7	30	9.7%	988	16.7	Peter Erséus
	242	221	Creanova AB	M,Enr	17/18	38.3	39.6	30	24.7%	1058	23.3	Jonas Dorsander
	243		Ekologigruppen Ekoplan AB	M,CE	18	38.2	31.4	39	5.6%	749	26.2	Mikael Wallin
IF	244	264	Atrio Arkitekter (Jönköping, Kalmar, Västervik & Sthlm) *	A	18	38.0	33.2	28	10.7%	819	18.4	Lunde, Bohlin, Spaak & Karlsudd
	245	292	Rundquist Arkitekter AB	A	18	38.0	28.3	28	10.8%	789	14.6	Henrik Rundquist
IF	246	237	Contekton Arkitekter Fyrstad AB	A	17/18	37.5	36.9	32	29.9%	1051	18.1	Peter Bergmann
IF	247	272	Creacon Halmstads Konsult AB	CE	18	37.4	32.0	36	7.0%	766	14.8	Torbjörn Åkesson
	248	214	SweRoad AB	CE	18	37.3	40.4	14	0.2%	872	35.3	Markus Eek

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IF	249	244	Fredblad Arkitekter AB	A	17/18	36.5	36.3	35	15.8%	883	13.5	Leif Jönsson
	250	358	Mekaniska Construktioner Norrbotten AB	I	18	36.4	19.7	12	0.8%	974	24.8	Erik Andersson
	251	239	S-Tech, Skandinaviska Tech AB	E	18	36.3	36.7	38	10.6%	754	17.7	Martin Jansson
IF	252	256	Landskapsgruppen AB	CE	17/18	36.2	34.7	32	12.3%	919	15.8	Petra Ekström
IF	253		Belatchew Arkitekter AB	A	17/18	36.1	15.7	16	19.7%	1664	16.8	Rahel Belatchew
	254	263	Infrapartner AB	CE	18	36.1	33.3	14	11.0%	1563	14.0	Marcus Sundberg
	255	289	Consultive Västerås AB	I	18	35.9	28.4	28	15.1%	1001	13.9	Tobias Bäckström
	256	266	A&J Landskap AB (Andersson & Jönsson)	A	18/19	35.8	32.8	22	13.2%	922	12.4	Anders Jönsson
IF	257	227	Elektrotekniska Byrån AB (EBAB)	E,I	17/18	35.6	38.7	32	8.2%	758	18.8	Jonas Bjuresäter
	258	311	Aochd Arkitektkontor AB	A	17/18	34.9	25.2	19	22.8%	1197	25.6	Joakim Persson
IF	259	275	AG Arkitekter AB	A	18	34.7	31.1	25	16.7%	1088	17.6	Fredrik Kihlman
IF	260	265	E/S A Arkitekter (fmr Engstrand och Speek)	A	17/18	34.6	32.9	25	20.0%	971	17.0	Olle Dahlkild
	261	249	Validus Engineering	I	18	34.6	35.4	19	12.4%	942	18.5	Åke Burman
	262	271	Oxyma Innovation AB	I	17/18	34.3	32.1	26	0.5%	788	5.7	Johan Norelius
IF	263	258	Ingenjörsbyrå Forma	I	17/18	34.3	31.0	27	10.0%	790	16.0	Anders Grahm
	264	273	Karlander Konsult AB	CE	17/18	34.2	31.9	21	0.0%	869	6.7	Fredrik Karlander
	265	197	Aecom Nordic AB	Env	17/18	34.0	45.8	21	-40.2%	206	16.1	Gert Vermeiren
IF	266	254	TEAM TSP Konsult AB	E	18	33.7	34.9	22	13.4%	1265	15.4	Mattias Hernegran
	267	304	Veprox AB	I	18	33.5	26.5	34	13.6%	778	15.6	Bo Larsson
IF	268	182	Enviroplanning AB	Env	18	33.4	49.2	17	0.4%	882	10.8	Tony Johansson
	269	251	HillStatik AB	S,CE	18	33.4	35.1	19	46.5%	1590	20.8	Conny Höggren
	270	217	Addiva AB *	I	17/18	33.2	40.0	36	1.5%	643	12.2	Björn Lindström
	271	268	Elkonsulten i Finspång AB	E	17/18	33.0	32.6	13	13.8%	1338	16.3	Bengt Hillier
IF	272	280	HMXW Arkitekter AB	A	18	32.7	30.1	23	11.6%	930	22.3	Ragnar Widegren
IF	273	326	Ingenjörsfirman Rörkraft AB	I	18/19	32.3	31.2	29	3.6%	884	10.9	Clas Wollberg
	274	327	Red Management AB	CE,PM	18/19	32.3	23.4	4	11.4%	1793	11.4	Per Linder
IF	275	288	Marge Arkitekter AB	A	18	31.7	28.5	27	11.0%	933	11.0	Louise Masreliez
	276	286	Projektidé i Uppsala AB	PM	17/18	31.5	28.7	16	18.9%	1391	13.3	Rasmus Langer
	277	281	Projektledarbyrån i Sverige AB *	PM,CE	17/18	31.2	30.1	18	14.1%	1213	8.9	Roland Appelgren
	278	319	Strategia Projektledning AB	CE	17/18	31.1	24.6	19	18.2%	1232	12.4	Anders Müller
	279	269	Byggkoordinator AB *	CE, PM	18	30.9	32.2	20	0.5%	878	8.1	Kullberg, Nyberg, Sühl
	280	246	Fiber Network Consulting AB	I/CE	18	30.7	36.2	37	3.8%	584	17.4	Thomas Andersson
	281	277	Stockholms VVS-Kompetens AB	M	17/18	30.6	32.5	13	20.6%	1585	16.5	Håkan Klaesson
IF	282	294	Mekaniska Prövningsanstalten MPA AB	M	18	30.5	28.0	17	15.6%	1468	9.8	Torbjörn Ohlsson
	283	278	Rstudio for architecture (2 companies) *	A	17/18	30.4	32.2	24	15.0%	876	15.2	John R. Johanson
	284	216	Geoteam Nord AB	CE	18	30.2	40.0	16	-4.4%	631	9.6	Joachim Östergårds
IF	285	276	Utopia Arkitekter AB	A	17/18	29.1	30.8	22	10.9%	956	11.7	Emma Jonsteg
IF	286	293	Radar arkitekt & planering AB	A	18	29.1	28.2	34	7.9%	678	13.1	Oskar Götestam
IF	287	308	Murman Arkitekter AB	A	18	29.0	25.7	24	5.4%	858	10.5	Ulla Alberts
IF	288	369	Kreativ Byggkonsult i Huvudstaden AB	CE	18	28.9	19.0	13	12.4%	1064	10.4	Björn Borgström
IF	289	285	Ingenjörsfirma Mats Bergstedt AB	I	17/18	28.8	32.2	20	1.1%	894	16.2	Mats Bergstedt
IF	290	283	BBH Arkitektur & Teknik AB	A,CE	18	28.4	28.9	22	-7.6%	730	6.5	Olle Bertfelt
	291	279	Apocca AB	I	18	28.3	30.3	14	-2.7%	803	9.7	Alexander Andersson
IF	292	300	AB Arkitektlaget Skåne	A	18	28.2	27.6	22	17.7%	968	11.3	Lars Bourdette
	293	301	Acad International AB	CE	17/18	27.7	27.2	21	20.7%	1090	15.0	Anders Schönbeck
IF	294	317	Fagerström Industrikonsult AB	PM, Enr, I	18/19	27.6	24.7	23	5.5%	862	12.8	Per Fagerström
IF	295	291	Seveko VVS Konsult AB	M	18	27.2	28.3	20	27.2%	1167	10.8	Henrik Sandén
IF	296	335	Pronecta AB	I	17/18	26.9	22.4	16	16.5%	1237	16.1	Anders Johansson
IF	297	284	Projektinriktad Forskning och Utveckling i Göteborg AB	Enr, Env	17/18	26.9	28.9	17	20.0%	1259	17.6	Håkan Sköldberg
IF	298	259	Varg Arkitekter AB	A	17/18	26.5	33.6	21	20.6%	1073	10.8	Inga Varg
IF	299	232	KUB Arkitekter AB	A	17/18	26.4	37.6	26	18.9%	863	15.9	Per-Erik Persson
	300	321	Mätkonsult Sverige AB	CE	18/19	26.4	24.3	21	3.1%	916	10.6	Pia Olsson

IF = Member of Innovationsföretagen, Federation of Swedish Innovation Companies. (*) = lack of conforming figure/proforma/assumed – = missing figure
PM = Project Management, A = Architecture, CE = Civil/Structural Engineering, CT = Certification and testing, Env = Environment, Enr = Energy, E = Electrical, M = Mechanical/HEVAC, I = Industrial, MD = Multi Disciplinary

ICELAND STILL SHOWS THE BEST PROFITABILITY IN THE NORDIC REGION, WITH A PROFIT MARGIN OF 8.1%.

Metropolia Myllypuro Campus in Helsinki. Designed by Lahdelma & Mahlamäki architects, in cooperation with Arkkitehtitoimisto Lehto Peltonen Valkama, construction management consultants Ramboll CM.

PHOTO: KUVATOIMISTO KUVIO

THE NORDIC MARKET

The Nordic section of the Sector Review is produced in collaboration with our colleagues in Denmark, Norway, Finland and Iceland. FRI gives an account of developments on the Danish market, and RIF and Arkitektbedriftene present developments on the Norwegian market. SKOL (engineering consultants and architectural firms) and ATL (architects) review the Finnish market. The Icelandic market is presented by FRV and SAMARK together.

Comparison of key business data

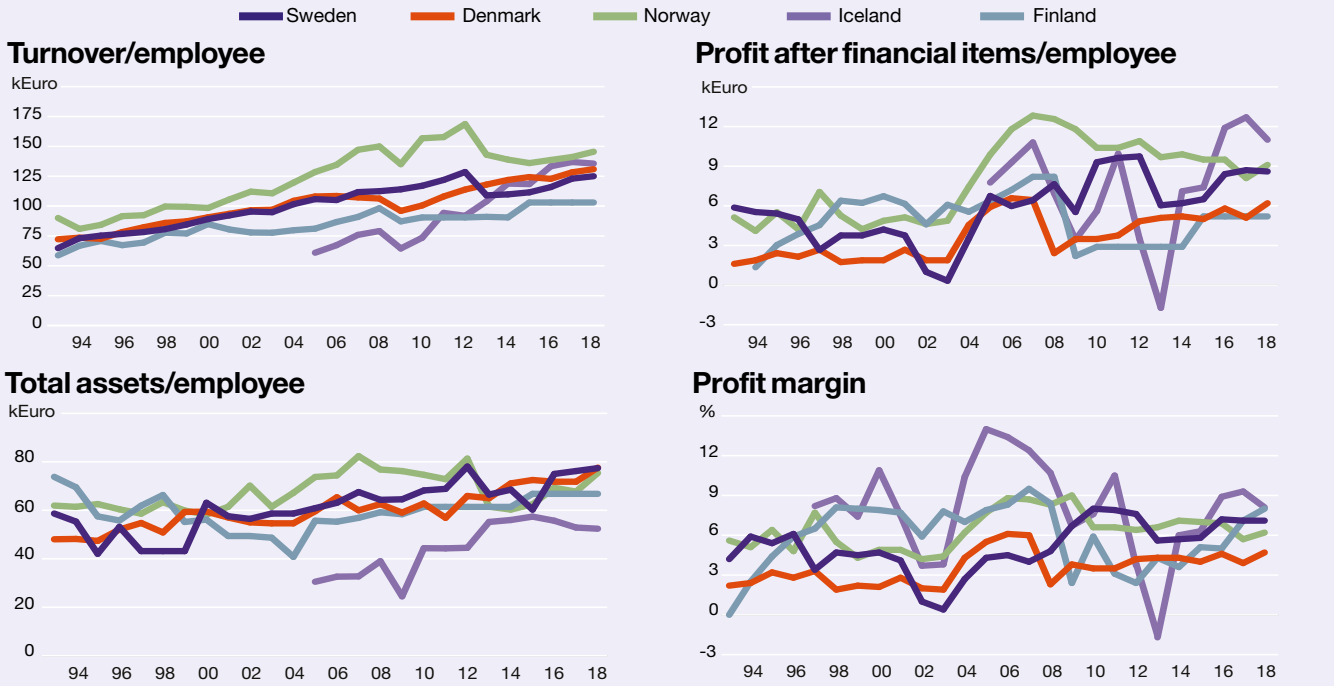
Below, a comparison is made between some of the key business ratios for the Nordic countries. The figures are calculated on the basis of the lists that were compiled for the respective countries and using the figures that have been made available. The Swedish figures thus represent the 300 largest groups in Sweden. In Denmark, Norway and Finland they represent the 100 largest companies. On Iceland, the figures apply to the 25 largest companies. The calculations have been made on the basis of the exchange rates over the period January up to and including October 2019, as shown at the top of the graph below.

Development in the Nordic counries was good in 2018. The turnover per employee increased n Sweden, Norway and Denmark and remained unchanged in Finland. On Iceland it decreased marginally. The highest turnover per employee was recorded among the Norwegian firms, with EUR 146k per employee. Then came Iceland with EUR 136k/employee, Denmark with EUR 131k/employee, Sweden with EUR 125k/employee and Finland with EUR 103k/employee.

The level of profitability, measured as the result after financial items, (EBT), rose in Norway (6.2% in 2018 compared with 5.7% in 2017), in Finland (8.0% versus 7.1%), and in Denmark (4.7% versus 3.9%) whereas in Sweden it decreased to 6.9% (7.1%). Iceland admittedly had a higher level of profitability but the profit margin decreased to 8.1% from 9.3% the previous year. The profit margins are presented in the graph below. A better measure of profitability is perhaps the operating result, which indicates the difference between income and expenditure before interest and taxes. In Sweden it is most often calculated after depreciation (EBIT), whereas in other countries it is usually calculated before depreciation (EBITDA). Since these are often mixed up, it is frequently difficult to say exactly which value is being reported. EBIT is the one that is actually intended and we therefore often present it as the operating margin, even though the figures reported may in certain cases be a different value. The highest operating margin among the Nordic countries was noted on Iceland, with 9.1%, but there it is EBITDA that is reported. Finland had the next highest profit margin with 8.9%.

Nordic comparison of key figures

The figures are calculated with the conversion rates below, representing average currency rates for the period January–October 2019.
1 Euro = 10,5912 SEK 7.4649 DKK 9.8103 NOK 137.43 ISK Previously 1 Euro counted as = 5.9457 Mark



10 LARGEST GROUPS IN THE NORDIC REGION

	Group	Country	Services		Employees	Turnover MEUR	(Employees. globally)	(Turnover MEUR. globally)
1	**AFRY (ÅF Pöyry)**	Sweden	MD	**Nordics**	**11133**	**1 457.3**	14964	1 909.1
				Sweden	8071	1 047.2		
				Norway	905	146.8		
				Denmark	542	71.6		
				Finland	1615	191.7		
2	**Sweco**	Sweden	MD	**Nordics**	**10780**	**1 292.5**	16502	1 872.3
				Sweden	5722	691.8		
				Finland	2128	205.6		
				Norway	1790	230.5		
				Denmark	1140	164.5		
3	**Ramboll**	Denmark	MD/CE	**Nordics**	**8098**	**1 002.4**	13276	1 520.6
				Denmark	2751	361.5		
				Finland	2091	226.8		
				Sweden	1676	220.9		
				Norway	1580	193.3		
4	**WSP**	Canada	MD	**Nordics**	**6005**	**605.4**	47700	**5 311.0**
				Sweden	4124	463.5		
				Norway	793	83.8		
				Finland	632	58.1		
				Denmark	456	54.9		
5	**COWI**	Denmark	MD	**Nordics**	**5509**	**792.2**	6673	887.4
				Denmark	2819	444.0		
				Norway	1378	185.6		
				Sweden	1312	162.6		
6	**Norconsult**	Norway	MD/CE	**Nordics**	**3403**	**466.2**	3819	545.3
				Norway	2732	380.5		
				Sweden	541	69.9		
				Denmark	130	15.9		
7	**Sigma Group**	Sweden	MD/I	**Nordics**	**2872**	**343.0**	3985	378.3
				Sweden	2850	338.3		
				Finland	15	4.3		
				Norway	7	0.5		
8	**Etteplan**	Finland	I	**Nordics**	**2474**	212.3	3055	**236.5**
				Finland	1982	161.6		
				Sweden	492	50.8		
9	**Multiconsult**	Norway	CE	**Nordics**	**2439**	**362.5**	2887	398.4
				Norway	2114	318.3		
				Sweden	245	31.3		
				Denmark	80	12.9		
10	**Rejlers**	Sweden	MD	**Nordics**	**2222**	**270.3**	2222	263.4
				Sweden	1161	132.4		
				Finland	798	77.2		
				Norway	263	60.8		

The figures are calculated with the conversion rates below, representing average currency rates for the period January–October 2019. 1 Euro = 10,5912 SEK 7,4649 DKK 9,8103 NOK 1,4889 CAD

In Sweden it was 7.3%, in Norway 6.2% and in Denmark 4.9%. In comparison, the EBITDA margin in Sweden was 8.6%.

Consolidation in the Nordic region

Consolidation in the Nordic area continues even though the pace slowed somewhat during the second half of 2019. 2018 ended with ÅF's acquisition of Pöyry, which was the largest fully Nordic transaction in many years. Together they form the largest group in the Nordic countries, in terms of turnover, under the new name AFRY, with just over 11 000 employees in the Nordic region and some 15 000 employees gloabally. Sweco is now the second largest group in the Nordic region when it comes to turnover, but has the largest number of employees. They have grown by almost 1 100 employees through acquisitions during the year, but many are from outside the Nordic area. Then comes the Danish company Ramboll, with some 8 000 employees in the Nordics and just over 13 000 globally. WSP is the fourth largest group in the area with approximately 6 000 employees in the region. WSP is also the fifth largest engineering consultancy in the world, with almost 50 000 employees.

Consolidtion in the Nordic countries will continue in the future because the large groups in the region increasingly see it as one large domestic market. Many of the interviews in the review have concerned consolidation, specialisation, digitalisation and growth in the Nordic region. Viktor Svensson, Rejlers, points out in his interview that the Nordic region is the world's eleventh or twelfth largest economy with a high level of digitalisation and innovation, and a low corruption level. So it is an attractive market to work on. There are distinct advantages in being larger, and increasingly complex projects require a greater breadth and depth in terms of competence. Sara Lindmark at i3tex talks about the need to grow in order to continue being a stable partner for its clients. But size does not need to be built up internally, as Per-Henrik Johansson, Liljewall, points out. It can be solved by cooperation in networks with other players. Grethe Bergly, Multiconsult, and Jyrki Keinänen, A-Insinöörit, remind us that the effects of digitalisation are still in their infancy but that they already enable more flexible forms for making use of resources over geographical and organistional boundaries. Søren Adamsen, COWI, reminds us of the driving forces to create increasingly large platforms in order to supply more complex projects and at the same time make full use of the benefits that are offered by digitalisation. We have not yet seen integration between consultants and contractors in the Nordic countries, but this is bound to take place in the future when a growing number of clients demand turn-key projects, according to Adamsen.

However, there is nothing to say that everyone has to be driven by the desire to grow. On the other hand, it is now more important than ever to be clear about the strategy you have both now and in the future. Charlotte Bergman, ELU Konsult, stresses the importance of specialisation and of being at the cutting edge of technology in order to be able to continue as one of the market's foremost advisors in their field. This is done by creating experience and relationships.

THE TOP 50 NORDIC ARCHITECTURAL GROUPS

	2019	2018	Group	Country	Annual Report	Employees	(Previous year)	Turnover	Currency	Turnover MEUR
IF	1	1	SWECO Architects (incl Årstiderne & Tovatt Architects & Planners) *	SWE	18	1200	1096	1850.0	MSEK	174.7
FRI,IF, RIF, AB,SKOL	2	2	Rambøll Architects & Urban Planning (acquired Henning Larsen Architects, Dec-19)	DEN	18	1072	800			
IF	3	4	Tengbom group	SWE	18	702	677	685.4	MSEK	64.7
IF	4	3	White Architects	SWE	18	673	680	870.7	MSEK	82.2
RIF,IF,FRI,AB	5	7	Norconsult architects (incl Nordic office of architecture & Monarken) *	NOR	18	576	440	776.0	MNOK	79.2
RIF,AB,IF,FRI	6	5	LINK Arkitektur (Multiconsult)	NOR	18	496	486	513.1	MNOK	52.3
FRI,IF	7	6	Arkitema (COWI)	DEN	18	493	477	421.7	MDKK	49.8
IF	8	9	Arkitektfirmaet C.F. Møller	DEN	18	288	286	286.8	MDKK	38.4
IF	9	13	PE Architecture	SWE	18	278	229	389.0	MSEK	36.7
	10	10	AFRY, incl. Gottlieb Paludan, SandellSandberg, Koncept Ark & Design *	SWE	18	267	278	391.5	MSEK	37.0
AB	11	12	Snøhetta Group *	NOR	18	240	240	215.7	MNOK	22.0
IF	12	11	Tyréns architects	SWE	18	230	250	290.0	MSEK	27.4
	13	14	BIG / Bjarke Ingels Group *	DEN	18	222	216	356.1	MDKK	47.7
IF	14	15	Arkitekterna Krook & Tjäder	SWE	18	215	195	242.6	MSEK	22.9
IF	15	18	Liljewall Architects	SWE	18	181	158	195.7	MSEK	18.5
IF	16	17	Wingårdh group	SWE	18	180	166	227.0	MSEK	21.4
IF	17	19	Semrén & Månsson Architects	SWE	17/18	172	156	180.8	MSEK	17.1
	18	22	Schmidt Hammer Lassen Architects K/S *	DEN	18	154	120	177.2	MDKK	23.7
	19	23	Vilhelm Lauritzen AS	DEN	18	137	109	122.2	MDKK	16.4
IF	20	21	FOJAB AB	SWE	17/18	133	131	176.9	MSEK	16.7
	21	76	Aart A/S	DEN	17/18	119	76	147.2	MDKK	19.7
	22	24	Erik Arkitekter *	DEN	18	114	99	143.9	MDKK	19.3
	23	30	COBE ApS *	DEN	18	111	86	143.3	MDKK	19.2
	24	25	SLA Arkitekter A/S	DEN	18	107	98	56.4	MDKK	7.6
IF	25	20	Arkvision, fmr Mälarholmen (Ettelva Ark & M.E.R.)	SWE	18	100	148	202.0	MSEK	19.1
IF	26	28	AIX Arkitekter AB	SWE	18	98	91	130.0	MSEK	12.3
IF	27	27	ÅWL Arkitekter AB	SWE	18	97	94	125.7	MSEK	11.9
IF	28	26	Nyréns Arkitektkontor AB	SWE	18	91	97	107.1	MSEK	10.1
IF	29	40	BSV Arkitekter & Ingenjörer (acquired Outside Landskapsarkitekter) *	SWE	18	91	72	99.9	MSEK	9.4
AB	30		A-LAB AS	NOR	18	89	89	134.3	MNOK	13.7
	31	31	3XN A/S	DEN	18/19	88	85	130.3	MDKK	17.4
	32	32	PLH Arkitekter AS	DEN	18	88	81	91.1	MDKK	12.2
	33	34	Cedervall Arkitekter	SWE	18	87	78	106.2	MSEK	10.0
AB	34	45	Mad Arkitekter *	NOR	18	85	62	102.8	MNOK	10.5
	35	29	Mangor & Nagel A/S	DEN	18	84	87	72.6	MDKK	9.7
IF	36	42	Reflex Arkitekter (acquired Ripellino Ark, Sept-19) *	SWE	18/19	82	54	107.8	MSEK	10.2
ATL	37	51	JKMM Arkkitehdit Oy	DEN	18	82	61	11.8	MEUR	11.8
	38	47	Lundgaard & Tranberg Arkitekter A/S *	DEN	18/19	81	63	119.6	MDKK	16.0
	39	53	KANT Arkitekter A/S	DEN	18	80	60	81.8	MDKK	11.0
AB	40	33	Lpo Arkitekter As	NOR	18	80	80	110.2	MNOK	11.2
	41	39	Tegnestuen Vandkunsten ApS *	DEN	18	79	72	120.2	MDKK	16.1
	42	35	JJW Arkitekter A/S	DEN	18	77	83	49.8	MDKK	6.7
	43	48	Rubow Arkitekter A/S	DEN	18	75	75	67.4	MDKK	9.0
AB	44	36	DARK Gruppen	NOR	18	75	77	115.8	MNOK	11.8
AB	45	37	Tag Arkitekter AS	NOR	18	75	75	93.2	MNOK	9.5
IF	46	43	Byrån för Arkitektur & Urbanism (BAU)	SWE	18	74	69	115.6	MSEK	10.9
IF	47	38	Brunnberg & Forshed Arkitektkontor AB	SWE	18	68	73	89.2	MSEK	8.4
	48	44	Dorte Mandrup Arkitekter A/S *	DEN	17/18	68	68	60.2	MDKK	8.1
ATL	49	73	Arkkitehtitoimisto Lukkaroinen Oy	FIN	18	67	47	4.5	MEUR	4.5
	50	49	Kullegaard Arkitekter A/S	DEN	17/18	66	62	66.3	MDKK	8.9

(*) = lack of conforming figure/proforma/assumed – = missing figure
AB = Member of Arkitektbedriftene, Norway. FRI = Member of FRI, Denmark. RIF = Member of RIF, Norway.
SKOL = Member of SKOL, Finland. ATL = Member of the Association of Finnish Architects. IF = Member of Innovationsföretagen,, Sweden.

