

Article from "NZZ am Sonntag": "Our industry faces increasing challenges in recruiting engineers"

From "NZZ am Sonntag", 21.5.2006

Lack of engineers has an adverse effect on the economy

In Switzerland, all kinds of engineers are becoming more and more a scarce commodity. This is particularly troublesome during an economic upturn, since a shortage of personnel reins in growth. At our universities, far too few people are currently studying technical subjects. Though this may be the age of the cellular phone and the Internet, rising academics prefer to spend their time on Freud, Keynes or the penal code than on getting to grips with Einstein.

Engineering is quite clearly not attractive enough to youngsters. A change in society is partly to blame for this. In recent years, manual and technical jobs have slipped down the status scale. For some time now, young people have been told that industrial manufacture has no future in Switzerland, and this has had its effect. Another factor is that half of the potential work force, to put it in very basic terms, is being by-passed. In the past, girls in Switzerland were not given enough encouragement to study technical subjects. Employers, too, must shoulder their share of the blame for the lack of young engineers. Companies which employ engineers rarely offer less than full-time positions, which makes engineering a less attractive option not just for women but also for fathers who want to spend more time with their families. Engineers also tend to be quieter types who rarely shout their exploits from the rooftops; thus, many young people have no idea how many different activities come under the heading of "engineer". Bigger companies have become aware of the situation, and are doing more to encourage the younger generation in this profession. Small and medium-sized firms need to follow their lead and go after young people more actively. (jac.)

Nobody likes the technical stuff

The upswing in the economy is now leading to shortages in the labour market, with engineers and technicians in particularly short supply. Even abroad, there are few suitable candidates. The economy is back on its feet – which means that there are shortages in the personnel market. Engineers are in particularly short supply, but youngsters seem to have very little interest in this field of employment.

Charlotte Jacquemart

If it weren't for the engineer's art, we would still be living in the Middle Ages. There would be no railways, no prosthetic hips and no espresso coffee. The youth of today should be queuing up to become "tinkerers", since these are the only kind of people who can ensure that we keep going forward – but they are not. In 2004, only 18% of all students applied to Swiss universities to study engineering, according to the latest study published by the association IngCH Engineers Shape our Future.

That percentage is too low. Companies' order books are full, and Switzerland is finally experiencing a long-awaited economic upturn, but no sooner do things pick up than bottle-necks appear in the labour market despite the continuing unemployment. Qualified technical specialists, particularly engineers, are among the most highly sought-after. Credit Suisse alone is looking for some 600 IT specialists.

Yngve Abrahamsen, who is head of the economic forecasting unit at the Zurich ETH (Swiss Federal Institute of Technology), believes that the lack of engineers is actually slowing down the economy. While it is impossible, according to Abrahamsen, to quantify this effect, "the first result of the engineer shortage is an increase in salaries", he maintains.

Youngsters nowadays are far more inclined to go into the humanities, economics or law rather than engineering – a trend which a 1995–2004 comparison makes quite obvious (see graph). The number of university diplomas awarded over this period rose by 28% across the board, but technical sciences are the only areas of study which actually had fewer graduates – a drop-off of some 19%. The figures for technical colleges do show an increase, but only a slight one.

Brain drain towards finance

To Marina de Senarclens of IngCH, the reasons why school-leavers are less attracted to technical studies is clear. "When you look at the responsibility that engineers have to take on, starting salaries are comparatively low, depending on the sector and the geographical area. Engineers often do their work behind the scenes, in the background, which gives young people the impression that you cannot make a career out of just studying engineering, but that you also need to do business studies as well." Engineers who are also heads of successful companies, such as Pius Baschera at Hilti, are respected as CEOs rather than engineers.

After a slump in 2004, the ETH in Zurich registered a slight increase in students last year – but this does not change the fact that there is increasing demand which at the moment can only be met with a limited supply.

