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## SWISS INVESTMENTS IN THE DEVELOPING COUNTRIES

A survey carried out in the Swiss private economy sector showed that the direct investments made by it in the developing countries during the year 1973 totalled 255 million francs. Investments last year were therefore slightly lower than those made in 1972, which amounted to a total of 281 million francs. The total aid given to the developing countries in the form of direct investments over the last five years has been calculated to be 1.25 billion francs.

## GREAT ST. BERNARD ROAD TUNNEL

1964 saw the opening of the Great St. Bernard road tunnel, the first transalpine tunnel connecting the north and the south of Europe by a road open all the year round, every hour of the day and night. For ten years now, without a moment's interruption, the Great St. Bernard tunnel has guaranteed the safety of motorists driving beneath this pass which, in the past, was practicable only five months in the year owing to the difficulty of access, snow conditions and the altitude. From the moment it was opened to traffic, the tunnel, run by a mixed Italo-Swiss firm, has met with

growing success. The number of vehicles passing through — there have been 4.25 million so far — is divided into several categories, viz. private cars, motor coaches and commercial vehicles, with the latter gradually increasing in proportion.

## Jura: Signature collection of a Half-Canton

A manufacturer from Court has launched an initiative for the establishment of an autonomous half-Canton comprising the three anti-Separatist districts of the Jura (Moutier, La Neuveville and Courtelary). The 15,000 signatures required for a referendum were collected in record time and deposited at the Bernese Chancery before the Great Council opened its December session to discuss further steps to be taken under the complicated procedure leading to the creation of a new Jura. Although the majority of voters in the southern districts were in favour of remaining "Bernese" at last June's plebiscite, the idea of a separate half-Canton, distinct from Berne and the three northern districts, is gaining increasing interest in the area.

## New Publications by the Swiss National Tourist Office

The brochure "Events in Switzerland — Winter 1974/75" compiled by the Swiss National Tourist Office has just been issued. It is 72 pages long and contains information in alphabetical order on new means of transport, indoor swimming pools, ski-hiking runs, hotels, travel tickets, etc., in over 160 Swiss winter resorts. 95 all-inclusive ski-packages and cross-country skiing possibilities are equally described. A new catalogue has also just appeared on institutes and private schools for young people in twenty-five winter sports resorts during Christmas and Easter Holidays. Both these brochures are obtainable from: SNTO, Talacker 42, CH-8001 Zurich.

## News About the Panoramic Corvatsch Mountain Ski-ing Region

Skiers will need less than a quarter-of-an-hour to travel to the upper terminal (9909 ft. a.s.l.) of the Corvatsch railway in cabins (maximum load: 80 persons) which recently underwent safety tests. The brand new 2-4 mile long cross-country ski-ing run, which lies at a height of 8100 ft., is intended for beginners, advanced skiers and for people training for the 30-mile long Engadine Ski Marathon from Maloja to Zuoz. One of the Corvatsch mountain's special attractions is the moonlit run which will take place during full moon on 26th January, 25th February, 26th March and 24th April. Moreover, a sports bus will be running every quarter-hour as from 22nd December on the following route: Lagalb-Diavolezza-Pontresina-Punt Muragl-Celerina St. Moritz - Champfèr - Silvaplana - Corvatsch-Sils-Furtschellas and back.

## SKI-ING NEWS

### Cross-country Ski-ing in the Jura

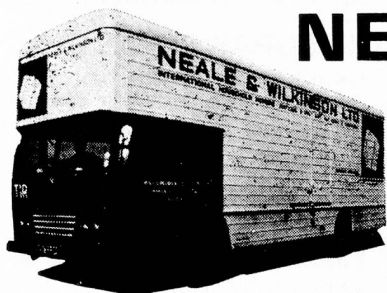
It's a worthwhile experience to go cross-country ski-ing through snow-covered Jura meadows on the high plateau of the Franches Montagnes. The 40-mile long cross-country ski-ing itinerary which was opened last winter follows well-marked routes going from La Ferrière (easily reached both by rail and by car) via Les Bois, Le Noirmont, Saignelégier, Montfaucon, Lajoux, Bellelay, Les Genevez, Les Breuleux and back to La Ferrière. The following stretches: Saignelégier — Les Reussilles (4 miles) and La Ferrière — Les Breuleux (9 miles) are especially worthwhile. Most of these places can be reached with the Jura railway. On weekends and holidays, the day tickets costing Fr. 9 (children up to