STEADY GLOBAL GROWTH FOR DANISH CONSULTING ENGINEERING COMPANIES IN A SLOWING MARKET

In 2018, the Danish consulting engineering industry's revenue increased slightly from EUR 1.78 billion (DKK 13.3 billion) in 2017 to EUR 1.84 billion (DKK 13.7 billion) in 2018, a solid 3.1 percent increase. The average profit margin (EBIT) for consulting engineering companies was 7.1 percent, thus an increase from 2017 where the profit margin concluded at 6.7 percent. The industry has consistently for six years achieved a profit margin higher than 6 percent. This is a historic level of consistently high profitability.

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In total, the Danish consulting engineering companies generated EUR 3.52 billion (DKK 26.2 billion) in global revenue in 2018, compared to EUR 3.39 billion (DKK 25.3 billion) in 2018, a 3.8 percent increase in global revenue. Revenue generated by exports and in foreign subsidiaries accounted for 58.6 percent of global revenue in the industry. Danish consulting engineering companies employed approximately 28,400 staff globally, of which 15,100 staff were employed in foreign subsidiaries and 13,300 staff were employed in Denmark. A different perspective of the internationalisation of the Danish consulting engineering industry is that international companies, with HQ outside Denmark, have an increasing presence in the Danish market, Sweco, AFRY, WSP (acquired Orbicon in 2019), Atkins (SNC-Lavalin) and Norconsult being the five largest in the Danish market.

Financial Outlook

Overall, the Danish economy is in good shape. The Danish Ministry of Finance expects GDP to grow by 1.7 percent in 2019 and 1.6 in 2020 – a decrease compared to the past four years which saw the GDP increase by 2 percent a year on average. Residential investments are expected to increase by 4.2 percent in 2019 and 2.8 percent in 2020. Business investments are expected to increase by 1 percent in 2019 – a decrease of 7.5 percentage points compared to 2018 which hit a historically high level due to big one-time investments within the shipping industry. Public investments are expected to increase by 3.5 percent of GDP in 2019 and decrease by -0.3 percent of GDP in 2020. Turning the economic perspective to the Consulting Engineering industry, FRI's latest cyclical survey from October 2019 shows, that a large majority of companies expect a stabilisation in the economic outlook, which is reflected in their expectation to the workforce and backlog. 9.5 percent of the industry expects an increase in their workforce over the next six months, whereas 3.7 percent expects a decrease – in comparison, 44 percent of the companies expected an increase in their workforce in April 2019. Regarding the expected backlog over the next six months, 22 percent of the industry expects an increase (a 50 percent decrease compared to the reported expectation in April 2019), while less than 3.7 percent expect a decrease in backlog. Overall, the expectations are less optimistic compared to FRI's cyclical surveys for the past two years, as more companies have adjusted their expectations from an increasing backlog and workforce to an expected unchanged situation in six months. However, generally, the Danish market for consulting engineering companies are healthy and robust with an expected profit margin of 5.9 percent in 2019.

Revision of the General Conditions for Consulting Services

The General Conditions for Consulting Services has undergone a thorough revision in 2018 and a new set of general conditions called ABR18 replaced the old general conditions agreement (ABR 89) on 1 January 2019. The new general conditions have several consequences for the consulting engineering industry. Most significantly: the position of "the engineer" will change from trusted advisor to "a supplier of services". However, tenders and contracts will in the future be much clearer on what specific services are required, and this increased clarity will be an advantage for all parties involved, including consulting engineering companies.

Strong focus on sustainability and no national plan for infrastructure

Sustainability and climate change were two of the most important topics in the June 2019 General Election, which was won by the centre-left. The election was given the name 'The Climate Election' as parties from across the aisle battled each other on who could set the most ambitious climate targets, including the reduction of Green House Gas-emissions (GHG). The new government settled on an ambitious 70 percent GHG-emission reduction target in 2030 (compared to the 1990 baseline level). During the autumn and winter of 2019, the government and all but one of the parties in the Danish Parliament have been working on reaching an agreement that will implement the reduction target into national law. When they reach an agreement, the government will begin negotiations with industry partners on industry specific climate action plans. Therefore, sustainability and climate action will increasingly influence framework condi-

Frederiks Plads in the center of Aarhus. Architect/designer: C F Møller. Consulting engineer: Rambøll.

PHOTO: KUVATOIMISTO KUVIO

tions and the way that consulting engineering companies conduct business in Denmark. FRI views this as decisive business opportunity and has drafted plans in all sectors on how our industry can contribute to the transformation into a sustainable society. The sustainability agenda will also influence the new national mobility and infrastructure plan which was postponed to 2020. Concerningly, the current plan is set to expire by the end of 2020 meaning that all projects either have been or are currently being carried out which leaves the industry with a narrowing pipeline. In early 2019, the former government presented a new infrastructure and mobility plan, but the Parliamentary majority behind the plan was lost in the General Election in June 2019. The new Minister of Transport expects to begin negotiations on a new plan in 2020, and FRI is hoping that a large cross-party majority will agree on a new long-term investment plan for mobility and infrastructure in Denmark.

Biggest ongoing projects – Copenhagen light rail, Copenhagen Metro and Fehmarnbelt link

Currently, three large-scale projects are underway in Denmark: the Copenha-

> "INTERNATIONAL COMPANIES, WITH HQ OUTSIDE DENMARK, HAVE AN INCREASING PRESENCE IN THE DANISH MARKET"

gen light rail project, the expansion of the Copenhagen Metro, and the Fehmarnbelt link – an immersed tunnel connecting Denmark to Germany. Regarding the light rail, the first sod was taken in 2018 and the project is expected to be completed in 2025. The light rail extends itself over 28 kilometres and has 29 stations. In September 2019, a new central metro line with 17 new stations opened in Copenhagen. An additional line with two new stops is expected to open in Q1 2020. This line will be extended with another 5 new stations and is expected to be finished in 2024. The two new metro lines are expected to grow from 9 million passengers in 2019 to 77 million passengers in 2022.

Regarding the Fehmarnbelt link, the planned starting date for construction is early 2020 and the tunnel is expected to open for traffic in 2028. The immersed tunnel will contain a four-lane motorway, an emergency lane and a double track electrified railroad. The project also requires the surrounding infrastructure to be upgraded in both Denmark and Germany in order to accommodate for increases in traffic following the fixed link.

COMPANY NEWS

Rambøll keeps growing organically and by acquisitions

With a revenue of EUR 941.6 million in the first half of 2019, Rambøll Group A/S increased its revenue by 23.6 percent compared to the first half of 2018. Looking at earnings before taxes (EBIT), Rambøll Group did not perform as well as last year, as profit decreased from EUR 24.7 million to EUR 24.2 million in the first half of 2019. In January, Rambøll acquired the Danish architecture and consulting company Art Andersen and the US engineering and design consultancy OBG increasing their presence in the Americas by 2,000 employees. In May, Rambøll acquired Helsinki based Strafica Oy adding 21 new employees to the Rambøll family. In December 2019, Rambøll Group announced the acquisition of Henning Larsen Architects, the acquisition will be effective from January 2020, it will increase the number of staff with approximately 300 and more importantly make the architecture arm close to 1.000 staff. Looking at a few of the significant projects in the first half of 2019, Rambøll was chosen by the Danish State Railways as full-service consultant for the construction of three large workshop facilities for train maintenance in three Danish cities. The facilities will be central in the on-going electrification of Danish train services. In the UK, Rambøll is providing civil and structural engineering for two important new residential schemes providing 950 apartments in Wandsworth in Central London. In the US, Rambøll will contribute to the innovative development of a new vision for rebuilding and enhancing the Lake Ontario and St. Lawrence River shoreline, which is a part of a larger programme focused on addressing the immediate and long-term climate change resiliency. Rambøll was chosen based on their European experience with climate change and flood resilience experience.

COWI increased revenue despite challenging first half of 2019

In the first half of 2019, the COWI Group grew its revenue to EUR 448.7 million – a revenue increase of 3.2 percent compared to the first half of 2018. Also, COWI managed to increase its earnings before taxes (EBIT) to EUR 1.6 million. This translates to an EBIT profit margin of 0.4 percent, which is a substantial decrease from a profit margin of 4.9 percent in the first half of 2018. Conclusively in 2019 so far, COWI expects further economic growth despite a decline in profits in the first half of 2019 and slowing global economic growth. COWI's backlog is increasing and last year's acquisition of Arkitema Architects has resulted in new projects at a collective value of EUR 16.9 million. COWI won a range of major projects in the first half of 2019. In Denmark, Copenhagen Airports selected COWI to plan and design the 80,000 m² extension of Copenhagen Airport. In Sweden, COWI will advise petrol station company Preem in their efforts to provide fossil free fuel. Internationally, COWI will provide detailed project design in two major offshore windmill farms in Taiwan and France.

NIRAS continues global expansion and consolidation

NIRAS increased its revenue by 3.7 percent from EUR 285.2 million in 2017 to EUR 295.8 million in 2018. NIRAS' earnings before taxes also increased to EUR 6.3 million in 2018 from EUR 5.3 million. In addition, profits increased from EUR 2.73 million in 2017 to EUR 4.5 million in 2018. The financial results indicate that NIRAS' merger with ALECTIA in 2017 has been successfully completed. Further expanding its geographical reach, NIRAS has focused on strategic acquisitions as the driver. In 2018, NIRAS acquired Hydracon Sweden AB, UK based LTS International and Thai company SMC and integrated the Dutch subsidiary VM Engineering. In terms of large projects, NIRAS completed the renovation and modernisation of the Danish castle 'Augustenborg Slot'. In Norway, NIRAS won a framework contract with the Norwegian road authorities 'Statens Vegvesen Region Sør'. This was a strategically important contract as it supports NIRAS' ambition on becoming a recognised and preferred consulting engineering partner in Scandinavia.

Sweco Denmark is off to another great start of the year

Sweco Denmark increased its turnover by 17 percent from EUR 140.7 million in 2017 to EUR 164.8 million in 2018 and its EBITA-margin from 3.53 in 2017 to 6.11 in 2018. Furthermore, Sweco Denmark grew its profits by 77 percent from EUR 4.7 million in 2017 to EUR 8.3 million in 2018. In part, the acquisition of the Danish architectural company Årstidernes Arkitekter explains Sweco Denmark's great financial result. In 2018, Sweco Denmark was involved in

INTERVIEW
SØREN ADAMSEN
EXECUTIVE VICE PRESIDENT, COWI

"ENGINEERS PLAY A VITAL ROLE IN REACHING A MORE SUSTAINABLE SOCIETY"

What changes do you expect we will see in the industry in the coming five years?

I believe the main trend will be further consolidations, particularly driven by two factors:

1 An ambition to gain an even larger market platform and
2 The necessary and significant investments needed to integrate and take advantage of new digital technologies. I believe investments in new technology is where we see real economies of scale in our industry.

The consolidations can take several forms. For example, we haven't really seen contractors and consulting firms join forces yet in the Nordic region, but this may change in the future as more tenders become large turn-key contracts, and the need for reducing costs keeps accelerating.

Furthermore, within the next five years, there is a real chance we will see new players entering the scene due to the digital transformation of society. E.g. major tech companies, who may decide to integrate consultancy services into their business model.

Søren Adamsen, Executive Vice President, COWI

What has globalization and consolidation meant for your company and the industry?

COWI has been a global company for decades. We have offices all over the world - it is part of our DNA. But due to globalization and the many consolidations, the competition has become fiercer, and today the industry is moving towards either very large players or quite small, but very specialized engineering consulting firms.

As competition has intensified, many have distributed the workforce to other places in the world. This is also the case in COWI. Today, we have more than 800 highly skilled colleagues working from our offices in India, Poland and Lithuania.

What is the advantage of integrating more competences within the same organization? The Acquisition of Arkitema by COWI appears, from the outside, to be a mix of integration and keeping distinct service separate, what are the pros and cons?

One advantage for clients is that they need to deal with less suppliers. By offering them a full-service package we can reduce complexity on their side. Another advantage is that by working across disciplines and competences towards a common goal, we can reach better and more sustainable solutions, because it gets us out of the sector silos.

When COWI acquired Arkitema, we agreed to keep the two brands somewhat separate, because Arkitema is a well-established brand in the architecture industry, and the employees identify strongly with it. The challenge is to hit a balance where the market sees us as a joined force despite the two distinct brands, but I am sure we will get there.

How can the consultancy and engineering industry contribute to the sustainability agenda in the Nordics and globally?

Engineers play a vital role in reaching a more sustainable society. We act as trusted advisors to many key stakeholders e.g. in the energy sector, and we can provide much of the knowledge and solutions needed, if cities are to reach a more sustainable condition. That said, we must join forces with a lot of other disciplines. One place to start is by adjusting tender models to ensure they include sustainability requirements and set the necessary frames for interdisciplinary efforts.

a diverse range of large projects, including the climate adaption project of the Queen's Copenhagen residence, Amalienborg. Sweco Denmark was also involved in different projects outside of Denmark. E.g. Sweco Denmark was commissioned by the Sri Lankan authorities to support them in protecting their coastal line and marine life. Furthermore, Myanmar's authorities selected Sweco Denmark to help on disaster prevention.

MOE was acquired by Artelia and continued growing its business

In December 2019, MOE was acquired by French company Artelia. MOE's organisation will remain the same and they will continue to operate under the MOE name and brand. Financially, MOE continues to perform well. In 2018, MOE increased its revenue by 17.4 percent from EUR 78.8 million to EUR 92.5 million. In comparison, MOE's revenue was at EUR 61 million in 2015. In 2017, earnings before and after taxes decreased due to acquisitions, but in 2018 earnings before and after taxes reached all-time highs of EUR 5.8 million and EUR 3.9 million. MOE completed and added a number of interesting projects to their portfolio in 2018 and 2019. MOE was commissioned to design UN17 Village in Copenhagen, a housing project that will be built using UN's 17 Sustainable Development Goals as a framework and guideline for choosing materials, utilising rainwater, using renewable energy etc. The housing project will create homes for 830 new Copenhageners. MOE has also been commissioned to design the Danish pavilion for the 2020 Tokyo Olympic Games. In 2019, MOE and partners completed the combined incinerator plant and skiing slope project "Amager Bakke".

Orbicon increased profits and was acquired by WSP

In September 2019, Orbicon was acquired by the Canadian consulting engineer giant WSP. WSP had a relatively small Danish presence, and WSP Denmark has been integrated into Orbicon. Orbicon WSP is now a subsidiary to WSP Sweden AB. Before the acquisition, Orbicon had some challenging years financially, and 2018 was a mixed year looking across key performance indicators.

> "INTERNATIONAL COMPANIES, WITH HQ OUTSIDE DENMARK, HAVE AN INCREASING PRESENCE ON THE DANISH MARKET"

Orbicon decreased its revenue by 2.5 percent from EUR 65.3 million in 2017 to EUR 63.7 million in 2018. However, Orbicon managed to grow gross profits by 6.8 percent from EUR 45.1 million in 2017 to EUR 48.2 million in 2018. And Orbicon's earnings after taxes increased many folds from EUR -7.2 million to EUR 77.3 thousand. Orbicon was involved in a range of diverse projects in 2018. In Denmark, Orbicon was commissioned by the Municipality of Copenhagen to design recreational areas that could also serve as climate adaption and flood prevention in the new residential area 'Sydhavnen'. Also, the Municipality of Elsinore chose Orbicon to design their new multifunctional health facilities.

Atkins Denmark delivers a great financial performance in 2018

Atkins Denmark delivered a solid financial performance in 2018. The Danish branch increased its revenue by 34.6 percent from EUR 40.8 million in 2017 to EUR 54.9 million in 2018; gross profits increased from EUR 29.7 million in 2017 to EUR 40.4 million in 2018; and earnings after taxes increased from EUR 2.3 million in 2017 to EUR 4.4 million in 2018. Atkins' profit margin decreased by 0.6 percentage points, but it remains a high level of 6.6 percent. Most of Atkins Denmark's projects are infrastructure projects, and the company was involved in the signaling system on the new railway line between Copenhagen and Ringsted, a line upgrade between Aarhus and Lindholm, and a larger signaling project on Oslo S in Norway. Atkins Denmark does not expect growth in the Danish infrastructure market for some time to come. However, the company have experienced an increase in demand for Danish railway competencies globally.

AFRY Buildings Denmark had a great 2018

AFRY Buildings Denmark had a great 2018. The Danish subsidiary of AFRY grew its revenue from EUR 17.9 million to EUR 23.7 million. In addition, AFRY Buildings Denmark significantly increased its EBITDA from EUR 406.4 thousand in 2017 to EUR 2.8 million in 2018 – the highest level in 5 years. ÅF has been involved in several large projects in Denmark, including the residential skyscraper project "Papirtårnet", a new campus for the Danish School of Journalism, DMJX, and a new whisky distillery for Stauning Whisky.

EKJ pulled of a solid performance despite slowing profits

In 2018, EKJ managed to increase its revenue for the fourth year in a row. From 2017 to 2018, the company's revenue grew by 12.1 percent and its 2018 annual result was EUR 30 million. However, EBIT and EAT decreased by 123 percent and 155 percent, respectively, and the profit ratio dropped from 5.49 percent in 2017 to 2.2 percent in 2018. In sum, the company grew its business, but at a slower pace than the past couple of years. In terms of large projects, EKJ was involved in the detailed planning and design of the laboratory Copenhagen Plant Science Centre, and they provided client consultancy for Carlsberg on their new headquarters.

Norconsult still on the growth track

Over the past five years, Norconsult has increased its revenue by impressive 184 percent. 2018 was yet another good year for Norconsult that managed to increase its revenue by 12.4 percent from EUR 14.1 million in 2017 to EUR 15.9 million in 2018. However, earnings after taxes decreased from EUR 1 million in 2017 to EUR 0.8 million in 2018, and the profit margin dropped from 10.0 percent to 6.6 percent. In part, the reason for Norconsult's slowing profits can be found in its acquisition of architectural company, KAAI in 2018. With its KAAI acquisition, Norconsult added 45 new employees and as of 2018 Norconsult employed 130 men and women.

Henrik Garver, FRI

Jakob Dorph Broager, FRI

About FRI

The Danish Association of Consulting Engineers (FRI), founded in 1904, is a trade association for Danish consultancy and engineering companies providing independent consultancy services on market terms. FRI is a part of the Confederation of Danish Industry (DI).

Approximately 300 firms are members of FRI and, in total, they employ close to 28,000 staff in Denmark and abroad. The association is the only trade association for independent technical consultants in Denmark.

The objective of FRI is to support its member firms by contributing to improving their business conditions, strengthening the industry's framework conditions, profiling the industry and increasing its recognition on national and international levels.

FRI is an association for firms. It focuses on business matters and has established good liaisons with authorities and other partners. The association attempts, as far as possible, to gain influence on the drafting of framework conditions and legislation affecting market conditions in the industry.

Internationally, FRI is a member of FIDIC, and in Europe, it is a member of EFCA.

Henrik Garver, CEO, FRI

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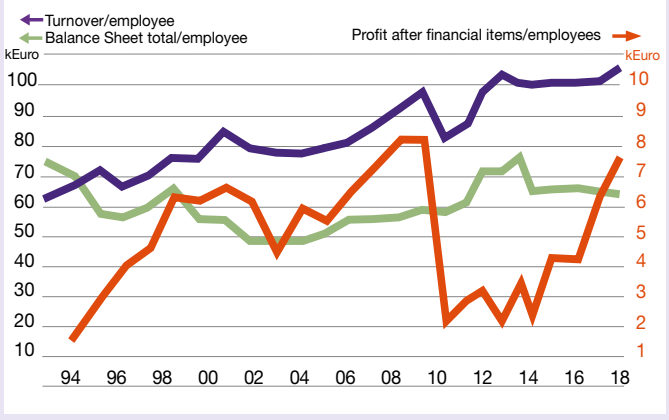
THE TOP 100 DANISH CONSULTING ENGINEERING AND ARCHITECTURAL GROUPS

