

# The mechanical engineering industry : a cornerstone of the Swiss economy

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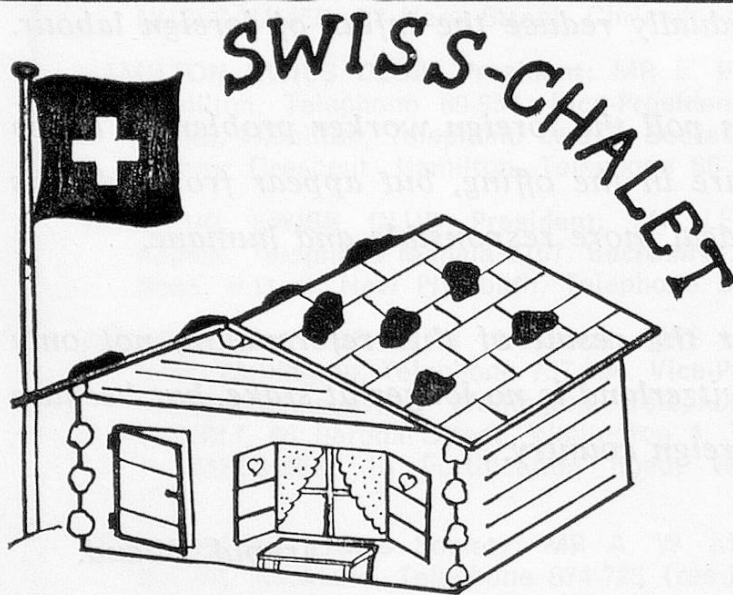
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# The Mechanical Engineering Industry — a Cornerstone of the Swiss Economy

The mechanical engineering and metal industries are the most important sector of the Swiss economy as regards both the number of persons employed and the value of their exports. This will probably come as a surprise to those who have no inside knowledge of the Swiss economic structure. Most non-Swiss, after all, think of watches, chocolate and cheese as the principal products of the country. In the case of watches at least the familiarity of the "Swiss made" imprint is easy to explain, since Switzerland's share of the world's watch production is in fact large. It must also be clear, however, that Switzerland is too small a country to play a quantitatively leading role in more than a very few industrial sectors. The total production potential of the land is simply too modest. In the mechanical engineering and metal industries world production figures are in any case so high that even if all the Swiss potential were concentrated in this field only a small proportion of the total could be represented by the Swiss output.

There are other ways, too, of illustrating why Swiss watches are in general better known than Swiss machinery; watches are always watches, in spite of the great technical and aesthetic differences between the various models, whereas the mechanical engineering industry turns



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out a very wide range of quite different products. It is consequently impossible to pick out a typically Swiss machine. Secondly, machines are mostly capital goods, and are used to manufacture consumer goods or even other machines. Their buyers are therefore primarily business men, while watches are bought and worn by all classes of the population. Thirdly, the historical development of the mechanical engineering industry must be taken into account. Although the beginnings of Swiss machine manufacture date back far into the nineteenth century, rapid expansion began only after the Second World War. And a long time may elapse before changes in the structure of a national economy are incorporated in the popular "image" of the country concerned.

### *A Brief Retrospect*

In the early years of the nineteenth century Swiss textile factories were equipped with machines chiefly imported from England, and these occasionally had to be repaired. A body of know-how was thus amassed which soon enabled numbers of enterprises to build textile machinery themselves. The space available here will not allow us to expatiate on the various stages of development and the continual extension of the production range. It must suffice to cast a glance over the results of this evolution and at a few of the machines and types of equipment that are now manufactured.

Textile machinery is still well to the fore, but it has been overtaken by the electrotechnical industry with a very wide range of products. Machine tools also hold a prominent place, as do turbines, compressors, fans, machines for the paper and printing industries, office equipment, farm and process machinery and locomotives. It would carry us too far afield to break this list down even further by mentioning the numerous specialities and the products of the metal industry.

It may strike the reader that one very particular industrial product is missing from this list: the motorcar. There is in fact no real car industry in Switzerland, and production is limited to a certain number of trucks, buses and tractors. The whole production spectrum of the Swiss mechanical engineering industry is nevertheless very varied. There is also a comparatively large number of production companies, ranging from a few of the very largest Swiss enterprises to a host of medium and small firms. According to the official statistics, which do not include the very small undertakings, the mechanical engineering and metal industries comprise about 3600 firms with a total of over 360,000 employees, or some 44 per cent of the persons employed in all branches of industry. The mechanical engineering industry alone accounts for over 30 per cent. In 1937, by contrast—to underline the fact that expansion only really began after the Second World War — the figure was only 19 per cent.

### *Geographical Distribution*

Another aspect of any given sector of the economy is its geographical distribution. As far as manufacturing locations are concerned, centres of the mechanical engineering industry have grown up — in



part no doubt under the influence of the textile branch — in the Baden—Zurich—Winterthur—Schaffhausen area, in North-Eastern Switzerland and in the region of Basle. Other parts of the country, however, are by no means devoid of production plants, and in general the mechanical engineering and metal industries may be said to cover the whole country, holding the industrial lead in no less than threequarters of all Swiss cantons.

These industries also take first place among Swiss exporters. On the average 75 per cent of their total production is exported, and for some products the figure is practically 100 per cent. The industries account for 40 per cent of all Swiss products that are shipped abroad. It is also worth recording that for some types of machinery Swiss makes represent up to 17 per cent of the world's total exports. In all modesty, these figures may be taken as proof of the good quality of Swiss machine products and of the high reputation they enjoy in the world at large. As would be expected from Switzerland's geographical position, most of the exports (about 70 per cent) go to European countries; but there are customers in all the other continents too. This latter group of countries is headed by the United States and Japan.

Exports alone, however, give a very incomplete picture of Switzerland's trade relations with other countries. For a variety of reasons, many Swiss firms have founded affiliates abroad and have participated both in individual companies and joint ventures. The production of these enterprises and the export of know-how, as reflected in the licence business, are today gaining rapidly in importance.

Finally, it is worth noting that, while Switzerland's revenue from machine and metal exports is considerable, the country spends even more for the import of machines and equipment. It has proved an advantage to concentrate the Swiss inland production on a certain range of machinery and to obtain the rest—in many cases products manufactured in large series — from foreign sources.

*Erwin Kradolfer.*

## Part-Time Work In Switzerland

During the latest Federal census of the population, 2,995,777 gainfully employed persons were counted in Switzerland. According to the detailed results that have just been published, 2,630,959 of them were employed full time and 364,818 part time (working hours considerably shorter than the normal daily or weekly average). In 1970 therefore part-time workers represented some 12 per cent of the total working population and consisted mainly of housewives, persons of independent means and the retired. The major part of those employed part time worked in the services sector. Women accounted for 78.6 per cent of this category of employee. Whereas only 4 per cent of all men exercising a lucrative activity are employed in part-time work, the figure for women amounts to 28 per cent. (SODT).