

The inventive genius of Swiss watchmakers : high technology at the lower end

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Objektyp: **Article**

Zeitschrift: **Swiss review : the magazine for the Swiss abroad**

Band (Jahr): **13 (1986)**

Heft 2

PDF erstellt am: **09.08.2024**

Persistenter Link: <https://doi.org/10.5169/seals-907860>

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The Swatch

Polo Hofer (Photo: Beat Krattiger)

The castle of Morges
(Photo: Ch. Kern)

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The Inventive Genius of Swiss Watchmakers:

High technology at the lower end

However could a product be born into the world – especially the traditional world of watchmaking – which convulses the whole tradition of which it is the fruit? This is the adventure of the Swatch. Its history already reads like a legend. But nothing rises from obscurity, and to procreate a product you need, as in nature, not only a good soil and a little seed but also some water and some sun, a bit of luck, good fortune and the tenacity of life. Well then, once upon a time there was a transistor...

On the 23rd of December, 1947, three American engineers carried out an experiment which was to convulse the technologies of the second half of the 20th century: they passed a current between two gold electrodes fixed on a piece of germanium. They had invented the transistor. Thenceforth it was possible to control a flow of electrons in ultra-high-speed operations of the order of a millionth of a second.

The first Swiss quartz watch

Twenty years later this technology was tamed by a new generation of watchmakers who would manufacture, entirely in Neuchâtel, the first Swiss quartz watch. It was presented at the *Concours de Chronométrie* of the Neuchâtel Observatory in 1967, where it smashed all the records for accuracy ever won by a wrist-watch. The same result was achieved by a Japanese watch. The world had entered a new era of horology, an age of physicists and chemists who no longer spoke the same language as the highly-skilled mechanics of watchmaking.

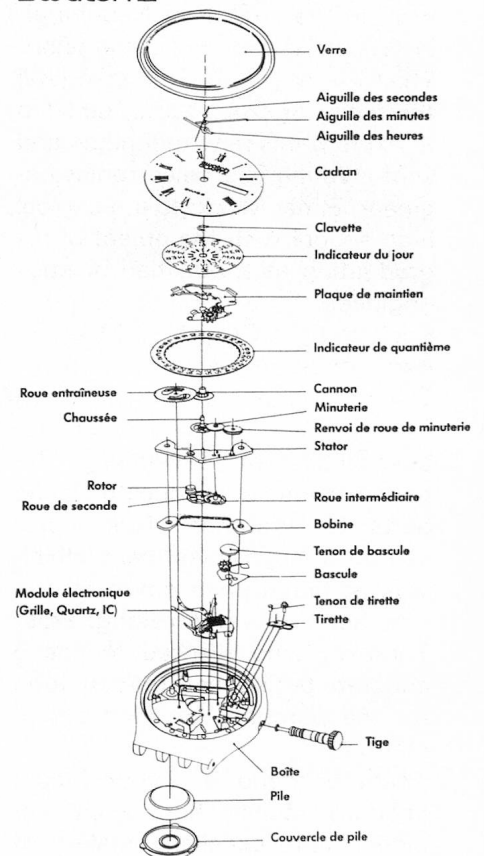
The irruption of quartz into the watch was to have its effect on the pride and joy of Swiss watchmakers: utmost accuracy and ultra-high-precision were to become a commonplace.

This universal availability and sim-

ultaneous cheapening of extremely high accuracy came at the same time as the economic recession of the mid-seventies. For the traditional watchmaking firms it was a hurricane which hit them all over the world; rather few of them were to rise again.

So, something else had to be invented – something which would

swatch





The Swatch autumn and winter collection 1985-86.

have the shape of a watch, something which would be a watch but something which would no longer necessarily be a symbol of a long tradition. Rather, a symbol of its own time, with a unique identity, a whiff of adventure, a kind of exclamation mark of fashion. It was not yet a product but already a presentiment.

Injection-moulding methods for the fabrication of watch parts of plastics were then already being used in the canton of Neuchâtel, in Marin and in Fontainemelon. The firm of ETA in Grenchen (still the realm of brass parts) decided to explore this new technique and sent a young microelectronics engineer, Elmar Mock, to a technical high school with the object of his graduating as a qualified plastics engineer.

Back again in Grenchen, Mock recommended the acquisition of an injection-moulding machine so that the firm could research the possibilities of developing the new methods of producing plastic parts for watches. This represented a large investment which was at first turned down by the new head of watchmaking, Ernst Thomke, who wanted to see a concrete project as a precondition for the purchase of such equipment.

Then, a friend of Elmar Mock, Jacques Muller, horological engineer and excellent maker of watch movements, from the bot-

tom to the top of the range, came up with a design. He had started from an idea which was beginning to gain ground, namely that the bottom of the watch case itself could serve as a *platine*, the plate or support of the movement of the watch. Mock showed the blueprint to Thomke in the hope of being able to wrest the decision from him to buy the moulding machine. For Thomke, who had waited years for the emergence of a new idea, but something of substance, off the beaten track, the hunch started to take shape. He gave the green light to the two engineers but it was a go-ahead for an unknown destination. For both of them it became a *via dolorosa*. They were condemned to succeed and, indeed, within two years were to create the Swatch through audacious, even aggressive, technology, especially for a watch for which the production was to be fully automated.

The legend would have it that this remarkable success was but a reflection of the marketing effort; in other words: «devise a high-quality quartz wrist watch with classic form and display at a low production cost».

But what comes first? The definition of the product or the product itself? In this case, we would say the chicken came before the egg. In March, 1983, the Swatch was launched on the Swiss market. The public fell in love with it and

the whole watch industry raised a hue and cry against it.

The attack on foreign markets was carried to W. Germany, Great Britain and the United States in the autumn of 1983.

Not only was the product new, but also the method of selling it. The publicity effort was colossal. By January 20th, 1984 the millionth Swatch had left the factory and by September 1985 the counter stood at ten million units.

A fashion grows

Not only was the Swatch à la mode, it became a mode and even influences the mode.

In a word, a Swiss watch has once again astonished the world and, indeed, the most difficult barrier it had to cross was that of the Alps. Although the publicity barrage which accompanied the launching of the Swatch clearly contributed to its success, the product would never have compelled recognition had it not kept all its promises, and more. In the beginning, there was the bold technical and technological conception. There was also boldness in risking a large bundle of millions by placing confidence in two young engineers who, at one and the same time, had had sufficient knowledge and imagination to invent not only a new watch but also a new kind of watchmaking, by highly-automated methods which are certainly going to spread and profoundly change the structure of watchmaking in Switzerland.

We in Switzerland must remain aware of the fact that such automation of watch production is also being mastered in S. E. Asia. Happily, behind the Swatch, the ever-fertile imagination and inventive genius of the new generation of Swiss watchmakers continues to devise new products.

●
Gil Baillod