Demand for engineers is now rising rapidly for three reasons: First, the economy is booming, and the readiness to hire more personnel has increased markedly. Second, intelligent people with analytical and quantitative knowledge are becoming hot properties in the finance sector. Traditional companies in the machine sector, as well as small and medium-sized firms, trail in the wake of the banks and insurance companies when it comes to attracting engineers, since they cannot compete with the salary packages they offer. Thirdly, automation and accelerated innovation means that companies require proportionally more specialists and fewer general labourers. The percentage of employees with university diplomas in firms registered with Swissmem (The Association of Swiss Mechanical and Electrical Engineering Industries) increased from 17 to 21% between 1997 and 2002 – and while no more recent figures are available, the trend has continued. Charles Bélaz, managing director of Manpower Switzerland, has been sounding the alarm for some time now. In his opinion, there is a "serious shortage, which has severe consequences for the companies affected". In practically all sectors – pharmaceutical, chemical, machinery, computer, automation and financial – demand for specialised engineers is increasing markedly, Bélaz declares, and there are hardly enough candidates to fill the open positions. The Manpower boss has some less than encouraging words for those who believe that specialised labour can easily be imported from just across the border. "The supply is also limited in neighbouring countries," he says, "since economic growth and an ageing population are happening everywhere in the same time frame." Swissmem too is concerned about these developments, as its president Johann Schneider-Amman clearly states: "In the medium term, this shortage could affect Switzerland to its very core."

Construction particularly affected

Small companies find it more difficult to recruit suitably qualified employees, one reason being that foreign specialists are less inclined to join a Swiss firm they have never heard about. Popular employers such as ABB and Siemens say that they are having an easier time of it at the moment.

Bühler – a medium-sized factory in Uzwil – has recruited around half of its new specialist employees from abroad over the past five years. Big companies, however, can sense that shortages will arise in certain specialised areas and in research, a fact confirmed by ABB. HP Switzerland would concur, as their head of human resources Walter Zahnd explains: "We can sense a real shortage coming up both in the outsourcing and in the IT consulting sectors. This is become more and more of a problem." The pool of available project managers with the necessary technical know-how and sector knowledge is far too small. Companies are currently looking to hire such people in large numbers, as they try to implement numerous projects concurrently in an attempt to take advantage of the economic upturn.

The situation seems to be most critical in the construction industry, which has been a boom sector for some time now. Conrad Jauslin, president of the Swiss Professional Guild of Civil Engineers and co-proprietor of an engineering firm employing 130 people, does not beat about the bush.



The situation throughout Switzerland has got really serious. It has become practically impossible to advertise for and find Swiss civil engineers.” These are being snapped up through personal contacts, he says, and according to Jauslin, the shortage has been apparent for some time. Yet despite many attempts to reverse the trend, no new generation has appeared, due to the poor image of civil engineering in comparison with other academic professions. The shortage also has its good side, however, as far as graduates are concerned. According to an internal survey at the ETH Zurich, students are of the opinion that the jobs market is in a noticeably better state than it was three years ago.

Are young people reading the signals being sent by the employment market? According to Manpower boss B elaz, the answer is yes. Attitudes have changed, and in particular the reluctance to get involved in major technical projects is declining. If a new study published by Aachen Technical College is to be believed, however, the opposite is true. According to this study, school pupils think they are technical experts, but show only slight interest in really getting to grips with complex problems. They use only the basic functions on mobile telephones, for example, whilst they ignore the more complex features and consult a specialist whenever they run up against a problem. The authors of the study conclude that youngsters have very little interest in studying engineering.

Women represent a great recruitment potential, since they now make up over 50% of those now receiving the matura – the certificate allowing them to enter university. The proportion of women studying engineering has increased from 17% to 24% since 1995. Erika Bleisch Imhof, a management recruitment specialist from the personnel agency Prisma, does not believe that there have ever been enough role models to show that you can “successfully combine a career in a technical profession and a family”. According to Bleisch Imhof, female engineers would have every chance of making the most of the current job market. “Technical know-how alone is not enough any more. You also need social skills, and that’s where women have the advantage.”

For more information, please visit www.ingch.ch.