	2019	2018	Group	Service	Annual report	Turn-over MDKK	(previous year)	Average number of employees	Tot. Balance sheet MDKK	CEO/Managing director
FRI	1	1	Rambøll Group (acquired Henning Larsen Architects, Dec-19) *	MD	18	11351.0	10795.3	13276	7566.3	Jens-Peter Saul, group CEO. Ib Enevoldsen, MD Denmark
FRI	2	2	COWI group (incl. Arkitema)	MD	18	6624.7	6568.4	6673	3740.5	Lars-Peter Søbye, group CEO. Rasmus Ødum, MD Denmark
FRI	3	3	NIRAS-group	MD	18	2204.4	2174.5	2355	1231.0	Carsten Toft Boesen
FRI	4	4	Sweco Denmark A/S *	MD	18	1228.0	1382.3	1140	855.8	Dariush Rezai
FRI	5	5	M0E A/S (was acquired by Artelia, Dec-19)	MD	18	662.7	587.2	666	370.3	Christian Listov-Saabye
FRI	6	8	AFRY Denmark (fmr ÅF-Pöyry) incl Gott-lieb Paludan *	PM	18	534.6	434.8	542	233.4	Martin Kjær, Kristian Hagemann, Anders Bennermark
FRI	7	6	Orbicon WSP	MD	18	474.9	490.7	527	199.8	Per Christensen
FRI	8	7	Atkins Denmark (SNC-Lavalin Group)	MD	18	409.6	465.2	415	252.2	Eva Charlotte Rindom
	9	9	Dansk Ingeniørservice A/S *	I	18/19	402.9	392.0	302	170.2	Michael Gadeberg
	10	10	Eltronic A/S	I	18	361.9	369.4	275	15.6	Lars Jensen
	11	11	BIG / Bjarke Ingels Group *	A	18	356.1	332.5	222	271.2	Sheela Maini Søgaard
	12	16	ISC Rådgivende Ingeniører A/S	MD	18	346.7	218.0	235	201.5	Kjeld Thomsen
	13	12	Arkitektfirmaet C.F. Møller	A	18	286.8	304.1	288	187.2	Lone Bendorff
FRI	14	17	EKJ Rådgivende Ingeniorer A/S	MD	18	212.0	194.7	236	170.5	Henrik Juul Sørensen
	15	18	Dansk Miljørådgivning A/S (DMR) *	Env	17/18	200.0	164.0	123	57.1	Claus Jørgen Larsen, Mikael Ejner Nielsen
	16	51	K2 Management A/S *	PM	17/18	199.3	60.0	188	93.0	Jørn Zielke
	17	15	Geo	I	18	199.3	228.8	179	215.6	Kim Silleman
	18	14	Graintec A/S	I	18	193.7	231.5	50	88.3	Michael Gregers Mortensen
	19	22	Schmidt Hammer Lassen Architects K/S *	A	18	177.2	138.5	154	107.2	Bente Damgaard
FRI	20	19	OBH-Gruppen A/S	MD	18	167.7	161.7	186	157.7	Carsten Gregersen
FRI	21	20	NTU International A/S	PM, Enr, Env, I	18/19	152.9	149.0	180	153.0	Lars Bentzen
FRI	22	24	Søren Jensen A/S Rådgivende Ingeniører	MD	17/18	148.0	134.2	160	106.5	Frank Jensen
	23	64	Aart A/S	A	17/18	147.2	105.5	119	84.3	Torben Skovbjerg Larsen
	24	29	Process Engineering A/S	Enr,I	18	145.5	103.5	86	44.8	Poul B. Jakobsen
	25	35	Erik Arkitekter *	A	18	143.9	86.7	114	58.8	Sine Juul Praastrup
	26	40	COBE ApS *	A	18	143.3	75.0	111	41.2	Nina Mathiesen
	27	23	Kuben Management A/S	PM	18	143.1	138.1	141	96.3	Ulf Christensen
	28	25	3XN A/S	A	18/19	130.3	129.9	88	72.5	Jeanette Hansen
FRI	29	28	Oluf Jørgensen Gruppen	MD	18	123.1	108.1	149	74.7	Brian Andreasen
	30	30	Vilhelm Lauritzen AS	A	18	122.2	97.0	137	78.7	Gyrithe Saltorp
	31	32	Tegnestuen Vandkunsten ApS *	A	18	120.2	92.4	79	52.2	Flemming Ibsen
	32	26	Lundgaard & Tranberg Arkitekter A/S *	A	18/19	119.6	126.0	81	126.2	Peter Thorsen
FRI	33	57	DGE Miljø- og Ingeniørfirma A/S	Env	18	118.8	55.9	130	50.0	Poul Erik Jensen
FRI	34	27	Norconsult Danmark A/S	MD	18	118.4	105.3	130	93.6	Thomas Bolding Rasmussen
FRI	35	21	AlfaNordic ApS *	MD	18	110.0	141.8	110	27.9	Thomas Meldgaard Petersen
	36		LINK Arkitektur A/S	A	18	96.0		80	66.1	Kirsten Anker Sørensen
FRI	37	39	Ingeniør'ne A/S	MD	18	95.9	81.7	93	68.6	John Andresen
FRI	38	33	Sedgwick Leif Hansen A/S (fmr Cunningham Lindsey)	PM	18	94.5	88.9	86	50.3	Christian Leif Hansen
	39	34	PLH Arkitekter AS	A	18	91.1	88.8	88	40.2	Søren Mølbak
FRI	40	38	Wissenberg A/S	MD	18	83.0	81.8	86	34.9	Lars Bendix Christensen
	41	52	KANT Arkitekter A/S	A	18	81.8	60.0	80	54.4	Morten Stahlschmidt
	42	31	CUBO Arkitekter A/S *	A	18/19	80.1	94.1	61	38.2	Peter Dalsgaard
	43	81	Knud E. Hansen A/S Naval Architects *	I	18	78.2	41.6	52	47.8	Finn Wollesen Petersen
	44	44	Friis & Moltke A/S *	A	18	78.2	64.5	62	29.9	Anders Christian Bregnballe
FRI	45	36	AI-Gruppen A/S	MD	18	76.7	84.0	72	36.9	Jan Bruus Sørensen
	46	59	AN Group A/S *	I	18	76.6	55.6	38	21.8	Ole Okkels
	47	65	KHR Arkitekter AS *	A	18	73.5	52.5	63	36.8	Lars Erik Kragh
	48	42	Mangor & Nagel A/S	A	18	72.6	68.9	84	38.2	Bente Priess Andersen
	49	54	Rubow Arkitekter A/S	A	18	67.4	58.1	75	37.1	Lars Bo Lindblad
	50	46	Kullegaard Arkitekter A/S	A	17/18	66.3	62.4	66	32.9	Kasper Tranekær Kullegaard
FRI	51	156	DEM, Dansk Energi Management A/S	MD	18	63.1		57	59.3	Jørn Lykou
FRI	52	49	Dominia A/S. Rådgivende Ingeniører	MD	18	62.6	61.4	63	21.6	Kjeld Christiansen
FRI	53	87	Tyréns A/S	MD	18	62.6	38.8	69	38.0	Jan Holsøe
	54	130	Arne Elkjær A/S *	CE	18	62.2	20.9	47	16.1	Kasper Fey-Hansen "
	55	66	Holscher Nordberg Architects A/S *	A	18	62.2	51.6	50	23.3	Mikkel Wiell Nordberg
	56	50	Dorte Mandrup Arkitekter A/S *	A	17/18	60.2	60.2	68	24.1	Frants Frank Nielsen
	57	55	Ingeniørfirmaet Viggo Madsen A/S *	CE	18	59.4	57.7	47	26.3	Kim Clausen
	58	62	Viegand & Maagøe Aps *	I, Env	18	57.9	53.9	37	20.0	Søren Eriksen
	59	56	Rørbæk og Møller Arkitekter ApS	A	17/18	57.3	46.4	47	43.5	Nicolai Overgaard
	60	70	Peter Jahn & Partnere A/S *	CE, A	17/18	57.0	50.8	32	14.0	Jacob Lemche
	61	72	SLA Arkitekter A/S	A	18	56.4	49.8	107	19.7	Mette Skjold
FRI	62	80	Hundsbaek & Henriksen A/S *	MD	17/18	56.3	41.8	44	21.0	Niels Lerbech Sørensen
	63	74	ZESO Architects ApS *	A	17/18	55.9	48.4	41	21.3	Torben Juul Andersen & Claus Høeg Olsen

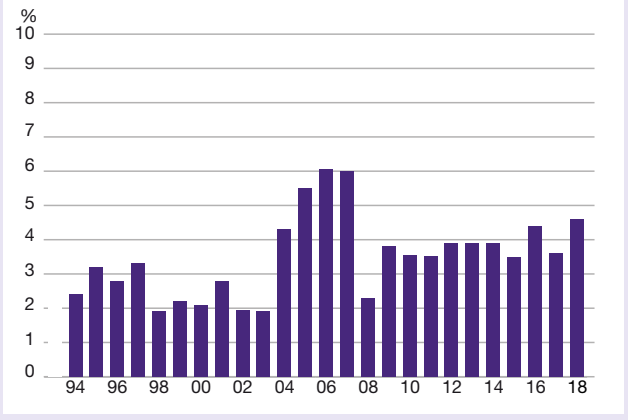
FRI = Member of FRI, the Danish Association of Consulting Engineers,
(*) = lack of conforming figure/proforma/assumed, – = missing figure PM = Project Management, A = Architecture, CE = Civil/Structural Engineering, Env = Environment, Enr = Energy, E = Electrical,M = Mechanical/HEVAC, I = Industrial, MD = Multi Disciplinary

	2019	2018	Group	Service	Annual report	Turn-over MDKK	(previous year)	Average number of employees	Tot. Balance sheet MDKK	CEO/Managing director
	64	45	OSK -Ship Tech A/S	CE, I, PM	17/18	55.4	63.1	38	20.9	Jacob H. Thygesen
FRI	65	61	Lyngkilde A/S Rådgivende Ingeniørfirma A/S	MD	18/19	55.0	55.0	38	19.3	Per Harding Andersen
	66	67	Arkitektfirmaet Kjaer & Richter A/S *	A	18/19	53.7	51.5	43	25.7	Ole Madsen
	67	75	RUM A/S *	A	18/19	53.7	47.1	43	20.8	Marianne Kjerkegaard Kristensen
FRI	68	41	Dines Jørgensen & Co A/S *	MD	18/19	53.3	72.0	58	26.7	Ole Rasmussen
	69	43	Christensen & Co. Arkitekter A/S *	A	18/19	52.7	68.0	36	24.3	Vibeke Lydolph Lindblad
FRI	70	37	Balslev Rådgivende Ingeniører A/S	MD	17/18	52.6	83.0	73		
FRI	71	92	Gaihede A/S *	PM, CE, M, E	18	52.3	35.6	39	12.6	Jacob Ulrik Sachse
	72	85	Emcon A/S	PM, CE	18	51.9	39.7	28	23.1	Jeppe Blak-Lunddahl
	73	90	Nøhr & Sigsgaard Arkitekter a/s *	A	17/18	51.9	37.4	29	26.4	Lars Anker Clausen
	74	58	H+Arkitekter (Hou & Partnere)	A	18	51.2	55.7	38	27.4	Rasmus Lund Klausen
	75	48	Danielsen Architecture A/S *	A	18/19	50.8	62.0	32	14.5	Kasper Danielsen
	76	60	Creo Arkitekter A/S *	A	18	49.9	55.4	44	31.6	Henning Gammelgaard Andersen
	77	53	JJW Arkitekter A/S	A	18	49.8	59.7	77	24.4	Mette Seiding
FRI	78	73	Strunge Jensen A/S *	MD	18/19	48.0	49.8	29	2.9	Jesper Strunge Jensen
	79	78	LIC Engineering A/S	CE, Enr, M	18	44.5	42.7	36	35.4	Niels-Erik Ottesen Hansen
	80	68	Schønherr A/S *	A	18	44.2	51.3	41	14.9	Nina Jensen
	81	83	C & W Arkitekter A/S *	A	18/19	42.6	40.1	29	25.5	Christian Samir Alstrup Thuesen
FRI	82	77	INUPLAN A/S *	PM, Env, E, M	18	40.8	44.0	27	17.6	Kristian Lennert
	83	76	Signal Arkitekter ApS *	A	18	40.4	45.7	30	11.9	Birgitte Andersen
	84	86	Designgroup Architects A/S *	A	18	40.3	38.9	21	10.0	Christian Giese
	85	102	Friis Andersen Arkitekter A/S *	A	18/19	39.8	31.5	21	17.9	Søren Benny Ibsen
FRI	86	63	Spangenberg & Madsen Rådgivende Ingeniørfirma A/S	MD	18	39.8	53.2	51	18.1	Michael Søgaard Rasmussen
FRI	87	108	Øllgaard Rådgivende Ingeniører A/S	PM, Env, E, M	18	39.7	27.9	30	17.2	Birgit Øllgaard
	88	88	Gehl Architects ApS *	A	17/18	39.4	38.6	31	20.2	Helle Lis Søholt
FRI	89	79	Brix & Kamp A/S	MD	18	39.2	42.3	46	30.6	Søren Jepsen
FRI	90	95	Holmsgaard a/s Rådgivende Ingeniører *	MD	18	37.9	34.7	25	17.2	Henrik Holmsgaard Larsen
	91	91	Cebra A/S Arkitekter *	A	18	37.7	37.0	36	20.5	Kolja Jannik Nielsen
	92	94	TNT Arkitekter A/S *	A	18	37.2	34.7	32	9.8	Martin Beck Thiel
FRI	93	99	Viborg Ingeniørerne A/S	MD	18	36.9	32.8	38	24.3	Karsten Lindberg
FRI	94	123	RMG-Inspektion A/S *	CE	18	36.5	22.6	26	5.5	Anita Jochumsen
	95	89	AK 83 Arkitekter A/S S *	A	17/18	35.4	37.8	18	15.7	Lars Levin Madsen
	96	93	GPP Arkitekter	A	18	35.1	34.7	31	22.1	Søren Madsen
	97	103	Juul Frost Arkitekter A/S *	A	18	35.0	31.2	29	7.5	Helle Juul, Fleming Frost
	98	97	DOMUS arkitekter A/S *	A, PM	18	34.6	33.5	21	12.4	Henrik Hansted Jensen
	99	96	Dissing+Weitling Architecture A/S *	A	18	33.2	34.1	46	30.4	Steen Savery Trojaborg
FRI	100		AB | Clausen Rådgivende Ingeniører A/S	PM,CE	18	33.0	6.5	35	12.3	Ammar Al-Temimi

The top 30 Danish groups



Profit margins



Generally speaking, it is risky business making direct comparisons between key business ratios for the largest firms and corresponding figures for the medium and small-sized firms. In the case of the latter firms, the extensive efforts of the often many partners have a relatively significant impact on the companies' turnover and profit level per employee.

For firms 31–100 in the above list, turnover in 2018 increased by 11% to approximately 4 179 MDKK (3 799 MDKK in 2017). The number of employees grew by 8% to 3 670 (3 407). The turnover per employee consequently grew to 1 144 kDKK (1 116 kDKK). The profit before tax fell to 59 kDKK per employee (67 kDKK). Calculated in terms of profit margin, this gives 5.9% (6.0%). The average balance per employee was approximately 553 kDKK (531 kDKK).

Key business ratios 30 largest groups	2018	previous year
Turnover per employee	957 kDKK	939 kDKK
Profit after financial items per employee	46 kDKK	34 kDKK
Balance sheet per employee	582 kDKK	537 kDKK

The turnover for the 30 largest groups increased by 4% to approximately 28 329 MDKK (27 143 MDKK in 2017). The average number of employees grew by 2% to 29,614 (28,911). The turnover per employee 957 kDKK (939 kDKK). The profit before tax increased to 46 kDKK per employee (34 kDKK the previous year). The profit margin for the 30 largest groups in 2018 increased to 4.6% (3.6% in 2017). The average balance per employee was approximately 582 kDKK (537 kDKK).

CONTINUED GROWTH, BUT WITH LOW MARGINS AND INCREASED UNCERTAINTY

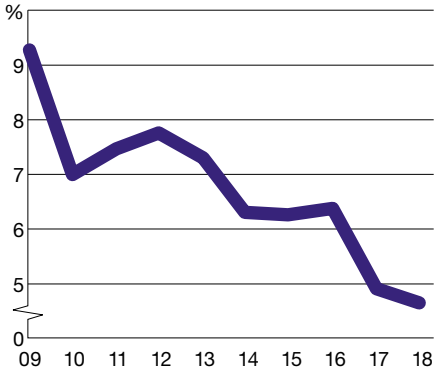
The Norwegian economy and corresponding willingness to invest is increasing, and in the last six months of 2018 and through 2019 investments have increased, particularly in the construction market. The total building and construction market turnover in Norway in 2019 exceed 500 billion NOK.

As a supplier of energy and raw materials, Norway has experienced stable, high prices and good exports. Along with a significant stimulation of the economy through the use of public and state funds, the market for consultant engineers has been good. Significant funds have been invested in public construction projects and in particular in new infrastructure. Moreover, funds have been allocated in order to catch up on the considerable maintenance backlog for older infrastructure and public buildings. This has been favourable to the industry and has led to an anticipated growth in turnover of approximately 20 percent in the last three years.

However, international trade wars, lower stimulus from expert-oriented businesses due to lower international growth and weak currencies create some uncertainty in the economy and further growth potential for the industry. Norway, that has major, fluctuating and transient incomes from natural resources, established an oil fund in 1990. The oil fund (The Government Pension Fund) was established in order to combat an excessively high cost level and to stabilise domestic consumption. The market value of this fund in 2019 is anticipated to be in the region of 10 000 billion NOK.

This means that Norway remains a wealthy country with significant opportunities. The state can use the dividends from this fund to stimulate the economy. In 2020 it is expected that 240 billion NOK will be used from the fund for public investments and management. Major investments will be made in sectors such as infrastructure (particularly roads and railways) the energy and environmental sector and construction projects at state and regional levels. Moreover, huge sums are being invested in health, schools and cultural buildings and a good level of investment is being maintained in the municipal sector. As a whole, this will mean a good market for planning and for our industry.

Developments in pre-tax profits for the industry in 2009–2018



Sustainability

Several of the leading companies in the building, construction and property industry have placed sustainability in the agenda. One of the reasons for this is that it concerns social responsibility and competitiveness. Of the UN's 17 sustainability goals, not only are most of them relevant and central for the industry, the industry's contribution is a central element in being able to achieve these goals. In the battle for the best talent and assignments, it is also important for the consultancy industry to highlight our approach to this issue.

The work on reducing greenhouse gas emissions through smart solutions, the use of technology and material selection is an important part of the industry's sustainability efforts; however, sustainability concerns more than this. The consultancy industry must also work on social and economic sustainability. This means creating secure employment and recruiting more women in order to achieve a more equal gender balance. The building, construction and property industry has a particular social responsibility, as the industry, by virtue of its size and influence, can make a difference. Our industry both designs and builds our surroundings and it is therefore important for the value creation that takes place at local, regional and national levels.

Digitalization

Digitalization within our industry is moving forward at a furious pace. More and more projects are becoming fully digital and consultancy firms are winning awards for their innovation in this field. The biggest issue however, is who will own the models and data? Statsbygg informed that international giants such as Google ask for access to data held by Statsbygg in connection with management of its property portfolio. Digitalization takes place in various ways within RIF member companies. Some have their own innovation departments; others allow innovation to primarily evolve within projects. At the same time, we see indications of new and existing firms with radically different business models that will eventually compete with industry actors.

State of the Nation

In 2019, RIF has published three new State of the Nation reports concerning lagging public maintenance in the sectors water and sewage, roads and construction. In total there have been eight reports in this series, since the first was published in 2010. Municipal and county authority construction and infrastructure has a total value 3800 billion NOK, which corresponds to 42 percent of the value of the oil fund. Not only do these buildings and infrastructure represent

INTERVIEW
GEIR SYRTVEIT
CEO VIANOVA PLAN OG TRAFIKK AS

"DIGITALISATION BRINGS US CLOSER TO PROJECT OWNERS AND GETS MORE PEOPLE INVOLVED IN DECISION-MAKING"

How has digitalization changed the way we work within the industry and in your company?

The industry today has a high focus on digitalization. We see this in clients, in society's demands and in expectations from the industry. We experience increased commitment and competence among customers, demanding us to use the best tools and challenge today's practice. This is a development we welcome! It gives us a perfect opportunity to follow our long-term strategy of combining high professional competence and advanced technology.

The increased digitalization provides more open and complete information. This brings us closer to the project owners and construction companies. We are clearly getting more people onboard in the decision-making, both in the planning- and building processes. The skilled relevant personal now has a better platform for making decisions. In this way, we ensure higher quality and better solutions for the projects.

Geir Syrtveit CEO ViaNova Plan og Trafikk AS.

In early-stage projects the digitalization gives us new methods for visualization and participation. It provides for a more transparent and complete process relative to residents, stakeholders, politicians and users of the project, which then leads to more credible and understandable solutions.

What are the main challenges for your company today?

One of the main challenges for us today is the unpredictable financing and prioritization of ongoing and upcoming projects. Many of these projects are also large and resource-intensive. This means that we must think different about resource planning. Resources can no longer be allocated and planned with a predictability as was the case only a few years ago.

Uncertainty is also affected by a reorganization of existing customers and the establishment of new customers, as well as framework conditions that change with new contract forms.

The need for information, dialogue and close contact with partners in the business is therefore more important than ever.

What changes in the industry do you expect we will see in the coming five years?

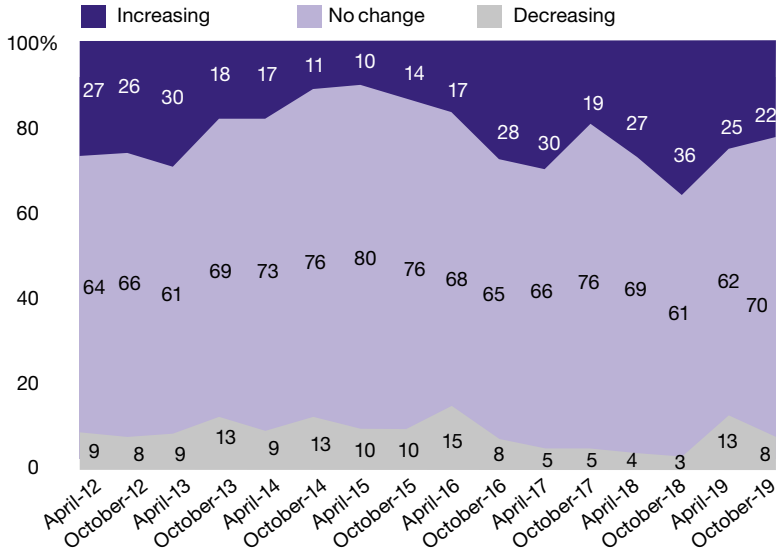
We expect a change in political guidelines and framework-conditions, where it is not only a priority to build quickly, but to build the right projects, with an increased focus on expertise in managing infrastructure capital in a sustainable lifetime perspective, keywords are Environment and Sustainability.

We are certain of a technology development with a greater degree of automation at the construction site and in the office.

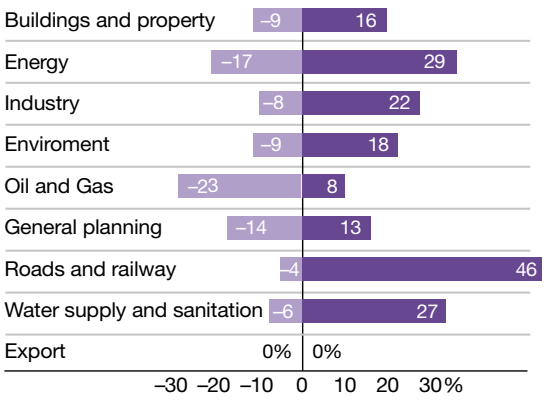
For the consultant, there may be further development of software, such as Quantum for macro-level trace optimization, while at the micro level, for example, there may be software that provides suggestions for detailed solutions adapted to the project and planning phase.

Finally, we believe in an increased cooperation in the industry between all participants, where professional expertise is decisive and valued and involved to a greater extent than today.

Expected order stock in 3 months 2012–2019



Expected change in order stock in 3 months per market segment (%)



Development in companies' order reserves during the last six months distributed between business areas. The blue column indicates the share that has performed "better than forecast" while the grey column indicates the share that has performed "lower than forecast".

INTERVIEW
GRETHE BERGLY
CEO
MULTICONSULT

"TECHNOLOGICAL DEVELOPMENT HAS EMPOWERED **A MORE FLEXIBLE WAY OF DEPLOYING RESOURCES"**

How has digitalization changed they we work within the industry and in your company?

We are just seeing the beginning of how digitalization will affect the industry. We have up until now seen adoption of technology in a large scale in different areas and siloes across the industry, but nevertheless still not to an extent that significantly have changed the key drivers of value creation. This is underpinned by the different studies placing the AEC-industry at the end of the queue in terms of development of efficiency and digital adaption in society.

To name just a few, visualization and gamification technologies have just started to affect the way we work and the way we communicate within projects, with our clients and with other stakeholders. Technological development has at the same time empowered a more flexible way of deploying resources across geographical and corporate barriers in order to deliver larger and more complex projects together with partners and contractors.

What are the main challenges for your company today?

The ongoing changes at a macro level in society will affect us to a large degree in the years to come, and we think these changes will transform the way we operate. One of our main challenges today is therefore to position ourselves for these upcoming changes, changes we to a full extent do not know the full impact of and time of occurrence. At the same time, we cannot stop our continuous focus on how to improve and streamline our existing value chain, through digitalization among others.

Grethe Bergly CEO Multiconsult

At the same time, the ongoing changes is combined with the fact that projects are increasing in size and complexity, which challenges us to review both execution models, how we manage and accept risk, how we deploy our resources. The competency of our employees is our main asset and will continue to be in the years to come. However, we know that there is a growing need for new competencies, which we need to address by new recruitment strategies and increased internal training of our employees. These areas of new competencies include digital and technological skills, as well as interpersonal skills and the ability to apply our existing areas of expertise into holistic approaches to the best for the projects, our clients and society in general. Together with the industry and the academic institutions, we also need to address the challenges of tomorrow.

What changes in the industry do you expect we will see in the coming five years?

We see five main drivers that will affect our environment and our industry in the coming five years; globalization, technological development, urbanization and demographic changes, connectivity and sustainability. These trends entail both challenges and large possibilities for the business as a whole and for the current players. Our client's expectations and demands, in addition to the regulations put on the business, will be affected by the same changes, and our main task will be to satisfy the actual needs of our clients and the end users. Across projects, the players in the industry will need to take larger corporate social responsibility in order to respond to the demands of the society.

New technology opens up a considerable scope for standardization, efficiency and automation, and gives the possibility for new value creation. This will challenge the existing business model. We already see the beginning of changes in the value chain, but for the coming years we expect to see closer alliances and even new constellations. We also expect new players, including tech-companies, to challenge the existing core business. Among others, we expect data driven design processes to significantly reduce the volume of existing design processes, which gives us incentives to create new business through digital innovation. Collecting, storing and commercializing data will be a crucial competitive factor, both in existing core business and in new products and services jet to be developed.

major values in themselves, they also have a critical social function.

This year's RIF reports reveal a need for maintenance and upgrading in Norwegian municipalities and counties of 1450 billion NOK, and that the lag in maintenance will increase in the future if major changes are not made. Both functionality and reliability of the infrastructure and buildings are under threat. It is most critical for county roads that are already in a somewhat poor state. The lag in maintenance for county and municipal roads represents 900 billion NOK. In respect of municipal buildings, the report has found a need for extraordinary maintenance and the lag is in the order of 160 billion NOK.

This year's report has placed this lag in maintenance on the public and political agenda through intensive media focus. Focus on water and sewage, in which the lag represents 390 billion NOK, has been particularly strong. RIF's advice to municipalities is to obtain an overview of the extent of ownership, prioritise and make tough choices and develop plans for this maintenance.