16 years, Fr. 6) are issued for unlimited travel on all rail and postal coach routes. The train stations at Berne, Basle, and Bienne also offer special excursion tickets. There are cross-country ski-ing schools at Peu-Péguignot and Vacheries-des-Breuleux. Ski-hiking and cross-country ski-ing weeks will take place from the beginning of December till March at *Sonceboz*. Two nights in a double room at "Le Grillon" Motel with full board and guided excursions cost Fr. 105. "Ski hiking weeks through the Jura" is the name given to guided tours. Skiers won't have to think about their luggage which will be transported separately from one stopover to another. These tours, which will take place from 10th to 22nd February, and from 23rd February to 1st March, cost Sw.Fr.360 per participant. For additional information contact "Pro Jura", CH-2740 Moutier.

## TECHNICAL

### QUARTZ TRANSMITTER FOR FISH AND LOBSTERS

For many years now, careful research has been carried out in various parts of the world in order to safeguard



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the development of marine fauna and to ensure a more rational use of this invaluable source of protein, which is bound to become increasingly important in world food supplies. Within the framework of experimental work on the migration of fish, the Norwegian Institute of Industrial Technology, Sintef, at Trondheim, has made use of a new technique for following these movements. It consists in fixing an ultra-miniaturised transmitter to the back of the test animal. A very sensitive receiver then makes it possible to record the movement of the fish once it has been put back into the water. In constructing this transmitter, the Sintef institute turned to Swiss watchmakers. Thus, for example, the firm of Oscilloquartz Ltd., at Neuchâtel, a branch of Ebauches Co. Ltd., supplied the watch quartzes used as oscillators. These are quartz crystals with a frequency of 32 kilocycles, normally used in wrist-watches. Apart from their small size, these high quality oscillators have the advantage of working perfectly under the most severe conditions. It should be remembered that Oscilloquartz Co. Ltd. specialises in the production of electronic components for high performance oscillators and timepieces, such as atomic clocks, whose precision is phenomenal, being only one second out in every 6,000 years. Research, which is still going on, has made it possible to appreciate the reliability of this device, which has been tried out on salmon, coalfish and even lobsters.

#### SWISS PLANT FOR THE FOODSTUFFS AND CHEMICAL INDUSTRIES

A machinery factory at Rheinfelden (Schaffhausen — Switzerland) has designed a new plant for the manufacture of viscous or thick liquids for the pharmaceutical, cosmetics and foodstuffs industries; this plant is ideal, for example, for the preparation of emulsions, creams, ointments, toothpaste, mayonnaise, sauces, etc. The perfectly homogenous and deaerated finished product is ready for processing. The new feature of this plant lies in the fact that it groups, in one and the same machine, a homogenizer, a disperser, a scraping-mixing system and a deaeration plant. This combination has the advantage of achieving a considerable saving in production time and ensuring a powerful grinding of the powder and active substances to the required degree of granulation as well as completely removing all air from the product. The operations of mixing, stirring, grinding, emulsification, dispersion, homogenization and deaeration are all carried out in the tank either simultaneously or one after the other. It is also possible to heat or cool the product by filling the double wall of the container with water or steam. All operations can be carried out automatically. The plant is available with a fixed or reversible tank (capacity from 6 to 2000 litres), or mounted on rollers, that is to say exchangeable. The Swiss firm also supplies special versions such as

sterilizable plant for the pharmaceutical industry.

