

Zeitschrift: Helvetia : magazine of the Swiss Society of New Zealand
Herausgeber: Swiss Society of New Zealand
Band: 4 (1938-1939)
Heft: 10

Artikel: Switzerland is building the world's most powerful electric locomotive and the world's smallest motor
Autor: [s.n.]
DOI: <https://doi.org/10.5169/seals-943213>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 16.01.2026

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

As regards Exports, they have risen from 306,3 million francs to 329,9 million francs, showing an increase of 23,6 million francs. Thanks to this, the deficit of the commercial balance has been reduced from 93,6 million Swiss francs for the first quarter of 1938 to 68,5 million francs in 1939. It is interesting to note that amongst those imports which show the most marked increase, are raw iron and steel, iron used for building, and coal; on the other hand, there has been a certain decrease in raw cotton and copper, raw materials for brewery, wheat, fodder and oxen. As regards exports, the textile industry shows an increase of 6,6 million Swiss francs, cotton fabrics alone having gained more than 3 million francs. Foodstuffs have gone up by one million, materials appertaining to chemical and pharmaceutical industries have increased by 14½ million francs. The metallurgical trade, however, shows a decrease of about 4 million francs, due to the state of the watch trade, where sales have declined from 51,7 million francs to 40,1 million. This loss can be largely attributed to the political situation which hardly favours the export of luxury articles. On the other hand, all other branches of the metallurgical trade show a distinct progress (machinery: an increase of 4 million, tools and apparatus: 2 million, raw aluminium: 1,5 million etc.)

The index of the cost of living and that of wholesale prices has maintained the same level, the former showing even a slight tendency to decrease. Unemployment is on the decline: during the month of March, the application for work dropped by 1000 as compared to 1938 and by 20.000 as compared to January 1939.

In spite of the troubled political situation, it is evident that Swiss trade is slowly but surely on the uprise. One should not forget the tremendous effort put forward by Switzerland to re-enforce her National Defence. In April, the Federal Parliament voted a credit of 415 million francs, one half of which will go for the upkeep of the army, and the other half to procure work for the unemployed. However, this still was not deemed sufficient and the Government foresees a further credit of 190 million francs, which will be devoted exclusively to National Defence.

Switzerland is building the world's most powerful electric locomotive and the world's smallest motor.

The Swiss railways are building an electric locomotive, which will be presented at the Swiss National Exhibition at Zurich, designed for use on the St. Gotthard line. The construction of the engine will be finished shortly. After completion of the mechanical parts in the Winterthur workshops, the giant locomotive temporarily separated into two sections, was sent to Oerlikon where the electrical fittings are being mounted. The locomotive weighs 232 tons, is 32 metres long and develops a force of 12.000 HP, a power never previously attained.

The new engine will constitute a special type adapted to the unusual conditions of the St. Gotthard line (700 metres difference in level on the northern side and 900 metres on the southern side). The locomotive, composed of twin sections, can attain a speed of 110 km an hour. On the slopes of the Gotthard it will be able to draw trains of 700 tons at 65 km an hour.

Although hardly the size of a hazel nut, the world's tiniest motor runs, fed by a miniature electric battery. This marvel of Swiss construction has a motor composed of 48 parts, weighs 160 milligrammes (0.16 grammes) and develops 5 milliwatt (viz. 0.005 Watt or 0.000.005 KW). It will be on exhibit at the Swiss National Exhibition which will contain two world records of a very special type: the world's most powerful electric motor (12.000 HP) and the world's smallest electric motor.