The consultancy industry in Norway – strong concentration, increased international competition and a need for improved earnings

The consulting industry in Norway has become more and more international, both in terms of ownership and competition in the Norwegian market. In 2019, approximately 35 percent of employees in

The Twist Museum by Bjarke Ingels Group bridging art and nature across the Randselva River.

PHOTO: LAURIAN GHINITOIU

RIF are wholly or partly owned by international consultancy groups. If we include international groups working in Norway that are not associated with RIF, this figure is even higher.

Activity in the market is characterised by the fact that the 6–7 largest companies have approximately 75 percent of the market – i.e. a significant market concentration. This has not led to weakened competition and the companies have experienced a relative downturn in turnover and profit per employee from 2015 to 2018. In 2018, pre-tax profits were on average approximately 6.0 percent.

The market – good activity in the development of infrastructure and energy market; market is stable and good

The building and construction industry, viewed as a whole, has been experiencing continual growth from 2011. As of November 2019, the industry is anticipating stable, good activity in 2019 and 2020. Employment in the industry is expected to increase.

Production in the building and construction market, outside of oil and gas, has increased by 30 percent in the period 2010–2019. In the same period the number of employees in the building and construction sector has increased by 60 000, to 240 000.

The market for consultant engineers is growing and investments are expected to increase by 5 percent in 2019 and 2 percent in 2020. The construction market is expected to increase by 2 percent in 2019 and 2 percent in 2020. In the construction market (infrastructure), we anticipate an increase in activity in 2019 and 2020 of 12 percent and 3 percent respectively.

The number of employees in RIF companies, as of 2019 is approximately 12 500. This is an increase of 50 percent from 2011 to 2019. Companies are anticipating continued growth in 2020.

Consulting engineers – anticipated developments in 2019 and 2020

Consulting engineers in Norway work to a major degree on planning and engineering in relation to the building and construction market. Market developments for consulting engineers are largely driven by major construction projects and upgrades to infrastructure in Norway. This is now the largest driver for continued growth. In addition, there has been a high level of activity within construction, driven in particular by public building projects in connection with construction of academic institutions, health and

About RIF

RIF is the industry organization for approved consulting companies in Norway. RIF companies encompass both consulting engineers and other professions and the activities of members are largely associated with the building and construction market. In 2019, RIF has 145 member companies, with approximately 12 500 employees and represents around 75 percent of the independent consulting engineer industry in Norway.

RIF is the member companies' tool for creating the best possible commercial terms by working for improved framework conditions: Politically, financially and in relation to assignment providers.

RIF prioritises the follow-up of framework terms and conditions for member companies. There has been special focus on regulation changes, predictable financing, appropriations, National Transport Plan, standardisation processes´ including the use of standard contracts, procurement of engineering and consultancy services, execution models and implementation of public procurement.

Companies in the building and construction industry in Norway employ considerable resources in drafting baseline industry contracts managed by Standard Norge. Project owners, contractors, consultants and others participate in this work. It is part of the established arrangement that contracts being drawn up shall be used in their current form. However, RIF regularly experiences that many project clients - particularly among the more than 400 municipalities - do not use industry contracts or apply significant deviations from these. RIF therefore follows up all deviations it becomes aware of, via enquiries to these project clients. The large majority of project clients amend these deviations after RIF has contacted them.

RIF has the aim of being a contributor to policy formulation and knowledge source in the public discourse. RIF therefore uses the media to draw attention to and to raise the industry's profile as a central contributor to policy formulation for future-oriented and cost-effective solutions. The political influence takes a starting point in the proposals in the RIF report «State of the Nation» that shows a need for renewal and maintenance in public building and infrastructure. In addition, certain objectives have been set associated with important social drivers such as climate challenges, sustainability and digitalisation. In addition, increased visibility is used to increase knowledge in society concerning the role of members, competence and value creation, particularly within sustainable and robust climate-related solutions, fully digital projects and lifecycle costs.

RIF also highlights members' competence by, among other things, giving awards. The level of RIF's "Young Consultant of the Year" candidates and winners has been so high in recent years that they have also been given either honourable mentions or won the European Federation of Consulting Engineers Associations (EFCA)'s YP award.

RIF is a member of EFCA and FIDIC.

Liv Kari Hansteen, RIF

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care institutions and cultural buildings. Moreover, a national ambition to achieve climate goals and efforts concerning digitalisation in the building and construction sector offer many exciting opportunities for our companies. We anticipate a growing market in 2019 and a stable, albeit somewhat subdued market in 2020. RIF companies' expectations regarding changes in order reserves, as of the autumn of 2019, indicate the same trend.

Consulting engineers – challenges

Despite a good and expanding market from 2010–2019, companies' earnings have fallen in the same period, and in 2018 the industry achieved an average pre-tax profit of approx. 6.0 percent. In historical terms this is a poor result for the industry.

Strong growth in the industry, combined with increased risk and a high level of conflict in the building and construction industry in general are largely the reasons for this development. Contract strategies of the major developers in the building market - particularly the construction market - are increasingly based on turnkey contracts. The major turnkey contractors have taken on greater and greater risk that they then try to pass on to consultants. Particularly on larger infrastructure projects, this has led to insufficient profitability for the industry.

Other reasons for low profitability are high transaction costs and public authority clients' focus on hours and hourly rates - and not on value. This has now resulted in RIF promoting the Best Value method, which is now beginning to spread via a number of pilot projects. Nye Veier and several municipalities have tested out the model with extremely good results. Like others, they have documented and experienced that by focusing on contractors' and consultants' combined competence and value creation, has led to more value for the client and user, in addition to fewer conflicts.

Some exciting projects: Rail and road

Investments of BNOK 100 are being made, with an anticipated start-up for planning and construction in 2019 and 2020. Some larger road projects are the E39 Rogfast, starting in 2020, with a framework of approximately 11.8 billion NOK. Extension of E6 Moelv–Øyer South with 8.0 billion NOK. A new rail tunnel is being planned in Oslo with a framework of 8.8 billion NOK and a new Metro tunnel in Oslo, with 14.1 billion NOK.

In addition to this, there are ongoing investments in tramways and rail to improve punctuality and increase capacity in order to serve a growing population in and around the larger towns and cities. Fornebu line in Oslo with a cost framework of 13.8 billion NOK are examples of larger projects presently at the planning stage. Start-up for the project is in 2020.

A number of major motorway projects are also in the planning and construction stage, with focus on major road, bridge and tunnel projects designed to link regions and reduce threats posed by avalanches and land/rockslides. Examples of major projects that are presently in the planning phase, where construction works are expected to begin in 2021,

are several stretches of the European highways E6, E18 and E39 where investment totals approximately 50 billion NOK. The largest projects are the E39 ferry-free Ørskogfjellet-Julneset 11.6 billion NOK, Rv 555 Sotrasambandet 8.4 billion NOK and E18 Dørdal-Grimstad, 7.0 billion NOK.

Water and Energy

The need to develop trade and industry, increased energy prices and the demand for renewable energy has resulted in the planning and implementation of several exciting projects. Investments are being made in new hydroelectric plants, older generating plants are being refurbished and new small-scale generation plants are being constructed in order to increase the capacity for renewable energy. In 2019 and 2021, approximately 16 billion NOK per year will be invested in new wind and hydroelectric plants along with power lines and cables. Grid capacity for the transport and export of energy is being increased, and planning and investment are being implemented to secure increased capacity for power distribution in Norway and to Europe.

In total, 1.2 million square metres of new academic buildings, health and social buildings and other public buildings are being constructed in the period up to 2021. The largest is the new government buildings in Oslo (10 billion NOK) and a new hospital in Drammen.

International projects

Approximately 35 percent of employees in Norway work for companies that are owned by foreign consultancy groups, primarily serving the Norwegian market. This, along with a good domestic market and lower ethical and commercial risk, has meant that Norwegian consulting engineer firms are less active in international enterprises.

The export stake, which represents approximately 5 percent of turnover, is stable.

RELATIVE OPTIMISM DESPITE AN EXPECTED SLOWDOWN ON THE MARKET

The Association of Consulting Architects in Norway provides its members with valuable information and prognoses on the market. Twice a year they conduct a survey amongst their members and communicate the results, and once a year they present a forecast for the construction market. The forecast is provided by the organisation's collaboration partner *Prognosesenteret*, which has much experience in delivering insight and understanding to construction stakeholders in the Nordic market.

"There is no need to paint an overly gloomy picture of developments, but there is little reason to believe that Norway should manage to remain isolated from potential challenges to the world economy, potential trade wars and Brexit being obvious examples. It is therefore natural to expect the market to quiet down, managing director Egil Skavang explains.

It also makes less sense to continue regarding Norway as the "special country" the way Norwegians have for many years. Yet the construction industry will continue to do quite well. This is in a large part due to what may be called an "oil-lubricated" upswing. Factors such as centralisation and aging also help maintain the demand for new housing, while at the same time a lot of health-building is initiated over the coming years. The state also plans for several major construction projects, which will provide continued development in the industry.

The report on forecasted economic activity amongst the association's members confirmed a downward trend already foreseen. Despite lower order reserves, there is still an optimism for future reserves. Moreover, the proportion of companies that employ is still greater than the proportion of companies that reduce staffing. However, it is the larger companies that hire, while in the smaller companies the number of employees has decreased slightly.

In general, a relative optimism is still present across the country. The

The under-water restaurant in Lindesnes, designed by Snøhetta.

> "DESPITE LOWER ORDER RESERVES, THERE IS STILL AN OPTIMISM FOR FUTURE RESERVES"

proportion of companies expecting an increase in order reserves over the next six months is high, but optimism has decreased somewhat compared to the first six months of 2019.

– It is natural to interpret this as a flattening of what has been a prolonged period of growth. The housing market and public buildings are important parameters, and much will depend on state dispositions, says Skavang.

Steady growth for electronic quality and applications systems

On February 15, 2019, the Association of Consulting Architects in Norway, as the first private stakeholder in Norway, launched a fully digital solution for building applications. The solution is linked to their already existing quality assurance system, called MAKS, and has been named *MAKS-søk* (MAKS-applications). Nearing the end of the year, one must conclude that the system has become a success.

Almost one hundred architectural offices throughout the country have used the application system and building applications have been sent to over a hundred municipalities. The number of applications sent through the system is steadily increasing. By the end of 2019, one hopes to have reached a total of 500 applications.

The Association of Consulting Architects in Norway is eager to develop new features for the solution, and for 2020 aim to improve the user interface as well as exploit the potential of the synergies with the quality assurance system, explains Skavang. When the National Office of Building Technology and Administration makes this possible, the signatory's signature and the possibility of sending necessary applications to the Labour Inspection Authority also might be available in the solution.

Furthermore, the municipalities will use digital case management systems to improve the workflow and one hopes to shorten the case processing times in the future.

– It is incredibly exciting to be at the forefront and be a driving force in the development of these types of electronic tools. Our members and users are an important factor to us, as all the tips and feedback we have received from them becomes an invaluable development aid, says quality advisor Christian Hofmeier, who works with these systems on a daily basis.

PHOTO: FINN STÅLE

The Oslo skating hall is designed by Dark Arkitekter.

On the agenda for 2020

Among the important issues the Association of Consulting Architects in Norway will work with in 2020 is an ongoing process on the declaration of responsibility in the building industry. The current system is in need of renewal and the Norwegian Ministry of Local Government and Modernisation established an expert committee which was to develop proposals for improvements. The committee was to hand over its recommendations by the end of 2019 but has been granted an extension and will thus present its conclusions in spring 2020.

Whatever the outcome of this process may be, it is sure to affect the industry one way or another, and the Association of Consulting Architects in Norway will need to spend resources on assuring that the process ends in a way favourable to its members and the architectural industry as a whole.

Furthermore, the Association of Consulting Architects in Norway will strive to include into its communications with national and local government, as well as the construction industry as a whole, the concept of added value from architecture. Many conceive value as simply an economic proportion, the Association of Consulting Architects in Norway, however, divides the factor of value into three:

1. SOCIAL VALUE might also be understood as quality of life. The way housing, urban spaces and workplaces are designed influences our senses, emotions, and movement patterns and may therefore increase the opportunities for people to connect, be productive, and find peace of mind.

Social value is achieved in architectural projects that facilitate creativity, innovation, productivity and a good working environment. Well-designed and flexi-

ble schools, hospitals and homes are paramount for people to feel safe and taken care of. Architecture is an important tool for creating such well-being, through interaction.

2. ENVIRONMENTAL VALUE is linked to the building's impact on natural resources and climate change. Today, buildings account for a large part of the total energy consumption which is why one must think smarter concerning greenhouse gas emissions and resources. The lifetime, size, materials and technical performance of buildings have a major impact on their environmental accounts. At the same time architecture can be used to design urban spaces, office buildings and cultural sites that contribute to sustainable neighbourhoods and cities.

In Northern Europe and Norway, the concept of environmental value has traditionally been linked to the utilization of resources and the use of technical solutions. Norwegian building regulations reflect this very clearly with considerable emphasis on insulation, recycling and zero-emission solutions. It is important to highlight the positive projects where a good use of resources has been achieved, but one also needs to appreciate how high environmental value can be achieved through the use of renewable and emission-free materials, by climate-friendly assembly of buildings and by thoughtful settlement patterns and facilitation of environmentally friendly transport and infrastructure.

3. ECONOMIC VALUE is about finding a reasonable balance between investment and results, on the one hand, and the use of resources on the other. The simplest example of good economic value is an effective layout where the use of space is adapted to the functions of the building. Good architecture thus becomes something which may be implemented in a technical and cost-effective way. To utilise the economic sustainability, significant attention needs to be paid to the building's life cycle cost and the socio-economic benefits of its functions.

About Arkitektbedriftene

Arkitektbedriftene i Norge (The Association of Consulting Architects in Norway) is the industry and employers´ organization for firms with practicing architects, including landscape and interior architects, in Norway.

The association seeks to actively contribute to Norway having a qualified and competitive architectural industry that takes corporate social responsibility and provides services that meet the needs of the market and construction projects.

The association aims to:

- **Provide the tools and services necessary to increase business profitability**
- **Stimulate and follow up research and development for architecture and engineering**
- **Assure top international quality in Norwegian architectural education, through our influence and our courses**
- **Have open, active and effective communications with the authorities and society as a whole**

In order to achieve the abovementioned goals, the association emphasises the following:

- **Communicate the extended value of architecture**
- **The future architectural market**
- **The future architectural firm**

Some numbers:

As of January 1, 2019, 531 architectural firms are members of the Association of Consulting Architects in Norway. 32 of these are trainee offices. 75 are part of our collective agreement with AFAG and other trade unions. The companies have 5461 employees, of which 4971 are architects.

The administration currently consists of 10 permanent employees, two dedicated project managers and an external consultant. We are located in Essendropsgate 3 at Majorstuen in Oslo, where we are co-located with the Association of Consulting Engineers. In addition, we neighbour the Norwegian Confederation of Enterprises, where most industry associations in the fields of buildings, facilities and real estate are located.

The Association organises several expert committees, whose members are employed at member offices. The expert committees are our most important professional resource. The committees handle core themes regarding our profession, conduct research and give input to the Association´s strategy and action plan. When a committee has delivered upon its mandate it is usually terminated or might be changed according to needs.

Egil Skavang, Arkitektbedriftene

Organization number:	988 412 163
Visiting address	Essendropsgate 3 NO-0368 Oslo
Phone:	+47 22 93 15 00
E-mail:	post@arkitektbedriftene.no
Managing Director:	Egil Skavang
Communication Advisor:	Bo Gleditsch

Average payment for all cohorts

Statistics 2018 Education	Number	Annual income NOK	Average examination year
Master	2514	755808	2004
Bachelor	231	642216	2004
Vocational school	133	617974	1995
Other	130	627655	1995
Total amount	3008	735452	2003

In addition, there are indirect economic effects associated with good architecture and urban development, several of which are linked to level of productivity, which together with climate change is one of the greatest challenges of our time. To create the necessary productivity, we depend on buildings and cities to function well and be attractive. This is where architecture plays an important role.

– Communicating and creating a thorough understanding of how important social and environmental value is for sustainability and the economy, is crucial in order to utilise the full potential of architecture as a tool in the development of society and the challenges the future holds for us, says Skavang.

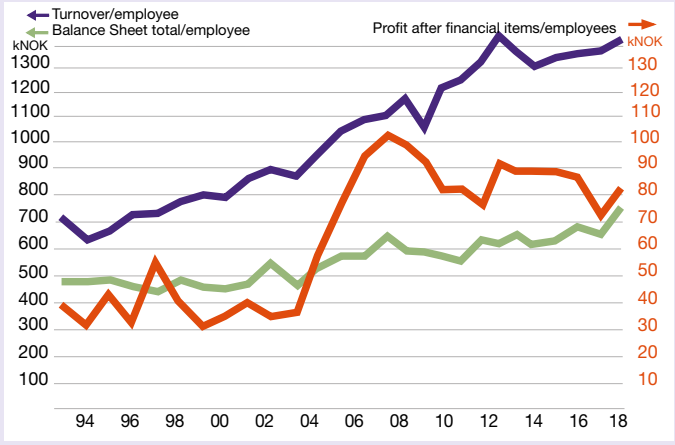
THE TOP 100 NORWEGIAN CONSULTING ENGINEERING AND ARCHITECTURAL GROUPS

	2019	2018	Group	Service	Annual report	Turn-over MNOK	(previous year)	Average number of employees	Tot. Balance sheet MNOK	CEO/Managing director
RIF/AB	1	1	Norconsult AS (acquired Johnels och Moberg & Bitcon)*	MD	18	5349.1	4695.0	3819	3110.0	Per Kristian Jacobsen
RIF/AB	2	2	Multiconsult (incl LINK Arkitektur)	MD	18	3908.6	3375.4	2887	1889.9	Grete Bergly
RIF	3	3	SWECO Norway	MD	18	2261.6	2021.9	1790	1040.7	Grete Aspelund
RIF/AB	4	4	Rambøll Norway	MD	18	1895.9	1732.4	1580	899.1	Ole Petter Thunes
RIF/AB	5	5	COWI AS (incl. Arkitema Architects) *	MD	18	1821.2	1675.1	1378	705.1	Marius Weydahl Berg
RIF	6	6	AFRY Norway (fmr ÅF-Pöyry) *	MD	18	1440.0	1187.0	905	1600.0	Morten Jensen
RIF/AB	7	7	Asplan Viak group	MD	18	1271.7	1170.5	1122	578.1	Elisabeth Heggelund Tørstad
RIF	8	8	Dr Ing A Aas-Jakobsen AS	CE,PM	18	870.6	823.3	179	349.5	Trond Hagen
RIF	9	10	WSP Norway *	PM	18	822.1	766.0	793	524.1	Hilde Nordskogen
	10	9	Metier OEC (RPS Group)	Enr,I,PM	18	770.2	800.0	260	360.5	Halvard Schie Kilde
	11	11	Rejlers Norway *	E	18	596.1	763.0	263	280.0	Thomas Pettersen
	12	13	Insenti AS	PM	18	430.4	266.8	42	133.1	Bjørn Grepperud
RIF	13	16	Erichsen & Horgen A/S	M	18	236.4	194.7	191	92.6	Arne Jorde
AB	14	15	Snøhetta Group *	A	18	215.7	205.4	240	109.1	Frydenlund, Hopp, Molinar, Greenwood
RIF	15	17	ViaNova-group *	CE,Env,E	18	207.6	192.4	126	107.5	Syrtveit, Paulsen, Nilsen
	16	21	Techconsult AS	PM,I	18	187.0	129.2	96	72.5	Ronny Meyer
RIF	17	20	Dr. Techn Olav Olsen AS	PM,CE,Env	18	166.5	136.1	111	79.8	Olav Weider
RIF	18	22	Holte Consulting AS	PM	18	144.8	128.9	54	50.4	Gunnar Heesch Holmen
	19	18	OPAK A/S	PM,Env,Enr,E	18	144.4	144.5	128	57.2	Jan-Henry Hansen
RIF	20	19	ECT AS	E	18	143.7	136.3	113	74.2	Dag Otto Winnæss
AB	21	34	Ratio Arkitekter AS (fusion between Bgo & Medplan Arch)	A	18	142.2	76.2	64	59.1	Solveig Dahl Grue
AB	22	25	A-LAB AS	A	18	134.3	104.6	89	52.2	Geir Haaversen
RIF	23	24	Structor Norway *	CE,E	18	130.1	106.0	89	55.5	Snippen, Horn, Sundfær et al
RIF	24	27	Trimble Solutions Sandvika	CE,M,E	18	128.9	102.0	59	105.6	Idar Kirkhorn
	25	23	Arcasa Arkitekter AS	A	18	117.5	115.3	63	49.4	Per Erik Martinussen
AB	26	29	DARK Gruppen	A	18	115.8	93.0	75	35.0	Geir Gustav Hantveit
	27	32	Atkins Norway (SNC Lavalin)	Enr	18	110.8	81.4	86	74.6	Bobby Bastviken
AB	28	30	Lpo Arkitekter As	A	18	110.2	92.3	80	47.1	Tom Roar Sletner
	29	33	Semcon Norway *	I	18	104.9	80.8	65	37.2	Hans Peter Havdal
AB	30	39	Mad Arkitekter *	A	18	102.8	74.1	85	49.3	Nicolai Riise
	31	40	Niras Norge AS	CE	18	102.0	68.1	62	45.5	Janne Marit Aas-Jakobsen
	32	36	Pöyry Norway As	I	18	100.0	73.7	62	67.7	Jon Terje Julsen
RIF	33	26	Brekke & Strand Akustikk AS	Env	18	95.0	103.7	80	54.9	Frøydis Espedal
AB	34	38	Tag Arkitekter AS	A	18	93.2	72.8	75	35.0	Lars Eirik Ulseth
AB	35	31	Tegn3 AS (AFRY)	A	18	80.7	83.3	74	41.5	Siri Hunnes Blakstad
AB	36	28	Hille Melbye Arkitekter AS	A,PM	18	78.8	95.1	56	42.6	Anna Marie Christensen
AB	37	35	Lund & Slaatto Arkitekter AS	A	18	75.9	75.2	52	39.8	Åse Helene Mørk
AB	38	41	Lund Hagem Arkitekter AS	A	18	75.3	66.8	54	31.0	Mona Anette Sævareid Carlmar
	39	37	Efla AS	MD	18	74.9	72.9	28	24.5	Ragnar Jonsson
	40	48	HMY Nordic AS	A	18	73.6	54.6	10	37.9	Troy Abrahamsen
AB	41	100	YSA Design (Yran & Storbraaten Architects)	A	18	64.9	30.7	32	33.1	Anne Mari Gullikstad
AB	42	47	Dyrvik Arkitekter A/S	A	18	63.8	55.0	48	22.5	Halvor Bergan
AB	43	46	Narud Stokke Wiig Sivilarkitekter Mnal As	A	18	62.9	56.5	44	28.1	Lise Rystad
	44	43	Teleplan Consulting AS	E	18	58.4	59.1	24	28.7	Jan Haakon Gulbrandsen
RIF/AB	45	49	Nordplan AS	PM,CE,A	18	54.5	53.7	62	17.9	Arne Steinsvik
AB	46	54	Abo Plan & Arkitektur As	A	18	54.3	46.5	46	21.7	Tommy Ingmar Hansen
RIF	47	50	Grunn Teknikk AS	PM,CE	18	53.7	50.7	19	19.9	Geir Solheim
AB	48	44	Niels Torp AS Arkitekter	A	18	52.3	58.3	44	41.8	Niels A. Torp
RIF	49	51	Bygganalyse AS	PM, CE	18	51.3	50.4	31	25.4	Frank Henry Roberg
RIF	50	58	Prosjektutvikling Midt-Norge AS	PM,CE	18	51.3	44.0	44	23.6	Nina Lodgaard
AB	51	60	Enerhaugen Arkitektkontor As	A	18	50.8	43.6	42	21.6	Marianne Guriby Dahl
AB	52	55	Grindaker AS	A	18	50.3	45.6	37	17.5	Per Heikki Granroth
AB	53	62	OG Arkitekter AS	A	18	49.8	42.7	51	27.1	Osmund Olav Lie
RIF	54	66	Itech AS	M,E	18	48.0	41.6	30	21.5	Geir Gustavsen
AB	55	57	PKA - Per Knudsen Arkitektkontor AS	A	18	45.4	44.6	42	19.6	Reidar Klegseth
RIF	56	61	ElectroNova AS	E	18	43.7	42.8	24	29.4	Trond Einar Kristiansen
AB	57	59	Metropolis Arkitektur & Design AS	A	18	42.6	43.9	29	19.9	Hanne C Arvik
	58	64	AMB Arkitekter AS	A	18	42.4	41.9	36	22.7	Christian Bratz
AB	59	63	4B Arkitekter AS	A	18	42.1	42.0	41	17.4	Kari Linderud
AB	60	91	Spir Arkitekter AS	A	18	41.9	32.0	34	13.8	Sven Gitlesen Krohn
AB	61	102	Hus Arkitekter AS	A	18	41.7	33.3	32	19.3	Øyvind Hegvik
RIF/AB	62	52	PLAN1 AS	CE,A,PM	18	41.7	47.2	29	18.1	Knut Andersen
RIF	63	42	IPD Norway AS	PM, E	18	41.1	63.4	26	9.6	Aksel Østmoen
AB	64	76	Børve Borchsenius Arkitekter As	A, PM,CE	18	41.1	36.5	27	18.0	Jan Olav Horgmo
AB	65	84	LOF Arkitekter AS	A	18	40.7	33.6	23	14.7	Sverre Olsen