#### SWISS KNOW-HOW FOR CONSTRUCTION CRANES

Realising the difficulties involved in the importation of heavy, bulky equipment like construction cranes, a factory at Beringen (Schaffhausen — Switzerland) specialising in this sector, proposes a system of co-operation with firms in other countries; this new system enables properly equipped foreign firms to build their own construction cranes according to the designs of the Swiss firm and to market them on their own markets. In fact, the Swiss factory places at the disposal of their clients all the

technical specifications, as well as the plans and instructions, for the metallic construction of the crane; in addition, it provides the know-how and delivers all the precision and complicated components, such as the hoisting gear, slewing platforms, trolleys, electrical equipments, etc. The parts are ready for mounting and all that the client has to do is screw or bolt them on to the metal constructions made in his own works of structural steel, sheet steel or steel pipe. This scheme has the advantage of cutting out transport costs and customs duties on all metal parts, while offering the possibility of benefiting from the experience of the Swiss firm, without having to invest in special equipment for the manufacture of very technical parts.

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## 175 YEARS AGO - GENERAL SUVOROV MARCHES THROUGH THE SWISS ALPS

Switzerland had been occupied by French Revolutionary troops in 1798. The old Confederation, too weak to defend itself, had collapsed and had been replaced by the Helvetic Republic, a single state united by the grace of France. But in the very next year the troops of the Second Coalition, with Austria, Russia and Britain as its principal allies, made Switzerland a theatre of war and in the first Battle of Zurich on 4th-6th June drove the French back on to a line running along the Linth, Limmat and Lower Aar rivers. The next move was planned to fling them out of Switzerland altogether when a Russian army under General Korsakov would attack them near Zurich and the Russian forces of General Suvorov, already victorious in Italy, would cross the Alps and fall upon their right flank. On 15th September, Suvorov arrived at Taverne, north of Lucerne, with 21,000 men, on 24th September he took the Gotthard Pass, on the following day he forced his way through the Schoellenen Gorge, and a day later he was in Altdorf. At Flüelen the Gotthard bridle-path came to an end (the road known as the Axenstrasse along the Lake of Lucerne was only built in 1865), and to reach Schwyz he had to lead his army over the 6800 ft. Kinzig Pass into the Muota Valley. When the Russian troops arrived there, weakened by combat and arduous mountain marches, they learned that the Russians and Austrians had been heavily defeated by the French under Masséna in the second Battle of Zurich (25th/26th September, 1799) and had hastily withdrawn to the Rhine, Suvorov was thus thrown back on his own resources. Since an advance on Schwyz was now pointless, he decided to retreat over the Prugel Pass into Glarus and from there over the 790 ft. Panix Pass into the Vorderrhein Valley, where he hoped to establish contact with the allied forces. New snow had fallen, and this march cost the lives of 200 men and

many beasts of burden. When he finally arrived in Chur on 10th October, he had only 15,000 or 16,000 men left. Disgruntled with his allies, who in his view had left him in the lurch, he withdrew from Switzerland. His Alpine march, for all its bravura, had served no military or political purpose, but it had left a lasting mark in the memory of the Swiss people.

It is still quite possible to follow in Suvorov's footsteps. They lead on little-trodden paths through a region of Switzerland that is different, but very much worth exploring. Although the well tended and signed routes are not very arduous, good equipment (particularly strong walking boots and rainwear) is essential. For the weather in the mountains can change very quickly.

Mount Ceneri can be crossed over its wooded heights from Tesserete (near Lugano) to Bellinzona in six to seven hours. The capital of the Ticino, watched over by three castles, is known to many only from a seat in a train, but it well repays a visit. From Biasca the "Strada alta", a very well-cared for high-level trail, leads up to Airolo in two-and-a-half days of hiking. From here the Gotthard Pass can be reached either on foot or by postal coach, and an old bridle-path then leads down through Hospental and Andermatt to the famous Devil's Bridge and on to Goeschenen.

Buerglen in the Schaechen Valley (Canton of Uri) is the starting-point for an easy five-hour walk over Kinzig Kulm (6812 ft) to the Muota Valley in the Canton of Schwyz. A tourist attraction in this valley is the Hoelloch, meaning Hell-hole; a labyrinth of underground passages and gorges at several different levels which together are nearly 74 miles in length, making this one of the world's longest caves. A quite safe day's hike brings the wanderer from here over Alpine pastures to the Prugel Pass