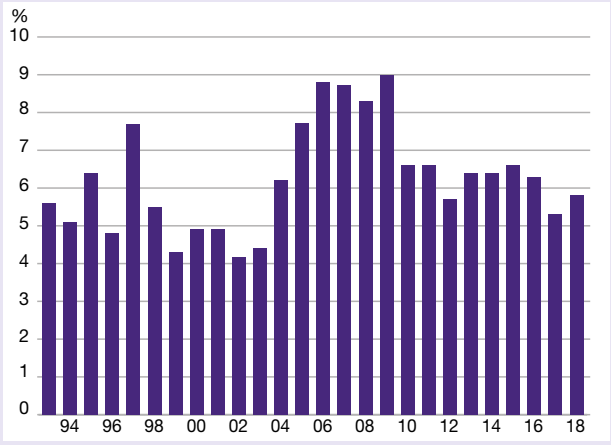
RIF = Member of RIF, the Association of Consulting Engineers, Norway. AB = Member of Arkitektbedriftene (architects association in Norway).
(*) = lack of conforming figure/proforma/assumed – = missing figure PM = Project Management,
A = Architecture, CE = Civil/Structural Engineering, Env = Environment, Enr = Energy, E = Electrical,M = Mechanical/HEVAC, I = Industrial, MD = Multi Disciplinary

	2019	2018	Group	Service	Annual report	Turn-over MNOK	(previous year)	Average number of employees	Tot. Balance sheet MNOK	CEO/Managing director
AB	66	78	Iark As	A	18	40.2	35.7	29	21.2	Hanne Margrethe Kjelland Hjermann
	67	67	HRTB AS (Architects)	A	18	39.9	40.8	34	19.6	Tove-Christin Eidskrem
	68	65	Løvlien Georåd AS	Env	18	39.3	41.9	17	14.3	Kristoffer Rabstad
	69	75	AS Scenario Interiørarkitekter MNIL	A	18	39.2	37.4	28	14.7	Linda Steen
	70	72	HLM Arkitektur & Plan AS	A	18	39.2	39.0	23	17.0	Yvonne Torgersen Hetlevik
RIF	71	80	Roar Jørgensen AS	PM,CE	18	38.2	34.2	32	18.6	John Dæhli
AB	72	71	L2 Arkitekter AS	A	18	38.1	39.2	24	18.9	Jon Flatebø
AB	73	94	AT Plan & Arkitektur AS	A	18	37.5	31.9	26	14.9	Mette Hoel
AB	74	98	Stein Halvorsen Arkitekter AS	A	18	37.1	31.4	22	20.2	Stein Halvorsen
RIF	75	99	Omega Holtan	CE	18	36.9	31.3	30	17.3	Ragnar Holtan
RIF	76	92	iVest Consult AS	CE	18	36.4	32.0	41	11.7	Jan Inge Hage
AB	77	87	PIR II architects AS	A	18	36.3	32.8	40	14.1	Inger Johanne Rushfeldt
AB	78	73	Fabel Arkitekter (ØKAW Arkitekter)	A	18	36.0	37.9	24	13.1	Lasse Brøgger
AB	79	106	3Rw Arkitekter	A	18	36.0	29.0	27	17.3	Sixten Rahlff
RIF	80	53	Ingeniør Per Rasmussen AS	E	18	36.0	46.8	26	25.9	Per H. Rasmussen
RIF	81	90	Stærk & Co as	PM,CE	18	36.0	32.2	29	19.7	Jan Lindland
	82	96	Ingeniørfirmaet Malnes Og Endresen AS	E	18	36.0	31.5	23	11.6	Knut Haugen
	83	74	Halvorsen & Reine AS (Arkitekterne)	A	18	36.0	37.8	23	20.4	Øystein Rognebakke (chairman), Aina Lian
AB	84	79	Kristin Jarmund Arkitekter AS	A	18	35.2	34.6	23	14.0	Kristin Jarmund
	85	88	Bjørbekk & Lindheim AS	A	18	35.1	32.7	26	15.7	Line Løvstad Nordbye
AB	86	70	Alliance Arkitekturstudio As	A	18	35.0	39.5	44	7.8	Asger Hedegaard Christensen
RIF	87	105	Fokus Rådgivning AS	CE	18	34.9	29.7	23	14.4	Jan Ole Myrlund
	88	83	Techni AS	I	18	34.4	33.7	34	28.8	Dag Almar Hansen
	89	82	Stener Sørensen AS	CE	18	33.9	33.8	29	9.7	Bo Reinhold Gunsell
AB	90	97	Omega Areal AS	A	18	33.9	31.4	32	19.2	Gisle Heggebø
	91	85	Karl Knudsen As	PM,CE	18	33.8	33.3	25	14.8	Arnstien Garli
AB	92	121	Vigsnæs + Kosberg ++ Arkitekter (fmr Jarmund/Vigsnaes)	A	18	33.1	24.6	28	13.5	Alessandra Lise Kosberg
	93	104	Bright Rådgivende Ingeniører (Bygg, Elektro, VVS) *	CE	18	33.1	30.0	22	19.0	Birkeland, Kongsvik, Rønningen
AB	94	108	Meinich Arkitekter AS	A	18	32.9	28.4	21	13.9	Kristian Fodstad
RIF	95	118	Sohlberg & Toftenes AS	PM	18	32.3	25.6	15	13.4	Jannecke Beth Augestad
	96	95	Rambøll Oil & Gas AS	Enr,I	18	32.3	31.8	16	19.0	Jens Gregersen
AB	97	68	Arkitektgruppen CUBUS AS	A	18	32.0	40.6	25	13.1	Odd Eilert H Mjellem
	98	45	Hipas Design AS	A	18	31.7	58.2	9	4.9	Kjell Magne Ruud
AB	99	103	Arkitektene Astrup & Hellern AS	A	18	31.1	30.2	23	15.7	Åke Letting
AB	100	119	Bølgeblikk Arkitekter AS	A	18	30.4	25.3	28	11.7	Terje Wilhelm Aaneland

The top 30 Norwegian groups



Profit margins



Generally speaking, it is risky business making direct comparisons between key business ratios for the largest firms and corresponding figures for the medium and small-sized firms. In the case of the latter firms, the extensive efforts of the often many partners have a relatively significant impact on the companies' turnover and profit level per employee.

For firms 31–100 in the above list, turnover in 2018 increased by 3% to approximately 3319 MNOK (3218 MNOK in 2017). The number of employees was 2371 (2375). The turnover per employee increased to 1400 kNOK (1355 kNOK). The profit before tax increased to 131 kNOK per employee (117 kNOK). Calculated in terms of profit margin, this gives 9.3% (8.6%). The average balance per employee was approximately 646 kNOK (650 kNOK).

Key business ratios for the 30 largest groups	2018	previous year
Turnover/employee	1431 kNOK	1388 kNOK
EBT/employee	83 kNOK	73 kNOK
Balance/employee	753 kNOK	666 kNOK

The turnover for the 30 largest groups grew by 10% to 24080 MNOK (21884 MNOK in 2017). The average number of employees grew by 7% to 16832 (15768). The turnover per employee consequently increased to 1431 kNOK (1388 kNOK). The profit before tax increased to 83 kNOK per employee (73 kNOK). The profit margin for the 30 largest groups in 2018 was thereby 5.8% (5.3%). The average balance per employee was approximately 753 kNOK (666 kNOK).

A TEMPORARY **CLOUDING OVER**

GDP growth in Iceland has lost pace rapidly in 2019. This has been fuelled mainly by a setback in the airline industry in March when WOW air ceased operations and idiosyncratic shocks such as the failure of the capelin catch. GDP growth is projected to hover around zero in the year 2019 after measuring 5% average in the period 2015–2018. The economy is expected to rebound in 2020/21, but at a rather slow pace.

Looking ahead there are some challenges on the horizon for the engineering and architectural sector. The profession has experienced major fluctuations and its dependency on domestic activity in the construction sector and services required by various public companies renders it vulnerable to shocks. Moreover, the appreciation of the krona has impacted its competitiveness in the international marketplace. The "in-sourcing" problem i.e. public companies recruiting valuable employees working in the private market is also exerting increasing pressure on firms in the sector. These are the challenges for the future.

There are also exciting things in the pipeline though. Recently the Minister for Transport unveiled the "The Transport Plan 2020–2034" which constitutes as the most ambitious investment plan in Icelandic transport infrastructure in recent years.

We need to ensure increased stability

Iceland is a unstable economy compared to the Nordic countries. This can partly be attributed to Iceland's rather undiversified exports which is heavily reliant on natural resources. During the past decades few industrialized economies have had as unstable an economic environment as Iceland. This is evident within the engineering profession where fluctuations in real revenues have been significant.

Turnover in the architecture and engineering sector has fluctuated much more than is commonly the case in the Icelandic economy. Their performance is for the most part dependent on the domestic demand in the construction industry and civil engineering and utilities operations, which usually fluctuate a great deal throughout the business cycle. In 2019 we are seeing a drop in revenues compared to the year before, mostly within the architectural profession.

Stability in the external business environment is one of the most determining factors to the success of the profession. The fluctuations reduce productivity growth and value creation over the long term. It is of great importance to create an environment that is more stable, more efficient and more economical for these companies for the future.

How do we ensure increased competitiveness?

The share of exports in the profession's turnover gives an insight into its competitiveness in the international marketplace. The profession's share of exports has plummeted from over 25% in 2014 to under 10% in 2019.

This can partly be attributed to a relatively higher activity and more lucrative opportunities in Iceland than in the neighbouring countries. On the other hand, the real exchange rate of the krona in terms of labour costs rose rapidly in the years 2014 to 2017 rendering Icelandic labour costly in the international marketplace. The situtation has improved with the depreciation of the krona since 2018.

But competitiveness needs to rest on more pillars than relative wage costs alone. Icelandic services are likely to remain costly in the foreseeable future and thus it is of utmost importance that the profession capitalizes on comparative advantages such as its expertise in the energy and environmental services. The key word for the future will be value, not costs when it comes to competitiveness in the international marketplace.

The "in-sourcing" problem

the word "in-sourcing" has gained traction within the Association of Consulting Engineers in the recent years. The "in-sourcing" problem refers to the recruiting practices employed by the public sector. This is particularly relevant when it comes to retaining young valuable employees within the major engineering firms. In the last few years the wages offered by the public sector have outpaced those of the private sector.

The income survey conducted by the "Association of Chartered Engineers in Iceland" also shows that the wages offered by the public firms are somewhat higher than those offered in the private market. This is causing a significant drain on human capital within the firms in the private market and exerting increasing pressure on profitability. The Association of Consulting Engineers along with the Federation of Iceland Industries have expressed concern about the fairness of practices employed by the public sector. This could have significant ramifications for the Icelandic economy in the long term if the public sector continues to crowd out the private market and thus impacting productivity and innovation in the long term.

Good things ahead

There are some good things in the pipeline. Recently the Minister for Transport unveiled the "The Transport Plan 2020–2034" which constitutes as the most ambitious investment plan in Icelandic transport infrastructure in recent years and the first one to propose a PPP solution to a number of investments. The plan is in line with recommendations in a recent report prepared by The Association of Consulting Engineers and the Federation of Icelandic Industries on the condition and future prospects of infrastructure in Iceland ("State of the Nation").

INTERVIEW
SVEINN INGI ÓLAFSSON
CEO
VERKÍS HF

A CLOSER COLLABORATION OF DESIGN AND CONSTRUCTION MAY **ACCELERATE THE DEPLOYMENT OF NEW TECHNOLOGY AND INCREASE PRODUCTIVITY"**

How can the industry do more for the creation of a sustainable society?

Although there is wide consensus about the goal of a sustainable future society, how to achieve that goal in practice remains somewhat controversial. The companies in our sector are active in environmental impact assessments and other environmental consulting as well as being key players in the design of projects with those goals in mind. In our mind it is at the design stage of a project where the foundations of a sustainable outcome are laid. The engineering sector has had a very significant input in the creation of a framework of sustainability policies thus far and will continue to do so. Our collective goal in the end is to bring about the best possible long-term sustainable social outcome by balancing economic, environmental and societal considerations. Therefore, in my mind, the engineering consulting sector will play a key role in tackling future environmental challenges.

Sveinn Ingi Ólafsson, CEO Verkís hf.

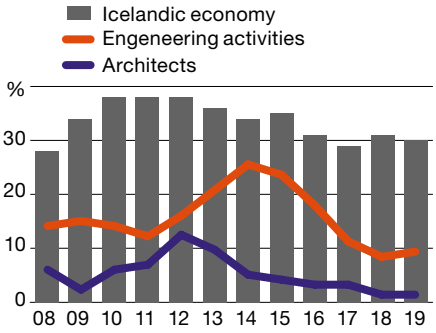
What are the main challenges for your company today?

The appreciation of the krona coupled with nominal wage increases in recent years has made it much more difficult for the Icelandic consulting sector to acquire projects abroad. The local construction market is cooling down resulting in fewer building projects. Moreover, investment in energy intensive industries, which has provided the Icelandic consulting with a steady revenue stream, is low. Therefore, the consulting sector faces a simultaneous downturn in key domestic markets. However, there is considerable public infrastructure investment in the pipeline which will increase demand for engineering services from that sector.

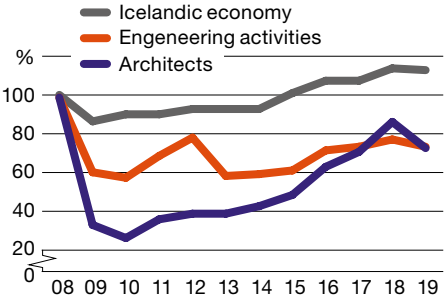
What changes in the industry do you expect we will see in the coming five years?

We are expecting some changes in the "detail-design" part of the market i.e. civil engineering with the advent of more sophisticated technology. So many fields that used to be labour heavy will be subject to challenges in the near future. Changes in contracting, with more emphasis on total enterprise and design-build, will also mean that collaboration between contractors and engineering consultants will be more common in the detail design of projects. This can have a positive effect on technology development and hopefully also productivity in the construction sector. The deployment of new technology, such as BIM, has been hampered somewhat by the fact that the added software cost rests with the design consultant but much of the benefit comes to the contractor. Therefore, a closer collaboration of design and construction may accelerate the deployment of new technology and increase productivity which will be highly beneficial to our sector and society in general.

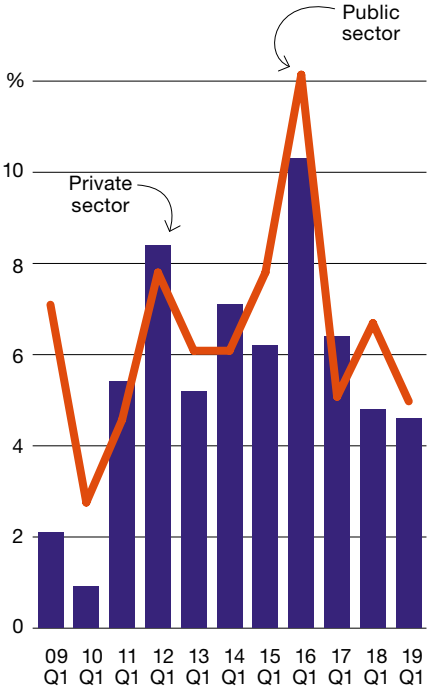
Revenues- export share



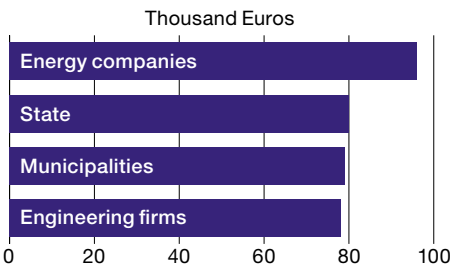
Real revenue indexes (Jan–Aug)



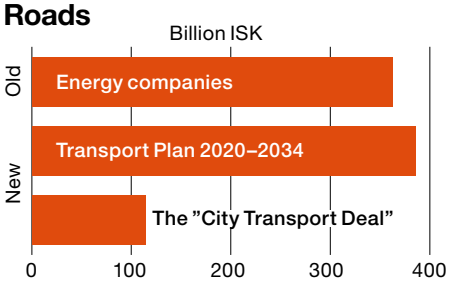
Wage index – nominal



Total yearly wages: engineers



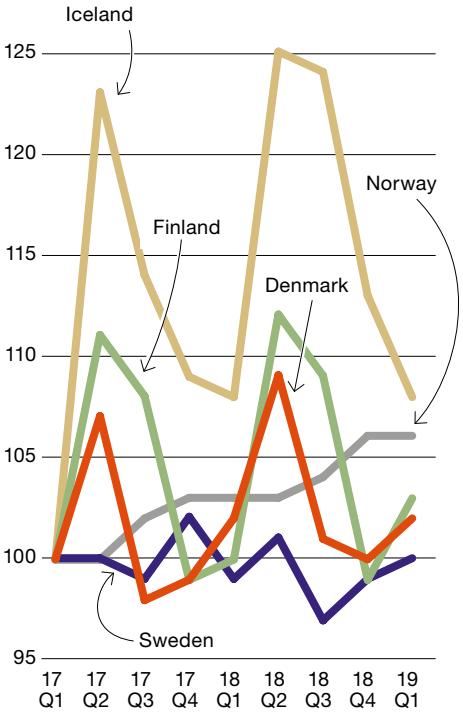
Maintenance and investments: Roads



THE TOP 25 ICELANDIC CONSULTING ENGINEERING AND ARCHITECTURAL GROUPS

	2019	2018	Group	Service	Annual report	Turnover MISK	(previous year)	Average number of employees	Tot. balance sheet MISK	CEO/Managing director
FRV	1	1	Efla hf.	MD	18	6893.9	6674.2	357	2660.3	Guðmundur Þorbjörnsson
FRV	2	2	Verkís hf.	MD	18	5383.2	5771.0	303	1619.3	Sveinn Ingi Ólafsson
FRV	3	3	Mannvit hf	MD	18	5252.5	5762.3	293	2334.2	Örn Guðmundsson
FRV	4	4	VSÓ Ráðgjöf ehf.	MD	18	1454.0	1332.0	80	595.0	Grímur Már Jónasson
FRV	5	5	Lota Consulting	CE	18	1209.4	999.0	65	353.4	Pétur Örn Magnússon
FRV	6	6	Ferill ehf., verkfræðistofa	CE	18	868.8	842.7	31	420.9	Ásmundur Ingvarsson
SAMARK	7	7	Arkís ehf.	A	18	629.9	740.8	32	219.5	Þorvarður Lárus Björgvinsson
FRV	8	9	Hnit verkfræðistofa hf.	CE	18	627.1	546.3	37	245.0	Kristinn Guðjónsson
SAMARK	9	10	THG Arkitektar EHF-	A	18	626.3	539.0	26	350.8	Halldór Guðmundsson
FRV	10		Raftákn ehf	E	18	560.0		28	129.0	Eva Hlín Dereksdóttir
SAMARK	11	13	Arkþing Nordic ehf	A	18	484.9	280.5	19	210.1	Hallur Kristmundsson
FRV	12	11	Verkfræðistofa Suðurnesja ehf.	CE	18	477.0	412.8	28	128.6	Stefán B. Veturliðason
SAMARK	13	8	T.ark Arkitektar ehf	A	18	465.1	597.9	31	209.4	Ivon Stefán Cilia
SAMARK	14		Hornsteinar Arkitektar ehf.	A	18	400.6		14	261.5	Ögmundur Skarphéðinsson
SAMARK	15	12	ASK arkitektar ehf.	A	18	341.8	360.8	22	152.2	Páll Gunnlaugsson
SAMARK	16	16	VA arkitektar	A	18	322.1	232.0	15	144.0	Indro Indriði Candi
SAMARK	17	14	Landslag ehf	A	18	307.1	257.3	19	178.3	Finnur Kristinsson
FRV	18	15	Strendingur ehf.	CE	18	271.9	243.6	13	69.9	Sigurður Guðmundsson
SAMARK	19		Arkitektar Laugavegi 164 ehf. (Gláma Kím)	A	18	269.0		17	80.2	Jóhannes Þórðarson
SAMARK	20	17	Batteríið ehf.	A	18	234.5	216.9	16	53.5	Guðmundur Ósvaldsson
SAMARK	21	18	Landmótun sf	A	18	180.9	142.9	14	74.7	Áslaug Traustadóttir
SAMARK	22	20	Uti og Inni s.f. architects	A	18	129.4	100.2	8	72.3	Baldur Ó. Svavarsson
SAMARK	23		Kanon arkitektar ehf	A	18	123.0		7	40.7	Halldóra Bragadóttir
SAMARK	24	19	ALARK arkitektar ehf	A	18	92.7	102.1	5	48.8	Jakob Líndal
SAMARK	25		Teiknistofan Tröð ehf	A	18	73.8		5	38.3	Sigríður Magnúsdóttir

Labour cost index – professional, scientific and technical activities



Key business ratios 25 largest groups	2018	(previous year, 20 groups)
Turnover/employee	18.64 MISK	18.82 MISK
Profit before tax/employee	1.51 MISK	1.75 MISK
Balance/employee	7.20 MISK	7.27 MISK

Turnover for the 25 largest companies was 27,679 MISK (26,154 MISK the previous year, then 20 largest) and the average number of employees was 1,485 (1,390). The profit margin grew to 8.1% (9.3%).

About FRV and SAMARK

FRV (The Icelandic Association of Consulting Engineers) joined the Federation of Icelandic Industries (SI) in 2013 and SAMARK (The Icelandic Association of Architectural Firms) joined SI in 2014. Both are independent branch organizations within SI, which is a part of the Confederation of Icelandic Enterprise (SA) in Iceland. SAMARK and FRV are a part of one of the three pillars of SI – the construction industry. FRV has 22 member companies and SAMARK has 23.

Jóhanna Klara Stefánsdóttir, Director of construction industries, manages the daily activities of both SAMARK and FRV.

Vilhjalmur Hilmarsson, Economic Analyst for the Federation of Icelandic Industries (SI).

Jóhanna Klara Stefánsdóttir

Vilhjalmur Hilmarsson

STABLE CONSULTING ENGINEERING MARKET IN FINLAND

The turnover of consulting engineering firms (industrial, civil and construction engineering consultancy) in Finland totalled EUR 6.3 billion in 2018. Turnover in January–July 2019 was up five percent year-on-year.

The consulting engineering firms that completed Technology Industries of Finland's order book survey reported a drop of 11 percent in the monetary value of orders taken in between July and September compared to the April–June figure but a three percent increase year-on-year. Although both the number of new orders and the value of order books fell somewhat in the previous quarter, the figures were still healthy.

At the end of September, the value of order books was three percent lower than at the end of June and 11 percent lower than in September 2018. Judging from order trends in recent months, the turnover of consulting engineering companies is expected to be slightly higher in the remainder of 2019 than in the corresponding period last year.

The number of personnel employed by consulting engineering companies in Finland was up some 6.6 percent from the 2018 average. At the end of September, the industry employed 56,800 people, approximately 3,500 more than in 2018.

Increasingly bleak outlook for Finland

As expected, Finland's outlook was revised down for both this year and the next in the autumn projections. Growth is projected to slow down further in 2021. The current growth projection for the Finnish GDP in 2020 is 1.1 percent.

According to the Research Institute of the Finnish Economy (ETLA), Finnish economy is almost 50 percent likely to slip into technical recession before the end of 2020. An economy is considered to have entered into a technical recession if its total output has contracted in two consecutive quarters. The forecast of some one percent of growth in 2020 therefore comes with significant uncertainty.

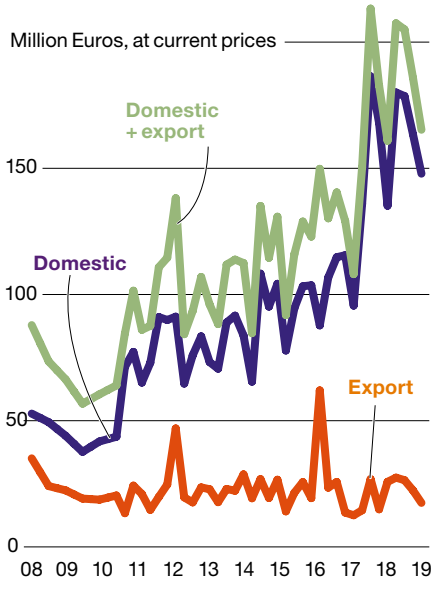
Employment figures have not improved for almost a year. The latest signs show a slight improvement after a long period of stagnancy. However, the rate of unemployment has not dropped since the turn of the year. The increasingly bleak economic outlook makes the Government's ambitious target of 75 percent employment more and more difficult to reach.

Even at best, all indicators point to very modest economic growth in Finland in coming years. In terms of financing our welfare state, the situation is untenable.

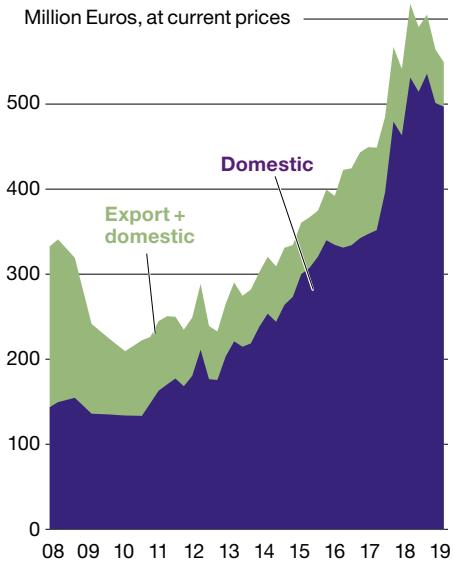
Consulting engineering trends

Digitalisation is making it possible for work to not be restricted by time and place and increasing flexibility. Automation is freeing human resources for higher-value work. According to estimates, the digital transformation of consulting engineering could decrease the life-cycle costs of construction by more

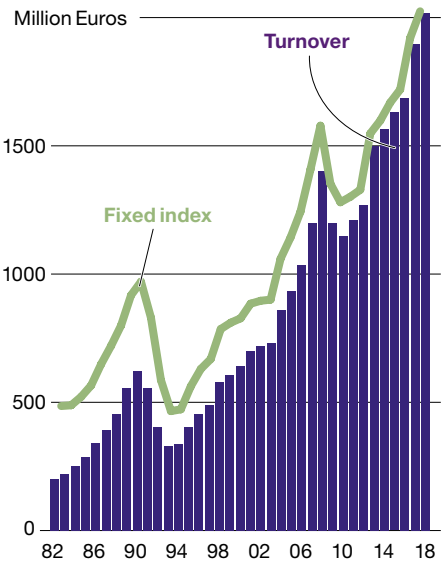
Value of New Orders in the Consulting Engineering



Value of Order Books in the Consulting Engineering



Turnover development of SKOL member companies 1982–2018



INTERVIEW
JYRKI KEINANEN
CEO, PARTNER, AINS GROUP, CHAIRMAN OF SKOL

"WE STRIVE TO BE A LEAN COMPANY, WHICH MEANS CONTINUOUS IMPROVEMENT"

How has digitalization changed they we work within the industry and in your company?

There are many changes already visible: Firstly, we have been able to get rid of most of the paperwork since information is nowadays in BIM and other digital formats and project communication is mostly based on digital, virtual or even augmented technologies.

We are currently investing to understand more profoundly the elements and possibilities of artificial intelligence and utilizing the experiences of companies paying the way in other industries. Parametric and algorithmic design has already increased the value of structural analyzing. With the new data driven methods we are able to help our clients to identify commercially optimal solutions for the project fast and effortless.

We are capturing more machine-readable data every day and are able to combine it with, for example, open data, which makes the future even more interesting.

Jyrki Keinänen, CEO, partner, AINS GROUP, chairman of SKOL

Employer branding is becoming more important in the "battle for the talents". How do you try to be an attractive employer?

I strongly believe in the importance of employees having space to experiment and try on their own ideas – that is way to experience success and flourish in work life. That also means that failing is ok too.

Our company has succeeded well in several annual rankings concerning most attractive employers. To maintain and increase that attraction we need to constantly improve our leadership skills, be present in forward leaning forums, such as SLUSH, and be open to two-way communication, in social media for instance. Fundamental is that we have a culture where we genuinely respect and value our employees.

What role does innovation, or research and development, have within your company?

As said experimenting, also failing, is one measurement of an innovative company. If you never fail, you have not tried enough. We learn from all failures. Innovations are the core of engineering, and that is why we are promoting this kind of thinking in on our company.

We strive also to be a lean company, which by definition means continuous improvement. One example that summaries this well: We are using Kaizen as a tool to enhance our innovation platform "Step".

How can the industry do more for the creation of a sustainable society?

The real estate and construction industry use 40 % of world's primary energy and produces over 40 % of world's CO^2 emissions. In my view the industry should commit to the target of Finland being carbon neutral by 2035. I stand behind the target. Our company could take an active role e.g. in making carbon calculations a standard and transparent part of all designs. This would increase understanding of the impact of individual choices and decision.

than 12%. Digitalisation enables mobility in the engineering value chain and the provision of new products and services, which is creating new business opportunities for companies. In other similar industries, digitalisation has expanded the ecosystem and created new business models.

The biggest firms in the industry have grown their competence by buying smaller specialised companies. Most mergers involve small providers of specialist engineering services. In recent years, there have also been mergers with companies outside of the traditional sphere of the industry, such as software development firms. Large firms use mergers as a way to add new services to their portfolio and to provide a more comprehensive project management concept.

Labour shortages are one of the most significant trends slowing down growth in the industry. The risk of labour shortages makes it more difficult for firms to restructure their business internally. Forecasts project a shortage of at least 10,000 workers by 2024 in the Finnish consulting engineering industry and a shortage of more than 16,000 in the event that the industry experiences a growth spurt.

The Finnish association of consulting firms SKOL – turnover and financial statements statistics 2018

A total of 83 members of the Finnish Association of Consulting Firms SKOL completed the association's turnover survey. At the end of 2018, SKOL had 153 members.

It has been estimated that the member companies employed a total of 18,865 people on average in 2018 and that their total turnover was EUR 2,020 million. The combined total turnover of the firms that completed the survey was EUR 1,963 million.

In SKOL's statistics, the key figures are usually divided into three main categories: industrial, construction and civil engineering consultancy. The largest sector is industrial engineering consultancy, which is estimated to have turned over approximately EUR 795 million in 2018. The second largest sector was construction engineering consultancy with a turnover of approximately EUR 603 million, and civil engineering consultancy was third with a turnover of approximately EUR 374 million.

As in previous years, the largest business sectors were process engineering and structural engineering. HVAC, construction (property development) and electrical and telecommunications engineering also remained high on the list.

The industrial sector is still comfortably the biggest customer group with

> THE INDUSTRY EMPLOYED 56,800 PEOPLE IN SEPTEMBER 2019, UP 6.6 % FROM 2018"

The Finnish Association of Consulting Firms SKOL in brief

SKOL is the employer's association for independent and private consulting companies in Finland. SKOL has 150 member companies in the fields of industrial, building and infrastructure design and consulting, as well as management consulting and training.

SKOL members employ over 19 000 professionals in Finland, and approximately 8 000 outside Finland. The companies represent about a half of total sector capacity in Finland.

SKOL promotes professional, independent, sustainable and ethical consulting engineering, which provides best value to the Clients. SKOL looks after the interests of member companies in Finland and within EU, improves the operating environment of consulting engineering work in Finland and internationally, as well as builds up the brand and communicates the value of high quality consulting engineering.

THE MAIN TARGETS IN SKOL STRATEGY ARE:

- **SKOL companies are value adding partners by the Clients, and this is indicated by increased investment on high quality design and consulting.**
- **Finland is a good operating environment for design and consulting business and SKOL continues to proactively improve the business environment.**
- **Design and consulting business attracts the best young professionals who want to create sustainable and competitive future.**
- **SKOL speeds up the international business of its members.**
- **SKOL is known and appreciated as an integral part of Technology Industry.**

The activity areas and key actions in each area are listed below. More information about each topic is available at SKOL.

OPERATING ENVIRONMENT/POLICY

- **Influencing new legislation and other regulation**
- **Seminars for clients and stakeholders**
- **14 technical working groups meet regularly, about 200 active participants**
- **National consulting contracts**
- **Legal support to members**
- **Collective agreement (moderate salary increases, 24 hours of additional annual working time continued)**
- **Cooperation with technical universities and institutes: curriculum, intake, industry coop.**
- **Forums with Transport authority e.g. rail forum, top management meeting**
- **Statistics, market reviews, cost follow-up, guidance on fringe benefits**
- **Ad hoc polls on topics of interest**

ATTRACTION OF YOUNG PROFESSIONALS

- **Young consultants' forum seminars and get-togethers**
- **Participation in infra sector LIKE project with the aim to attract young staff**
- **Participation in Built Environment Young Professionals training programme KIRA-Academy**
- **Student events like "CEO crossfire" with technical university students**
- **Young Consultant of the Year –award**
- **Scholarships to students**
- **Participation in MyTech-platform mytech.fi/suunnittelu-ja-konsultointi – video inter-views of young consulting professionals**

PROCUREMENT

- **Innovative procurement road show together with clients, municipalities and politicians**
- **New national procurement guidelines for consulting services together with major clients**
- **Practical tools for quality based tender evaluation**
- **Preparation of scope of work lists for various consulting services e.g. sopimuslomake.net/lomakkeet/rt-10-10846-en**
- **Advising clients on good procurement practices**

COMMUNICATION

- **Branding member companies on quality, value for money, sustainability & responsibility**
- **Regular meetings with media, often together with board members**
- **Newsletters to clients and stakeholders**
- **Newsletters to members**
- **Storytelling workshops to board and spokesmen**
- **Articles on newspapers**
- **Strong communications and social media activity**
- **New unified brand within all associations in Technology industries**
- **Export group/ forum for companies going international**
- **EFCA committees, GAM, FIDIC**
- **Lobbying at EU organisations on good procurement**
- **RINORD annual conference**
- **Nordic sector review**
- **Benchmark with other associations**

PROJECT WORK

- **Participation in Real Estate digitalization development project www.kiradigi.fi**
- **Integrated project delivery model development**
- **Activating the work of Lean Construction Institute Finland**
- **Building sector 3-year quality project together with construction industry and clients**

Noora Kuparinen, Project coordinator

Helena Soimakallio, Managing Director SKOL.

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	www.skolry.fi

36%. SKOL's members got 19% of their custom from local authorities and 14% from the central government.

Based on the survey, the largest consulting engineering firms in terms of total turnover were, in order starting from the largest, Ramboll Finland, Sweco Finland (including Sweco PM), Neste Engineering Solutions, Pöyry Finland, Etteplan Group, Sitowise, FCG Finnish Consulting Group, Granlund Oy (group), Elomatic (group) and A-Insinöörit (group).

The firms with the highest turnovers in Finland were Ramboll Finland, Sweco Finland (including Sweco PM), Neste Engineering Solutions, Pöyry Finland and Etteplan Group.

The members with the highest turnovers from exports were Deltamarin, Pöyry Finland, Elomatic, Citec and FCG Finnish Consulting Group.

URBANIZATION RELATED CONSTRUCTION PROVIDES FOR **A STRONG ARCHITECTURAL MARKET IN FINLAND**

The focus of the Finnish architectural firms is housing, schools, hospitals and, alongside them, the development of ecology in construction. Due to the strong migration in Finland, the need for housing is strong. In addition, aging is increasing the amount of service housing needed. Particularly in the Helsinki region, completely new residential areas are being built, with good and interesting architecture. Waterfront construction in particular has attracted wider interest.

With the migration, there is a great need not only for housing but also for schools and kindergartens. The need is urgent also as school buildings completed after the 1970s primary school reform have come to the end of their technical lifespan and some schools are unsuitably located for current needs. The good quality of the Finnish school system is reflected in school construction. School Architecture is also a Finnish export article.

The hospital network is also partly obsolete. Hospitals are concentrated in major cities, and hospital buildings in the 1950s and 1970s are outdated and inadequate in many ways. This sector has a lot to do for up to a decade.

One new and increasing focus of architecture is ecology. The carbon footprint has to decrease significantly, and this change has to happen fast. Ecological materials, thermal efficiency, lighting design, location and usability are crucial to the ecology of buildings. Buildings' lifespan, reusability and reuse of old buildings are also important elements of modern architecture. Technology also has a role to play in improving the environmental performance of a building.

The construction industry and design are rapidly digitalizing and the digitalisation of the built environment will affect our living environment as housing, services and transport are combined in unprecedented ways. The importance of good design increases when these elements are combined. Digitalisation of design alone is not enough; one must understand the changes in user needs and the functional transformation of society in order to achieve a good living environment. Finnish architects are developing their skills in this sector by participating in the work of KIRAHub - a real estate and construction organization founded to promote the digitalisation of the built environment. KIRAHub organizes an annual WDBE congress, World summit on digital built environment, in Helsinki. Finnish digitalization expertise is state-of-the-art, and it will continue to add value as one of the leading forces with the design industry.

ABOUT ATL

The Association of Finnish Architects' Offices promotes sustainable and value-creating quality architecture, represents Finnish architectural companies and helps to create conditions for international success.

Architecture creates well-being to the society and gives structure to our surroundings. Comfortable, functional and appealing cities, towns and villages are rarely coincidences but rather results of visionary planning and design.

Buildings, blocks and towns are complex systems that incorporate more than meets the eye. Architecture is a powerful tool for shaping the world, where the keys to success lie in advanced know-how and uncompromising quality combined with a strong vision.

The Association of Finnish Architects' Offices represents architectural companies and advocates a wide range of interests in the field of building industry. Our mission is to promote the conditions for high-class design in all fields of architecture.

The Association of Finnish Architects' Offices promotes on all fronts sustainable and value-creating quality architecture, represents Finnish architectural offices and helps to create conditions for international success.

Contact us for further information about Finnish architectural offices:

E-mail: atl@atl.fi
Web: atl.fi

Number of members	250
Amount of people employed by members	2500
Total invoicing in the year 2018	€231 million

INTERVIEW
KALLE EURO
EXECUTIVE DIRECTOR ATL

> "WE AIM TO **INCREASE THE NUMBER OF ARCHITECTS** TRAINED IN FINLAND"

What does the state of the Finnish construction industry look like?

Kalle Euro, Executive Director ATL

– Construction is still brisk after three years of strong growth. Growth is expected to continue due to strong urbanization processes in Finland. The major cities Helsinki, Tampere, Oulu, Turku and Jyväskylä are growing strongly and there is plenty of construction. With the ongoing construction, the architecture industry reaches high and the order backlog of architectural firms is strong.

What is expected from the new Finnish government's policy in the field of planning?

– Progress in rail investment would be greatly welcomed. The investments would support the urban sphere, bring more construction and improve Finland's infrastructure and thus competitiveness.

Secondly, additional investment in architectural exports is also desirable. The government program takes the creative economy into account and architecture is a valuable part of that whole.

Third, the decision on a new Museum of Architecture and Design is hoped to be made. The importance of the museum to these areas would be considerable.

What are the targets for the sector in 2020?

– We aim to increase the number of architects trained in Finland. That will be our main single lobbying goal for the next few years.

Contact: Kalle Euro
E-mail: kalle.euro@atl.fi
Tel: +358 46 6000 595

PHOTO: MIKA HUISMAN

Amos Rex, the new Amos Anderson Art Museum in the heart of Helsinki. Designed by JKMM Architects.

Facade detailing created with three-dimensional concrete element casting method developed during the project on Kruunuvuorenranta Automated Waste Collection Station in Helsinki. Designed by B & M Architects.

PHOTO: TIMO KIUKKOLA

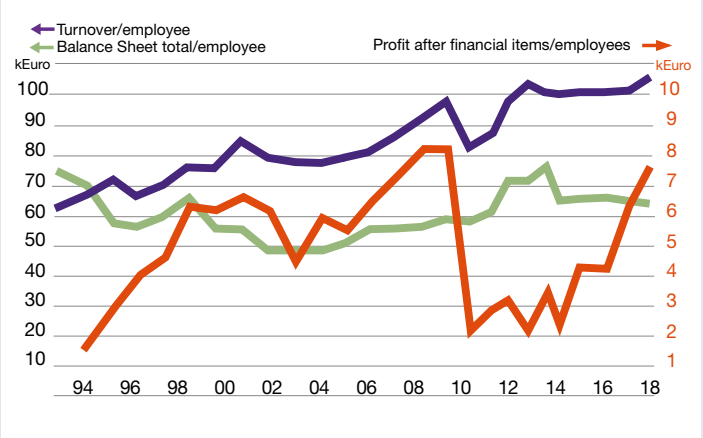
THE TOP 100 FINNISH CONSULTING ENGINEERING AND ARCHITECTURAL GROUPS

	2019	2018	Group	Service	Annual report	Turn-over MEUR	(previous year)	Average number of employees	Tot. Balance sheet MEUR	CEO/Managing director
SKOL	1	2	Etteplan Oyj	I	18	236.5	215.8	3055	160.6	Juha Näkki
SKOL	2	3	Ramböll Finland	MD	18	226.8	206.0	2091	118.4	Kari Onniselkä
SKOL/ATL	3	4	SWECO Finland (acquired NRC and Linnunmaa) *	I,MD	18	205.6	196.5	2128	98.3	Markku Varis
SKOL	4	21	AFRY (fmr ÅF + acquisition of Pöyry)	I	18	191.7	23.7	1615	108.7	Jari Leskinen
SKOL	5	5	Neste Engineering Solutions *	I	18	152.0	170.7	617	55.00	Patrick von Essen
SKOL	6	6	Sitowise Oy (fmr Sito & Wise Group)	MD	18	130.4	112.5	1153	160.6	Veikko Lamminen
SKOL	7	7	Citec Group *	I	18	100.0	95.0	1150	40.0	Johan Westermarck
SKOL	8	10	FCG Finnish Consulting Group	MD	18	85.1	62.6	734	57.6	Mari Puoskari
SKOL	9	9	Elomatic Group Oy *	I	18	85.0	64.5	900		Patrik Rautaheimo
SKOL	10	8	Granlund group	M	18	81.4	71.2	895	57.8	Pekka Metsi
SKOL	11	14	Rejlers Finland (acquired parts of Neste)	I	18	77.2	48.3	872	30.0	Seppo Sorri
SKOL	12	11	A-Insinöörit Group	MD	18	69.4	59.4	720	35.2	Jyrki Keinänen
	13	12	Insta Automation Oy	I	18	59.4	58.3	368	30.2	Timo Lehtinen
SKOL	14	13	WSP Finland	MD	18	58.1	56.7	632	34.8	Harri Yli-Villamo
SKOL	15	15	Deltamarin Oy	I	18	44.1	31.3	237	35.7	Janne Uotila
	16	16	Protacon group Oy *	I, E, PM	18	39.5	31.0	350	30.0	Timo Akselin
SKOL	17	17	Vahanen Group Oy	CE	18	32.4	28.6	344	19.3	Risto Räty
	18	18	Alte Oy (acquired TSS Group)	E	18	30.8	28.2	463	20.4	Juha Pekka Sillanpää
	19	19	Kiwa Inspecta Oy (acquired FORCE Technology)*	I	18	30.0	28.1	323	37.0	Jussi Ojanen
SKOL	20	20	Dekra Industrial Oy	CT	18	27.1	24.9	218	11.3	Matti Andersson
SKOL	21	25	Solwers Oyj (fmr Finnmap Infra + 3 companies)	CE	18	25.3	16.2	218	21.3	Leif Sebbas
	22	22	Mitta Oy	CE	18	24.9	23.3	287	22.9	Jari Lappi
SKOL	23	29	Destia Engineering *	CE	18	21.4	15.2	67	8.9	Arto Niemeläinen
	24	23	Insinööritoimisto Comatec Group *	I, PM	18	21.3	20.5	231	17.2	Aulis Asikainen
	25	24	Econet Group Oy *	I,Env	18	19.0	19.7	58	8.0	Lauri Leskinen
	26	31	Raksystems Oy (acquired Dry-IT in Sweden, June-19)	PM, CE, S	18	19.0	15.3	144	6.9	Marko Malmivaara
	27	26	RD Velho Oy	I	18	18.1	15.9	217	7.3	Mika Kiljala
SKOL	28	32	Rakennuttajatoimisto HTJ Oy	PM	18	16.8	13.1	138	6.3	Janne Ketola
SKOL	29	27	NIRAS Finland Oy	MD	17	15.2	15.2	46	9.8	Antti Inkinen
SKOL	30	30	Optiplan Oy	MD	18	15.0	14.2	171	8.2	Pekka Kiuru
	31	28	Haahtela Oy *	I,PM	18	12.7	15.2	72	5.6	Yrjänä Haahtela
	32	47	Esju Oy	I	18	12.4	6.8	68	6.2	Matti Kainuharju
ATL	33	36	JKMM Arkkitehdit Oy	A	18	11.8	10.5	82	3.9	Samppa Lappalainen
	34	45	Insinööritoimisto Enmac Oy	I	17/18	11.1	7.2	79	2.6	Juha Ritala
SKOL	35	38	Eurofins Environment Testing Finland Oy	CT	18	10.5	9.5	100	21.3	Eerik Järvinen
SKOL	36	33	Suomen Talokeskus Oy	MD	18	9.8	11.5	108	2.6	Jonatan Rimon
ATL	37	41	Arkkitehtitoimisto SARC Oy	A	17/18	9.6	8.1	44	5.9	Sarlotta Narjus
	38		Combitech Oy	I	18	9.2	8.2	80	5.9	Timo Harri Tapani Rantala
SKOL	39		Welado Oy	CE	18	8.4		73	2.1	Matti Tervonen
ATL	40	42	Pes-Arkkitehdit Oy	A	18	8.3	8.0	65	5.7	Jarkko Salminen
SKOL	41	40	CTS Engtec Oy	I	17	8.2	8.2	89	3.7	Antti Lukka
SKOL	42	35	Indufor Oy	MD	18	8.0	10.9	27	1.7	Silja Siitonen
SKOL	43	44	Rapal Oy	PM	18	7.9	7.3	39	8.0	Tuomas Kaarlehto
ATL	44	34	Helin & Co Architects	A	17/18	7.8	11.0	43	3.0	Pekka Helin
SKOL	45	39	AX-Suunnittelu Oy	M	18	7.8	8.3	95		Urpo Koivula
ATL	46	43	Arkkitehdit Soini & Horto Oy	A	18	7.5	7.3	51	1.7	Santtu Rothsten
ATL	47	75	Architecture Workshop Finland Oy	A	18/19	7.5	4.2	63	4.6	Anssi Anttila
SKOL	48		Eurofins Ahma Oy	CT	18	6.9		88	2.4	Jani Kangas
SKOL	49	51	Ideastructure Oy	CE	18	6.5	5.4	65	4.7	Jyrki Jalli
	50	48	Golder Associates Oy	Env	18	6.0	6.2	48	3.8	Kari-Matti Malmivaara
SKOL/ATL	51	54	Aihio Arkkitehdit Oy	A	18	5.9	4.4	58	4.5	Timo Meuronen
	52	52	Hepacon Oy	M	18/19	5.7	4.9	65	2.6	Otto Jokinen
ATL	53	49	L Arkkitehdit Oy	A	18	5.7	5.9	49	2.7	Robert Trapp
	54	71	Insinööritoimisto Pontek Oy	CE	18	5.0	3.3	26	1.7	Pertti Määttä
ATL	55	63	Uki Arkkitehdit Oy	A	18	4.9	3.6	64	3.3	Mikko Heikkinen
	56	55	Geotek Oy	Env	18	4.8	4.3	45	3.9	Aino Sihvola
ATL	57	58	Sigge Arkkitehdit Oy	A	17/18	4.7	4.3	47	5.1	Pekka Mäki
SKOL	58	81	Insinööritoimisto Pohjatekniikka Oy	CE	18	4.6	2.8	33	2.5	Seppo Rämö
ATL	59	62	Arkkitehtitoimisto Ala Oy	A	18	4.6	3.7	52	2.2	Antti Nousjoki
SKOL	60		Vaero Oy	A	18	4.6		55	1.5	Vartola Perttu
ATL	61	60	Arkkitehtitoimisto Lukkaroinen Oy	A	18	4.5	3.8	67	2.0	Mikko Lukkaroinen
	62	53	Asitek Oy	E	17	4.5	4.5	21	2.0	Rauno Mäkelä
SKOL	63	59	Insinööritoimisto Leo Maaskola Oy	M	18	4.3	4.1	47	2.0	Kari Seitaniemi
SKOL	64	57	Gaia Consulting Oy *	M	18	4.2	4.3	43	1.7	Ulla Heinonen
	65	56	Cadpool Oy	MD	18	4.2	4.3	58	1.9	Upi Vartiainen
	66	68	Re-Suunnittelu Oy – Re-Engineering Ltd	A,CE,PM	18	4.1	3.3	28	1.8	Matti Juhani Takkinen
SKOL	67	82	Saraco D&M Oy	CE	18	4.0	2.8	28	1.8	Jukka Posti
SKOL	68	65	Akukon Oy *	MD	18	3.8	3.5	36	1.3	Ari Lepoluoto
SKOL	69	70	Sipti Oy (incl Sipti Infra)	CE	18/19	3.8	3.3	32	2.3	Harri Vehmas & Teemu Rahikainen

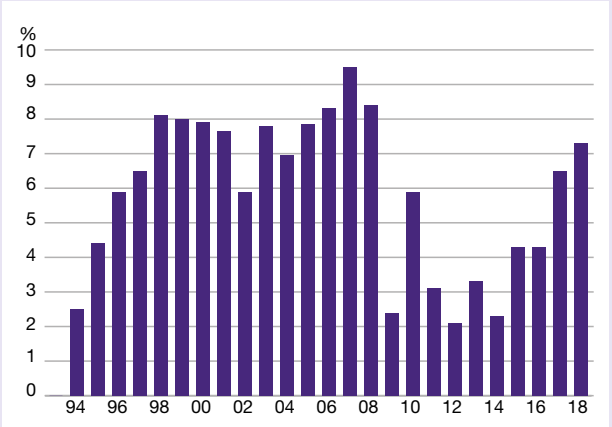
SKOL = Member of SKOL, the Finnish Association of Consulting Firms . ATL = Member of the Association of Finnish Architects
(*) = lack of conforming figure/proforma/assumed – = missing figure PM = Project Management,A = Architecture, CE = Civil/Structural Engineering, Env = Environment, Enr = Energy, E = Electrical, M = Mechanical/HEVAC, I = Industrial, MD = Multi Disciplinary

	2019	2018	Group	Service	Annual report	Turn-over MEUR	(previous year)	Average number of employees	Tot. Balance sheet MEUR	CEO/Managing director
SKOL	70	37	KBR Ecoplanning Oy (fmr Chematur)	MD	17	3.8	9.6	13	4.9	Ismo Markkanen
	71	61	Roadscanners Oy	CE	18	3.8	3.8	30	2.3	Timo Saarenketo
SKOL	72		Äyräväinen Oy	CE	18	3.7		41	1.8	Henri Airaksinen
SKOL	73	73	Insinööritoimisto Lauri Mehto Oy	CE	18	3.6	3.2	30	2.3	Simo-Pekka Valtonen
	74	77	YSP-Consulting Engineers Oy	E	18	3.6	3.0	29	4.5	Juha Pykälinen
ATL	75	117	Arkkitehtitoimisto Lahdelma & Mahlamäki Oy	A	18	3.6	2.6	33	1.4	Ilmari Lahdelma
SKOL/ATL	76	69	Parviainen Arkkitehdit Oy	A	18	3.6	3.3	41	1.6	Mikko Lahikainen
	77	46	Oy Omnitele AB	PM(tele)	18	3.5	6.9	57	2.8	Ville Santeri Laakso
ATL	78	78	Cederqvist & Jäntti Arkkitehdit Oy	A	18	3.4	3.0	27	1.8	Arndt Heinzmann
ATL	79	67	Arkkitehtuuritoimisto B & M Oy	A	18	3.3	3.4	39	1.4	Jussi Murole
	80	80	Green Building Partners Oy	Env,Enr	18	3.1	2.8	19	3.5	Keijo Leppävuori
ATL	81	76	Arkkitehtitoimisto Helamaa & Heiskanen Oy	A	18	3.1	3.0	20	3.3	Juha Saarijärvi
SKOL/ATL	82	84	Arkkitehtitoimisto Tähti-Set Oy	A	18	3.1	2.7	32	4.8	Toni Väisänen
ATL	83	91	Arkkitehtitoimisto Hannu Jaakkola Oy (Jaakkola Architects)	A	18/19	3.1	2.6	23	3.0	Hannu Jaakkola
SKOL	84	66	Plaana Oy	CE	18	3.0	3.4	35	2.8	Pekka Mosorin
	85	88	Geopalvelu Oy	CE	17/18	3.0	2.6	44	1.8	Toivo Ali-Runkka
ATL	86	92	Arkkitehdit NRT Oy (Nurmela,Raimoranta,Tasa)	A	18	3.0	2.6	33	3.19	Teemu Tuomi
ATL	87	94	Schauman Arkkitehdit Oy	A	18	3.0	2.8	43	2.5	Janne Untamo Helin
	88	72	Carement Oy (acquired by Infrap Oy)	CE	18/19	2.9	3.2	34	1.2	Jouni Aukusti Juurikka
	89	79	LINK design and development Oy	I	17	2.9	2.9	38		Jaakko Anttila
ATL	90	90	BST-Arkkitehdit Oy	A	18	2.9	2.6	34	1.7	Paul Sergej von Bagh
SKOL	91	85	Insinööritoimisto Srt Oy	CE	18/19	2.9	2.7	23	2.7	Pauli Oksman
ATL	92	95	Verstas Arkkitehdit Oy	A	18	2.9	2.4	30	1.3	Ilkka Salminen
	93	123	PR-Logisticar	I	18	2.8	1.6	9	2.3	Pekka Räisänen
SKOL	94	89	Insinööritoimisto Tauno Nissinen Oy	E	18	2.7	2.6	31	1.8	Mikko Yrjönen
SKOL	95	86	Entop Oy *	I	18	2.7	2.7	22	2.5	Kimmo Määttänen
ATL	96	104	Focusplan Oy	I	18	2.7	2.1	28	1.1	Vesa Ranta
	97	115	Geobotnia Oy	CE	17/18	2.7	1.9	19	2.2	Olli Nuutilainen
SKOL	98	103	Vison Oy	CE	17/18	2.6	2.1	15	0.8	Jani Saarinen
ATL	99	64	Linja Arkkitehdit	A	18	2.5	3.6	49		Ville Petteri Niskasaari
	100	83	Insinööritoimisto Savolainen Oy	CE	18	2.5		29	1.4	Antero Savolainen

The top 30 Finnish groups



Profit margins



Generally speaking, it is risky business making direct comparisons between key business ratios for the largest firms and corresponding figures for the medium and small-sized firms. In the case of the latter firms, the extensive efforts of the often many partners have a relatively significant impact on the companies' turnover and profit level per employee.

For firms 31–100 in the above list, turnover in 2018 increased by 7 % to 361 MEUR (336 MEUR in 2017). The number of employees grew by 4 % to 3 183 (3,072). The turnover per employee increased to 114 kEUR (101 kEUR). The profit before tax increased to 14.0 kEUR per employee (12.7 kEUR). Calculated in terms of profit margin, this gives 12.1 % (11.6 %). The average balance per employee was approximately 70.0 kEUR (76.9 kEUR).

Key business ratios for the 30 largest groups	2018	Previous year
Turnover/employee	106 kEUR	101 kEUR
EBT/employee	7.7 kEUR	6.5 kEUR
Balansomslutning/anställd	64.3 kEUR	65.8 kEUR

The turnover for the 30 largest groups in 2018 decreased by 6% to 2 158 MEUR (2 291 MEUR in 2017). The average number of employees fell by 11% to 20 442 (22 722). The turnover per employee was 106 kEUR (101 kEUR). The profit before tax was 7.7 kEUR per employee (6.5 kEUR). The profit margin for the 30 largest groups improved to 7.3% (6.5%). The average balance per employee was 64.3 kEUR (65.8 kEUR).

"THE PROFIT MARGIN (EBT) FOR EUROPE'S TOP 200 GROUPS WAS 5.1 % IN 2018

3Beirut. Architects: Foster + Partners.

INTERNATIONAL DEVELOPMENT

The sector in Europe grew and became stronger during 2018, but began to slow down in 2019. Profitability improved compared with 2017. The profit margin (EBT) for the 200 largest companies in Europe was 5.1% in 2018, compared with 4.8% in 2017. However, the operating margin, EBITA, was somewhat lower –5.9% in 2018 compared with 6.1% during 2017.

The 200 largest engineering consultants and architectural firms in Europe had 627 925 employees in 2018. This is equivalent to a growth rate of 9% compared with 2017 (576 230). The ten largest groups together employed 232 519 staff, compared with 200 287 the previous year. The consolidation trend continues and the large groups continue to grow. The profit margin (EBT) increased to 5.1%, from 4.8% in 2017. The median profit margin remained the same, at 5.3%. The operating margin (EBITA), however, fell to 5.9% in 2018 from 6.1% the year before. The turnover per employee increased to as much as EUR 134k during 2018 compared with EUR 118k the year before. The balance per employee also increased to EUR 104k in 2018 from the previous level of EUR 90k.

It must, however, be pointed out that the basic input data was incomplete. For certain companies there are no reliable figures on either turnover or profit. The calculations have been made on the basis of those companies whose figures were available.

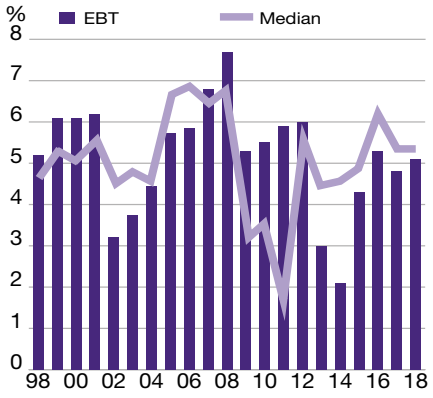
Sector development

In surveys conducted by EFCA (the European Federation of Engineering Consultancy Associations) twice a year, sector development is described on the European level (EFCA Barometer). According to the surveys, the market stabilised during 2018 after several years' recovery. A growing number of countries described their domestic markets as stable or strong. Profitability improved and personnel shortages were one of the major challenges for the sector. However, in autumn 2018 there were signals that a slowdown could be expected during 2019 and that the profitability would probably level off and weaken. In the reporting conducted during 2019, these signals appear to have been confirmed. The profitability (EBITDA) for 2018 weakened compared with 2017 – 5.6% against 7.9% the year before. At the same time, the volume of incoming orders began to level off and in certain cases come to a standstill in some parts of Europe, but from generally speaking high levels. Certain markets in southern Europe are still in a recovery stage, but most of the markets in northern and central Europe appear to have passed the economic peak.

In the latest report, EFCA Barometer Autumn 2019, in which the sector organisations in 26 European countries participated, four markets were described as being very strong and twelve as strong. A further six markets were on a normal level. Only four markets are described as being weak or very weak. Eight countries expected a higher order inflow up until spring 2020, whereas two countries believed in a downturn. Consequently, the remaining sixteen countries did not anticipate any major changes. In view of the positive starting point these are of course positive signals. But there are nevertheless fewer countries that anticipate an increase in incoming orders compared with the previous survey, which further strengthens the belief that a new slowdown cycle has started.

When the books are closed for 2019, it is likely that profitability will be on the same level as in 2018 although reports are beginning to be heard of weaker volumes of incoming orders. However, the slowdown will probably be more a question of a levelling off at a high level where a few markets in northern Europe have been weakened somewhat whereas others in southern Europe continue to grow stronger. The challenges for the sector continue to be low hourly rates and staff shortages. Digitalisation will continue to be a challenge, together with bureaucracy and related costs. So far there are few countries that are re-

Profit margins: European top 200



The World's top 10 largest groups

2019	2018	Group	Country	Annual report	Average number of employees	(Previous Year)	Turnover (MEUR)
1	1	AECOM	USA	18/19	86000	87000	17989.4
2	8	Worley	Australia	18/19	57831	26050	4273.6
3	3	SNC-Lavalin Group	Canada	18	52435	52448	6635.3
4	2	Jacobs Engineering	USA	18/19	48000	80800	11315.7
5	4	WSP Group	Canada	18	47700	42000	5311.0
6	5	Altran Technologies	France	18	46693	33665	2916.4
7	7	Alten Group	France	18	33700	28000	2269.9
8	6	Arcadis Group	Netherlands	18	27327	27327	3255.6
9	9	Stantec Inc.	Canada	18	22000	22000	2877.0
10	14	AKKA Technologies S.A	France	18	21019	15515	1505.3

In the case of the European firms the average number of employees per year is reported, whereas for the North American firms it is the total number of employees that is reported. Therefore, although the figures are not fully comparable, they at least give an idea of how the European groups stand in a global perspective.

A COMPARISION BETWEEN SOME INTERNATIONAL LISTED CONSULTANCIES. KEY RATIOS PER LATEST REPORTED FISCAL YEAR

Company	Country	**Market value 20191129 MEUR**	Last annual report	Market value last annual report	Turnover MEUR	Average number of employees	Turnover/ employee kEUR	Net profit MEUR	Net profit/ employee kEUR	Net margin %	Market value/ employee kEUR	P/e	P/s
Semcon AB	SE	**114.8**	181231	80.9	173.9	2119	82.1	8.9	4.19	5.1%	54.2	9.11	0.47
AFRY (ÅF Pöyry)	SE	**2208.5**	181232	1522.0	1319.5	10928	120.7	80.3	7.34	6.1%	202.1	18.96	1.15
SWECO AB	SE	**3726.0**	181233	2190.0	1768.9	15306	115.6	118.2	7.72	6.7%	243.4	18.53	1.24
Rejlers	SE	**186.2**	181234	120.2	223.3	1863	119.9	1.5	0.78	0.7%	99.9	82.69	0.54
Eurocon Consulting AB	SE	**22.2**	181235	25.0	49.7	235	211.3	2.4	10.25	4.9%	94.4	10.38	0.50
Hifab Group AB	SE	**13.4**	181236	13.7	37.9	425	89.2	0.9	2.06	2.3%	31.6	15.60	0.36
HiQ	SE	**246.7**	181237	91.3	174.9	1629	107.4	14.3	8.80	8.2%	151.5	6.36	0.52
Projektengagemang	SE	**27.9**	181238	63.0	115.5	978	118.1	5.4	5.49	4.6%	28.5	11.74	0.55
Etteplan OY	FIN	**202.3**	171231	192.5	214.8	2802	76.6	11.5	4.09	5.3%	72.2	16.78	0.90
Multiconsult AS	NOR	**182.6**	171231	201.7	340.0	2851	119.2	8.0	2.82	2.4%	64.0	25.09	0.59
Costain Group Plc	UK	**235.0**	181231	466.2	1658.8	3736	444.0	37.2	9.95	2.2%	62.9	12.54	0.28
RPS Group	UK	**410.6**	181231	336.4	722.4	5500	131.3	33.7	6.12	4.7%	74.7	9.99	0.47
Aukett Swanke Group plc	UK	**3.7**	180930	4.2	16.3	246	66.2	-2.7	-10.83	-16.3%	14.8		0.26
Ricardo plc	UK	**423.4**	190630	459.6	435.6	2828	154.0	22.4	7.93	5.2%	149.7	20.48	1.06
Arcadis	NL	**1619.2**	181231	935.0	3255.6	27327	119.1	-26.7	-0.98	-0.8%	59.3		0.29
Fugro	NL	**691.5**	181231	611.3	1650.0	10265	160.7	-51.1	-4.97	-3.1%	67.4		0.37
Bertrandt AG	D	**537.6**	180930	806.9	1019.9	13229	77.1	47.4	3.58	4.6%	40.6	17.03	0.79
EDAG Engineering	CH	**236.6**	181231	355.4	706.5	8641	81.8	22.8	2.64	3.2%	27.4	15.57	0.50
Alten Group	FR	**3495.8**	181231	2425.0	2269.9	33700	67.4	157.9	4.68	7.0%	103.7	15.36	1.07
Altran Technologies	FR	**3595.2**	181231	1778.6	2916.4	46693	62.5	80.7	1.73	2.8%	77.0	22.04	0.61
Assystem S.A.	FR	**470.3**	181231	405.8	444.1	5608	79.2	19.7	3.51	4.4%	83.9	20.60	0.91
S II A.A.	FR	**492.6**	190331	406.7	631.4	8213	76.9	30.7	3.74	4.9%	60.0	13.25	0.64
Sogeclair S.A.	FR	**78.8**	181231	62.0	159.4	1685	94.6	6.3	3.75	4.0%	46.7	9.81	0.39
AKKA Technologies S.A.	BE	**1090.1**	181231	860.3	1505.3	21019	71.6	50.2	2.39	3.3%	51.9	17.15	0.57
Soditech S.A.	FR	**1.9**	181231	1.8	5.3	65	81.4	0.5	7.38	9.1%	29.4	3.82	0.35
Airtificial Intelligence Structures (INYPSA)	ES	**95.3**	181231	134.4	15.9	127	125.2	-1.3	-10.39	-8.3%	750.5		8.45
AVERAGE EUROPE							**95.7**		**2.98**	**3.1%**	**89.5**		**0.92**
Tetra Tech. inc.	US	**4295.9**	190930	4221.4	2770.9	20000	138.5	141.5	7.07	5.1%	214.8	3.16	1.52
Hill International. Inc	US	**156.8**	181231	152.8	382.3	2664	143.5	-27.3	-10.24	-7.1%	58.8		0.40
AECOM Technologies. Inc.	US	**6084.8**	190930	5274.5	17988.8	86000	209.2	-232.8	-2.71	-1.3%	70.8		0.29
Jacobs Engineering	US	**10911.8**	190930	10841.8	11315.3	48000	235.7	259.1	5.40	2.3%	227.3	4.43	0.96
SNC-Lavalin. Inc.	CAN	**2832.0**	181231	5414.1	6635.4	52435	126.5	-884.4	-16.87	-13.3%	54.0		0.82
Stantec. Inc.	CAN	**2648.9**	181231	2247.0	2877.0	22000	130.8	115.0	5.23	4.0%	120.4	2.75	0.78
WSP Global	CAN	**6013.4**	181231	4115.3	5311.1	47700	111.3	166.6	3.49	3.1%	126.1	24.70	0.77
AVERAGE NORTH AMERICA							**169.6**		**-1.66**	**-1.0%**	**118.2**		**0.79**
Cardno Ltd	AU	**135.3**	190630	162.9	817.8	4482	182.5	134.2	29.94	16.4%	30.2	0.18	0.20
Worley	AU	**4852.1**	190630	4758.3	4279.5	57831	74.0	94.5	1.63	2.2%	83.9	7.64	1.11

The figures in the table above are presented according to the respective companies' annual report. Any acquisitions made during the current year are not included. A few companies have been unlisted after they were acquired. These are Pöyry (ÅF, now AFRY), WYG plc (Tetra Tech) and Ansaldo STS (Hitachi Rail).

The currencies used to calculate the figures in the table above represent the average exchange-rates of the period Jan–Oct 2019, as below:

1 NOK = 1.0796 SEK 1 CAD = 7.1131 SEK 1 USD = 9.4443 SEK
1 AUD = 6.5789 SEK 1 EUR = 10.5912 SEK 1 GBP = 12.0030 SEK

Source: DowJones Factiva

> THE OPERATING (EBIT) MARGIN FOR THE 200 LARGEST GROUPS WAS 5.9%

porting shortage of projects as being the principal challenge facing the sector.

Europe's largest groups

The three As at the top of the European chart have increased to five. Altran is still the largest group in Europe followed by Alten and Arcadis. After this, AKKA Technologies and AECOM (EMEA figures) have joined the others. The American company AECOM is followed by two other American consultancies WSP and Jacobs Engineering. The north American groups continue to take major market shares in Europe. For example, Tetra Tech acquired the British firm WYG plc with 1 600 employees. Tetra Tech now has 20 000 employees globally. The Nordic giants are performing well in the competition and consolidation trend. Among the 200 largest European companies, measured in terms of number of personnel, Sweco holds eighth place followed by AFRY (12), Ramboll (14) and COWI (25).

World's largest

In the chart of the world's largest engineering consultancies, the Australian company Worley (previously Worley Parsons Engineering) has grown and climbed up to second place, with 57 831 personnel. The largest company is still AECOM, with 86 000 employees. Four European groups are listed on the chart: Altran, Alten, Arcadis and AKKA Technologies.

Listed companies

In the table showing the listed companies, the figures reported are based on the final accounts. Any acquisitions are not accounted for proforma here. Three companies have been delisted during the year and have therefore disappeared from the table. These companies are Pöyry which was acquired by ÅF at the end of 2018 (now AFRY), WYG plc which was acquired by Tetra Tech and the Italian company Ansaldo STS, which was acquired by the Japanese consultancy Hitachi Rail.

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THE TOP 50 EUROPEAN ARCHITECTURAL GROUPS

2019	2018	Group	Country	Annual Report	Average number of employees	(Previous year)	Turnover MEUR
1	2	AEDAS Architects Group *	UK	18	1400	1400	
2	1	Foster & Partners Ltd	UK	18/19	1317	1423	344.1
3	4	BDP Building Design Partnership	UK	18/19	1302	954	142.4
4	3	SWECO Architects (incl. Årstiderne & Tovatt Architects & Planners) *	Sweden	18	1200	1096	174.7
5	6	Rambøll Architects & Urban Planning (acquired Henning Larsen Architects, Dec-19)	Denmark	18	1072	800	
6	7	ATP Architects Engineers	Austria	18	813	700	92.6
7	9	Tengbom group	Sweden	18	702	677	64.7
8	8	White Architects	Sweden	18	673	680	82.2
9	5	Broadway Malyan Ltd *	UK	18	660	821	68.0
10	11	AIA Life Designers*	France	18	650	600	66.0
11	10	Gmp Architekten von Gerkan, Marg und Partner *	Germany	18	594	606	90.7
12	24	Norconsult architects (incl. Nordic office of architecture & Monarken) *	Norway	18	576	440	79.2
13	13	Grimshaw Architects Llp	UK	18/19	564	539	98.6
14	12	IDOM (Architecture)	Spain	18	550	545	57.0
15	15	LINK Arkitektur (Multiconsult)	Norway	18	496	486	52.3
16	16	Arkitema (COWI)	Denmark	18	493	477	49.8
17	17	HPP Architects	Germany	18	445	420	59.8
18	14	Benoy Limited (Architects)	UK	18	430	489	69.9
19	23	RKW Architekten & Co, KG *	Germany	18	410	350	40.0
20	18	Herzog & de Meuron Architekten AG *	Switzerland	18	400	400	
21	25	Zaha Hadid Architects	UK	17/18	363	345	58.0
22	21	Chapman Taylor LLP	UK	17/18	356	350	47.1
23	33	Allies and Morrison Architects Ltd *	UK	18	355	319	65.3
24	22	HENN Architekten	Germany	18	350	350	
25	20	Sheppard Robson *	UK	17/18	347	352	36.4
26	27	Barton Willmore Group	UK	17/18	341	336	45.9
27	26	Arup associates, architects *	UK	17	337	337	
28	29	Stride Treglown Group PLC	UK	18	330	319	32.4
29	19	Burckhardt+Partner AG *	Switzerland	18	313	360	88.1
30	31	Heinle, Wischer und Partner *	Germany	18	310	310	
31	36	Arkitektfirmaet C.F. Møller	Denmark	18	288	286	38.4
32	47	PE architects	Sweden	18	278	229	36.7
33	34	O.M.A. Office for Metropolitan Architecture *	Netherlands	18	276	300	
34	39	Wilmotte & Associés *	France	18	270	270	33.8
35	37	AFRY, incl. Gottlieb Paludan, SandellSandberg, Koncept Ark & Design *	Sweden	18	267	278	37.0
36	43	Scott Brownrigg Architects	UK	17/18	254	269	25.8
37	32	Purcell Architects	UK	18	247	302	
38	42	Aukett Swanke Group plc	UK	18	246	246	19.2
39	45	Snøhetta Group *	Norway	18	240	240	22.0
40	35	PRP Architects Ltd *	UK	17/18	236	292	34.3
41	46	IBI Group Europe *	UK	18	235	230	25.4
42	40	Tyréns architects (incl. Pyramiden & AQ arkitekter) *	Sweden	18	230	250	27.4
43	48	BIG / Bjarke Ingels Group *	Denmark	18	222	216	47.7
44	51	Arkitekterna Krook & Tjäder	Sweden	18	215	195	22.9
45	28	INBO Architects/Consultants *	Netherlands	18	210	330	46.0
46	30	Pascall+Watson	UK	18	210	317	40.9
47	44	MVRDV *	Netherlands	18	203	240	
48		Bureau d'études Greisch *	Belgium	18	203	194	19.5
49	49	UNStudio (Van Berkel En Bos) *	Netherlands	18	196	210	
50	52	Keppie Design	UK	17/18	192	191	

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1	1	Altran Technologies	I	France	18	46 693	33 665	2916.4	Dominique Cerutti
2	2	Alten Group	I	France	18	33 700	28 000	2269.9	Simon Azoulay
3	3	Arcadis Group	MD	Netherlands	18	27 327	26 162	3255.6	Greg Steele
4	8	AKKA Technologies S.A	I	Belgium	18	21 019	15 515	1505.3	Maurice Ricci
5	6	AECOM EMEA *	MD	UK	18	20 700	15 900	1479.8	Lara Poloni
6	5	WSP Europe (figures are for EMEA)	MD	UK	18	19 100	16 500	2922.8	Magnus Meyer
7	4	Jacobs Engineering Europe (incl SKM) *	Env,Enr	UK	18	17 500	19 000	1500.0	Robert S. Duff
8	9	SWECO (5 acquisitions in 2019) *	MD	Sweden	18	16 502	14 849	1872.1	Åsa Bergman
9	10	Expleo (fmr Assystem Technologies) *	MD	France	18	15 000	14 000	1000.0	
10	7	Mott MacDonald Group	MD	UK	18	14 978	14 929	2161.4	Mike Haigh (Executive chair), James Harris (Group Managing Director)
11	12	Egis Group	MD	France	18	14 850	13 600	1129.9	Nicholas Jachiet
12	19	AFRY, ÅF Pöyry (5 acquisitions in 2019) *	MD	Sweden	18	14 694	9 646	1908.9	Jonas Gustavsson
13	11	ARUP Group	MD	UK	17/18	13 841	12 806	2085.7	Gregory Hodkinson (Chairman)
14	14	Rambøll Group (acquired Henning Larsen Arch.)	MD	Denmark	18	13 573	12 590	1565.6	Jens-Peter Saul
15	13	Bertrandt AG	I	Germany	17/18	13 229	12 970	1019.9	Dietmar Bichler
16	16	Segula Technologies Engineering Group *	I	France	18	12 000	11 000		Franck Ghrenassia
17	18	Formel D GmbH *	I	Germany	18	12 000	10 000		Jürgen Laakmann
18	15	SNC-Lavalin Europe *	MD	UK	18	11 500	11 900	1316.9	
19	17	Fugro N.V	CE	Netherlands	18	10 265	10 044	1650.0	Mark R. F Heine
20	38	Sogeti High Tech *	I	France	18	8 700	4 145	909.0	Paul Hermelin
21	20	EDAG Group	I	Germany	18	8 641	8 404	788.3	Cosimo de Carlo
22	21	SII S.A	I	France	18/19	8 213	7 566	631.4	Bernard Huvé, Éric Matteucci
23	23	IAV Group	I	Germany	18	7 500	6 700	900.0	Ulrich Eichhorn (chairman)
24	24	SYSTRA Group *	MD	France	18	6 700	6 200	586.2	Pierre Verzat
25	22	COWI Group (incl. Arkitema)	MD	Denmark	18	6 673	7 104	887.4	Lars-Peter Søbye
26	26	Mace Group (consultancy)	PM	UK	18	6 376	5 726	3133.0	Mark Reynolds
27	29	Turner & Townsend Group	PM,QS	UK	18/19	6 105	5 209	773.6	Vincent Clancy
28	25	Royal HaskoningDHV	MD	Netherlands	18	5 818	5 830	598.5	Erik Oostwegel
29	31	Assystem Group S.A	MD	France	18	5 608	4 832	444.1	Dominique Louis
30	30	Artelia Group (acquired MOE, in Dec-19) *	PM	France	18	5 566	4 900	638.8	Benoît Clocheret
31	27	Exyte Group (fmr M+W Group)	CE/PM	Germany	18	5 561	5 569	3531.0	Wolfgang Büchele
32	28	RPS Group Plc	Env	UK	18	5 500	5 340	849.8	John Matheson Douglas
33	35	Tractebel Engineering	MD	Belgium	18	5 000	4 500	662.0	Olivier Biancarelli
34	40	Hiq Consulting (Agap2)	I	France	18	5 000	4 000	354.0	Franck Deschodt
35	36	Ansaldo STS	I	Italy	18	4 327	4 228	1437.1	Andrew Barr
36	32	Kiwa Group (Inspecta)	CT	Netherlands	18	4 294	4 173	487.0	Paul Hesselink
37	37	TPF Group	MD	Belgium	18	4 000	4 200	227.2	Thomas Spitaels
38	43	Sigma Group	I	Sweden	18	3 985	3 317	378.3	Dan Olofsson
39	44	Norconsult AS (acquired Johnels and Moberg & Bitcon)*	MD	Norway	18	3 819	3 300	4070.2	Per Kristian Jacobsen
40	39	Costain Group Plc	I	UK	18	3 736	4 008	1951.6	Alexander John Vaughan
41	41	RINA Group (D'Appolonia)	CT/I	Italy	18	3 700	3 700	443.0	Ugo Salerno
42	93	Worley Parsons (Europe) *	I	UK	18	3 700	1 000	1312.5	Alan Gordon
43	34	AYESA	MD	Spain	18	3 670	4 519	244.3	José Luis Manzanares Abásolo
44	46	Drees & Sommer-Gruppe *	PM	Germany	18	3 280	3 200	306.4	Hans Sommer (chairman)
45	47	Antea Group	MD	Netherlands	18	3 213	3 160	424.0	Gerard Sanderink
46	51	Etteplan Oy	I	Finland	18	3 055	2 802	236.5	Juha Näkki
47	53	Ineco, Ingeniería y Economía del Transporte SA	CE	Spain	18	2 895	2 531	273.9	Carmen Librero
48	50	Multiconsult (inkl LINK Arkitektur)	MD	Norway	18	2 887	2 851	2974.1	Grete Bergly
49	49	Ricardo Plc	I	UK	18/19	2 828	2 852	512.5	Dave Shemmans
50	60	Tyréns (acquired VVS-Konsulterna i Skellefteå, Feb-19) *	CE,PM	Sweden	18	2 747	2 142	268.7	Johan Dozzi

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51	52	SETEC Group (Setec TPI)	MD	France	18	2 700	2 600	300.0	Michel Kahan
52	55	IDOM Group	MD	Spain	18	2 680	2 499	292.2	Luis Rodriguez
53	54	PM Group (Project Management Group) *	PM, MD	Ireland	18	2 600	2 500	406.0	David Murphy
54	56	TYPSA Group	MD	Spain	18	2 504	2 450	213.8	Pablo Bueno Tomás
55	59	NIRAS-Gruppen A/S	MD	Denmark	18	2 355	2 206	295.3	Carsten Toft Boesen
56	61	RLE International Gruppe GmbH *	I, PM	Germany	18	2 300	2 100	190.0	Ralf Laufenberg
57	58	Sener Group	MD	Spain	18	2 251	2 241	589.2	Jorge Unda Malcorra
58	65	Rejlers (acquired Neste Engineering Solutions & Pondra) *	E,I,CE	Sweden	18	2 222	1 952	263.4	Viktor Svensson
59	42	Stantec Europe *		UK	18	2 200	3 500	230.0	
60	62	Semcon AB	I	Sweden	18	2 041	2 032	173.9	Markus Granlund
61	64	Dorsch Gruppe *	MD	Germany	18	2 000	2 000		Olaf Hoffmann
62	81	Currie & Brown Group	PM	UK	18	2 000	1 239		Euan McEwan
63	276	Ingérop S.A	MD	France	18	1 900	1 700	227.0	Yves Metz
64	48	Capita Real Estate and Infrastructure *	MD	UK	18	1 841	2 144	190.4	Dave Spencer
65	66	Gleeds *	PM	UK	18	1 800	1 800		Richard Steer
66	97	EPTISA *	MD	Spain	17	1 800	968	135.0	Luis Villarroya Alonso
67	67	Combitech AB	I	Sweden	18	1 762	1 730	218.5	Hans Torin
68	63	ILF Consulting Engineers	MD	Germany	18	1 692	1 541	198.3	Klaus Lässer
69	73	Sogeclair SA	I	France	18	1 685	1 445	159.4	Phillippe Robardey
70	68	Buro Happold	MD	UK	17/18	1 672	1 719	218.1	Neil Squibbs
71	45	Tebodin B.V. (Bilfinger) *	MD	Netherlands	18	1 600	3 200		Niels van Rhenen
72	69	WYG Plc (acquired by Tetra Tech)	MD	UK	18/19	1 600	1 641	205.9	Douglas McCormick
73	70	Yuksel Proje Uluslararasi AS *	CE	Turkey	18	1 480	1 481	90.6	Celal Akin (chairman)
74	72	HIQ International AB	I	Sweden	18	1 478	1 449	174.9	Lars Stugemo
75	71	Fichtner Group	Enr, MD	Germany	18	1 440	1 479	234.0	Georg Fichtner
76	76	Obermeyer Planen+Beraten GmbH *	MD	Germany	18	1 436	1 400	125.0	Karsten Derks, Matthias Braun, Steffen Kretz
77	75	AEDAS Architects Group *	A	UK	18	1 400	1 400		Keith Griffiths
78	85	MCA Groupe *	I	France	18	1 400	1 150	100.0	Pierre Ebenstein
79	77	Italconsult S.p.A *	PM	Italy	18	1 350	1 350		Antonio Bevilacqua
80	74	Foster & Partners Ltd	A	UK	18/19	1 317	1 266	344.1	Norman Foster & Matthew Streets
81	99	BDP Building Design Partnership	A	UK	18/19	1 302	954	142.4	John McManus
82	79	EMAY International Engineering & Consultancy *	CE,A	Turkey	18	1 300	1 300		Mehmet Kaba
83	78	Proger SpA *	MD	Italy	18	1 250	1 300	95.0	Umberto Sgambati & Marco Lombardi
84	83	SLR Group (SLR Management)	Env	UK	17	1 184	1 184	97.2	Neil Penhall
85	80	Sitowise Oy (fmr Sito & Wise Group)	CE, Env, PM	Finland	18	1 153	1 253	130.4	Veikko Lamminen
86	87	Citec Group *	I, Env	Finland	18	1 150	1 142	100.0	Johan Westermarck
87	95	Ekium Group	MD	France	18	1 150	980	115.0	Philippe Lanoir
88	90	Tauw Group bv *	MD	Netherlands	18	1 133	1 101	118.0	Annemieke Nijhof
89	86	Asplan Viak group	MD	Norway	18	1 122	1 143	967.7	Elisabeth Heggelund Tørstad
90	96	AREP Groupe	MD	France	18	1 054	977	117.0	Thierry Chantriaux
91	91	Projektengagemang (acquired Mats & Arne Arkitektkontor, Jan-19) *	PM	Sweden	18	1 044	1 064	117.7	Per-Arne Gustavsson, acting CEO
92	154	Müller-BBM Holding GmbH	MD	Germany	18	1 044	1 172	132.1	Norbert Suritsch (CEO), Josef Hobelsberger
93	94	Gruner Ltd. (Gruner-Gruppe AG)	MD	Switzerland	18	1 039	998	134.2	Olivier Aebi
94	98	Witteveen+Bos Consulting Engineers	MD	Netherlands	18	1 025	977	132.9	Sluis Leeuw, van der Biezen
95	100	Amstein + Walthert AG *	E,M	Switzerland	18	960	900		Christian Appert
96	106	Hoare Lea & Partners *	E,M,Enr	UK	17/18	939	883	109.5	
97	82	Waterman Group plc (CTI Engineering, Japan)	MD	UK	18	927	1 223	125.9	Nick Taylor
98	88	Movares Group BV *	CE,E	Netherlands	18	925	1 140	127.9	Frits Immers
99	89	RSK Group	Env	UK	17/18	925	1 131	195.3	Alan Ryder
100	102	Elomatic Group Oy	I,MD	Finland	18	900	869	85.0	Patrik Rautaheimo
101	105	Granlund group	E,M	Finland	18	895	808	81.4	Pekka Metsi
102	112	ATP Architects Engineers	A,CE,E,M	Austria	18	813	700	92.6	Christoph M. Achammer
103	92	FERCHAU Aviation *	I	Germany	18	800	1 000	70.0	Martin Sauerschnig

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104	211	Dps Engineering *	MD	Ireland	18	800	767	175.0	Frank Keogh
105	84	Safege Consulting Engineers (Suez group)	Env,S,CE	France	18	761	1 150	111.1	Annelise Avril
106	107	Cundall Johnston & Partners LLP	CE,S,Env	UK	17/18	746	690	80.4	David Dryden
107	108	FCG Finnish Consulting Group	MD	Finland	18	734	743	85.1	Mari Puoskari
108	109	Gauff Gruppe *	MD	Germany	17	730	730	72.0	Gerhard H. Gauff
109	120	ÚJV Řez, a. s.	Enr,I	Czeck rep.	18	730	643	59.9	Karel Křížek
110	122	Emch + Berger Gruppe *	MD	Switzerland	18	725	640	91.4	Martin Scherer
111	123	A-Insinöörit Group	S, CE, PM	Finland	18	720	636	69.4	Jyrki Keinänen
112	118	Tengbom group	A	Sweden	18	702	680	64.7	Erika Rönnquist Hoh, acting CEO
113	110	Peter Brett Associates (Stantec) *	MD	UK	18	701	640	39.7	Paul Reilly
114	111	GOPA-Consultants Group *	PM,I,Env	Germany	18	700	700		Berthold Averweg
115	121	IV-Groep b.v.	MD	Netherlands	18	700	642	100.0	Rob van de Waal
116	130	Basler & Hofmann AG *	MD	Switzerland	18	700	600		Dominik Courtin & Jürg Büchler
117	119	INROS LACKNER	MD	Germany	18	680	662	55.0	Uwe Lemcke
118	104	Golder Associates Europe *	Env,CE, PM,Enr	UK	18	675	816	58.5	Anna-Lena Öberg-Högsta
119	117	White ArkitekterAB	A,PM, Env	Sweden	18	673	680	82.2	Alexandra Hagen
120	113	CSD Group	Env, PM, CE,S, E	Switzerland	18	669	623	81.7	Jean-Pascal Gendre
121	103	Broadway Malyan Ltd *	A	UK	18	660	821	38.3	Gary Whittle
122	114	ABMI-groupe S.A *	I	France	18	650	700	46.0	Philippe Chatron
123	129	AIA Life Designers*	CE,A	France	18	650	600	66.0	Christian Bougeard
124	140	Knightec (acquired Dewire, Jan-19) *	I	Sweden	18	634	503	55.5	Dimitris Gioulekas
125	124	BG Bonnard & Gardel Groupe SA (BG Consulting Engineers)	MD	Switzerland	18	633	635	86.9	Pierre Epars
126	127	HPC AG	Env,PM,CE	Germany	18	627	607	67.0	Josef Klein-Reesink, Andreas Kopton
127	101	Neste Engineering Solutions	I	Finland	18	617	886	152.0	Patrick von Essen
128	137	Pell Frischmann Group	MD	UK	18	600	575	64.6	Iain Bisset
129	128	Gmp Architekten von Gerkan, Marg und Partner *	A	Germany	18	594	606	90.7	Meinhard von Gerkan, Volkwin Marg (founding partners) & Nienhoff, Goetze, Schütz, Wei (partners)
130	116	GHESA Ingeniería y Tecnología	CE,Env,Enr	Spain	18	588	612	59.6	Javier Perea
131	135	JBA Group Limited	CE, Env	UK	17/18	586	534	47.2	Andrew Gubbin (JBA Consulting)
132	131	Ridge And Partners Llp	CE,A	UK	18	577	536	80.0	Adrian O'Hickey
133	134	Grimshaw Architects Llp	A	UK	18/19	564	539	98.6	Jolyon Brewis
134	125	CDM Smith Europe GmbH *	CE, Env	Germany	18	563	620	57.0	Andreas Roth
135		Technia (AddNode Group)	I	Sweden	18	555	508	106.9	Jonas Gejer
136	136	Krebs und Kiefer Beratende Ingenieure	CE,S, PM	Germany	18	550	532	52.0	Jan Akkermann
137	141	Deerns Groep BV	E, M, PM, I	Netherlands	18	500	500	50.0	Jan Karel Mak
138	142	Fairhurst *	MD	UK	18	500	500		Robert McCracken
139	143	EBP Ernst Basler & Partner Ltd *	MD	Switzerland	18	500	500		Daniel Schläpfer
140	146	Clafis Engineering *	I	Netherlands	18	500	450		Lambert Jonker
141	148	Structor group	CE,PM	Sweden	18	480	450	69.9	Fladvad, Hulthén, Texte
142	162	PBR Planungsbüro Rohling AG *	MD	Germany	18	476	385	35.0	Heinrich Eustrup
143		Alte Oy (acquired TSS Group)	E	Finland	18	463	410	30.8	Juha Pekka Sillanpää
144	153	Bengt Dahlgren AB	M,Enr	Sweden	18	451	419	56.1	no CEO
145	147	Rapp Gruppe	MD	Switzerland	18	450	450		Markus Widmer
146	159	Holinger Group	CE	Switzerland	18	448	396	47.2	Peter Rudin
147	152	HPP Hentrich-Petschnigg & Partner (HPP Architects)	A	Germany	18	445	420	59.8	Joachim H. Faust, Gerhard G. Feldmeyer
148	182	SALFO & Associates SA		Greece	18	441	420	24.2	Ioannis Foteinos
149	149	Steer Davies Gleave Ltd	CE	UK	18/19	439	437	71.9	Hugh Jones
150	145	Wardell Armstrong LLP *	MD	UK	18/19	433	452	44.5	Keith Mitchell
151	144	Benoy Limited (Architects)	A	UK	18	430	489	69.9	"Graham Cartledge
152	138	PCG-Profabril Consulplano Group	MD	Portugal	18	429	527	36.0	Ilidio de Ayala Serôdio

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153	150	Assmann Beraten + Planen GmbH *	MD	Germany	17	429	429	31.5	Peter Warnecke, Martin Fecke
154	151	Pick Everard Ltd *	MD	UK	17	425	425		Duncan Green
155	132	Acciona Ingenieria Sa	I	Spain	18	420	435	30.7	José Manuel Entrecanales
156	160	Curtins Group	CE,PM	UK	18	420	389	43.3	Rob Melling
157	172	RKW Architektur +	A	Germany	18	410	350	40.0	Schmoll, Ringel, Klatte, Pfeifer, Possinke, Hein, Jansen, Liebig
158	155	Amberg Group *	CE,S,PM	Switzerland	18	400	400		Felix Amberg
159	157	Aveco de Bondt BV *	CE	Netherlands	18	400	400		Gerald Paalman
160	158	Herzog & de Meuron Architekten AG *	A	Switzerland	18	400	400		Pierre de Meuron; Jacques Herzog
161	171	HaCon *	I,CE	Germany	18	400	350	43.9	Michael Frankenberg
162	164	Bjerking AB	CE,M	Sweden	18	393	367	38.1	Anders Wärefors
163	207	NET Engineering International S.p.A	MD	Italy	18	385	260	40.0	Stefano Susani
164	163	BAC Engineering Consultancy Group	MD	Spain	18	382	370	22.0	Joan Franco Poblet
165	126	Vössing Ingenieure	MD	Germany	18	368	611	55.3	Rudolf Vienenkötter, Heiko Borchardt
166	161	Insta Automation Oy	I	Finland	18	368	387	59.4	Timo Lehtinen
167	173	Zaha Hadid Architects	A	UK	17/18	363	348	58.0	Zaha Hadid, Patrik Schumacher
168	139	Prointec S.A	MD	Spain	18	361	508	36.7	Jordi Dagá Sancho
169	174	Planungsgruppe M+M AG , PGMM *	E,M,PM, Enr	Germany	18	357	345	37.0	Hermann Ott
170	175	Efla hf	MD	Iceland	18	357	339	50.2	Guðmundur Þorbjörnsson
171	168	Chapman Taylor LLP	A	UK	17/18	356	350	47.1	Chris Lanksbury
172	187	Allies & Morrison Architects Ltd *	A	UK	18/19	355	319	65.3	Bob Allies
173	156	Hill International Europe *	CE,PM	UK	18	350	400	49.1	
174	166	ABT Holding BV *	MD	Netherlands	17	350	357		Gerard Doos, Rudi Roijakkers
175	169	HENN Architekten *	A	Germany	18	350	350		Gunter Henn (CEO), Martin Henn, Stefan Sinning, Frank Hoffmeister
176	180	IPROconsult GmbH *	CE, Env, A	Germany	18	350	319		Lutz Junge
177	195	Protacon group Oy *	I,E,PM	Finland	18	350	286	39.5	Timo Akselin
178	217	Schroeder & Associés	MD	Luxemburg	18	350	250	35.0	Thierry Flies
179	235	Devport AB	I	Sweden	18	349	224	31.6	Nils Malmros
180	167	Sheppard Robson *	A	UK	17/18	347	352	36.4	Andrew German
181	189	Vahanen Group Oy	CE	Finland	18	344	296	32.4	Risto Räty
182	176	Barton Willmore Group	A,PM	UK	17/18	341	336	45.9	Stephen Toole
183	185	GPO Group (GPO Ingenieria, S.A.)	MD	Spain	18	337	303	21.5	Xavier Montobbio
184	179	Stride Treglown Group PLC	A	UK	18	330	319	32.4	David Hunter
185	165	Burckhardt+Partner AG	A	Switzerland	18	313	303	88.1	Samuel Schultze
186	184	Heinle, Wischer und Partner	A,PM	Germany	18	310	280		T. Behnke, H. Chef-Hendriks, A. Gyalokay, T. Heinle, M. Kill, J. Krauße, C. Pelzeter, E.Schultz
187		Tony Gee and Partners Llp	CE,I	UK	18	306	281	44.9	Chris Young
188	178	Verkís hf	MD	Iceland	18	303	322	39.2	Sveinn Ingi Ólafsson
189	203	Dansk Ingeniørservice A/S *	I	Denmark	18	302	270	54.0	Michael Gadeberg
190	212	Lombardi Group *	CE,PM	Switzerland	18	300	250		Roger Bremen
191	214	Pini Swiss Engineers SA *	CE	Switzerland	18	300	250		Carsten Bopp
192	282	IVL Svenska Miljöinstitutet	Env,Enr	Sweden	18	300	285	33.3	Tord Svedberg
193	193	DOLSAR Engineering Inc. Co.	PM,CE,Env,E,M,MD	Turkey	18	298	286	15.6	H. Îrfan Aker
194	183	Hifab Group	PM	Sweden	18	295	312	37.9	Patrik Schelin
195	200	O'Connor Sutton Cronin	MD	Ireland	18	295	280	25.5	Tony Horan
196	191	Mannvit hf.	MD	Iceland	18	293	292	38.2	Örn Guðmundsson
197	194	Arkitektfirmaet C.F.Møller	A	Denmark	18	288	286	38.4	Lone Bendorff
198	205	Mitta Oy	CE	Finland	18	287	268	24.9	Jari Lappi
199	215	Sophia Conseil *	I	France	18	281	250	19.0	Vincent David
200	199	Iproplan Planungsges. Mbh *	MD	Germany	18	280	280		Jörg Thiele

PM = Project Management, A = Architecture, CE = Civil-/S = Structural Engineering, CT = Certification and testing, Env = Environment, Enr = Energy, E = Electrical, M = Mechanical/HEVAC, I = Industrial, MD = Multi Disciplinary – (*) = lack of conforming figure/proforma/assumed

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The Federation of Swedish Innovation Companies, Innovationsföretagen, wants to promote innovation, sustainability, long-term profitability and modern working conditions in our member firms.

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The Consulting Engineering and Architectural Groups A Swedish and International survey

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