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# HEADS OR TAILS

Swissmint's coin magazine



## EDITORIAL



Dear reader,

Switzerland is a symbol of excellence in many respects: be it in sport, art, industry or science. For example, the Ce 6/8 II electric locomotive, the "Crocodile", which is not only famous among railway fans, is celebrating its 100th anniversary this year. For decades, the rod locomotive with its characteristic profile dominated heavy freight train traffic on the Gotthard line. Although the machines were mainly used in the Mittelland from the early 1960s onwards, they remained the "Gotthard locomotives" in the collective memory. And when today one of the three surviving "Crocodiles" goes on a special trip, the amazement and affection of the public is guaranteed. The 100th anniversary of this Swiss railway icon is reason enough for Swissmint to issue a 50-franc gold commemorative coin.

50 years ago, the first manned moon landing within the scope of the American Apollo 11 mission was not only a "giant leap for mankind", but also for Swiss space research. As the only non-American experiment, the University of Bern was able to send its solar sail, the so-called "Solar Wind Composition Experiment", to the moon. The differently-coated aluminium foil was to capture any solar wind particles and be analysed in the laboratories of the University of Bern on return. A huge success, after all the solar wind sail flew with further Apollo missions. Swissmint is issuing a 20-franc silver commemorative coin to commemorate the 50th anniversary of the moon landing and the associated outstanding achievements of Switzerland and the University of Bern in space research. When reading this issue of **Heads or Tails**, you can also look forward to exciting, additional information and two prize draws for a historic railway experience and a visit to the circus. We hope you enjoy reading this issue and have fun collecting!

Marius G. Haldimann  
Director

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### Diary – We look forward to meeting you

In the near future, Swissmint will be present with a stand at the following coin fairs:

<b>18 May 2019</b>	Münzenbörse BERNA, BERNEXPO Convention Centre, Bern
<b>21 and 22 September 2019</b>	Stuttgart Coin Fair, Hanns-Martin-Schleyer-Halle, Stuttgart
<b>26 and 27 October 2019</b>	Zurich International Coin Fair, Swissôtel, Zurich-Oerlikon

# 100TH ANNIVERSARY OF THE CROCODILE LOCOMOTIVE

**The Ce 6/8 II was the pride of the electric locomotives at the Gotthard and is a Swiss icon.**

**100 years ago the first versions of the legendary electric locomotive Ce 6/8 II "Crocodile" were built for the SBB. For decades, the rod locomotive with its characteristic profile dominated heavy freight train traffic on the Gotthard line. Although the machines were mainly used in the Mittelland from the early 1960s onwards, they remained "Gotthard locomotives" in the collective memory. And when today one of the three surviving specimens goes on a special trip, the amazement and affection of the public is guaranteed.**

The idea of using electric locomotives to manage rail traffic on the Gotthard line dates back to the 19th century. As the correspondence between Gustave Bridel, Chief Engineer of the Gotthard Railway and the Berlin electrical company Siemens & Halske from 1881/82 shows, Bridel was convinced of the advantages of electric traction: "The public would definitely prefer a route on which they knew that the 15 km long tunnel would be travelled through without smoke to another route". But the time and very probably also technical developments were not yet ripe for the immense challenge of an electric Gotthard railway. It would take experience with the shortage of coal during the First World War to ensure that electrification, and thus the development of the corresponding locomotives, was vigorously promoted.

## **The first electric locomotives for the Gotthard**

Although Werner von Siemens had already demonstrated his electric locomotive to visitors to the Berlin trade exhibition in 1879 and in 1888 drove the first electric tram in Switzerland from Vevey to Chillon, electrical operation was initially limited to smaller distances or low-capacity trains. It was only with the introduction of three-phase current and later single-phase alternating current that the electric age also dawned with power for the railway. From 1898, there was a rack railway to the Gornergrat and in 1899 the first electric railway with the Burgdorf-Thun line followed. While electrical operation with BBC three-phase locomotives started at the Simplon Tunnel in 1906, Maschinenfabrik Oerlikon MFO tested a single-phase alternating current motor on the route from Zurich Seebach to Wettingen from

1904 to 1909. The SBB took the decision to electrify the Erstfeld-Bellinzona line on 25.11.1913. The First World War that broke out shortly thereafter slowed down the implementation. However, the coal shortage that emerged towards the end of the war strengthened the desire for independent energy supplies for the railways. Electrification was now tackled with a high degree of commitment, and by May 1921 the Gotthard route was already smokefree. Of course, the rapid implementation required an equally rapid procurement of new locomotives. The SBB ordered four different prototypes from the Swiss Locomotive and Machine Works SLM, which were to meet the requirements on the Gotthard route as set out in a comprehensive specification. But developments overtook the industry, so to speak: even before the prototypes were tested, SBB ordered a total of 20 new electric locomotives for use on the Gotthard in the spring of 1918.







### The "Crocodile" in use

Part of this order were 10 machines of the "heavy mountain freight locomotive" Ce 6/8 II, better known under the name "Crocodile". It was a new design and differed from all four prototypes ordered. The specifications for these machines stipulated that they could cover the Goldau-Chiasso route twice within 28 hours with a train of 860 tonnes trailer weight, with a 15-minute stop at each terminal station. The special thing about the construction of the "Crocodiles" was the movable bearing between the drive frames and the locomotive box. Between 1919 and 1921, the series was increased to 33 units. Between 1926 and 1927, 18 new locomotives of the further developed, more powerful generation Ce 6/8 III were purchased, which differed optically only slightly from their predecessors. The demands on the electric freight locomotives for the mountain route were enormous. It is therefore not surprising that the powerful "Crocodiles" are among the SBB's most durable locomotives. After they were replaced at the Gotthard by the more powerful Ae 6/6 in the mid-1950s, they took over the transport of gravel trains weighing up to 1,200 tonnes in the Mittelland region.

### Historic locomotives, rolling cultural heritage

The "Crocodiles" are more than just "old locomotives" for many people, and by far not just for Swiss railway enthusiasts. They are part of Switzerland's cultural heritage. Not least the use of a "Crocodile" in the successful Swiss film "Rascals on the Road" from 2005 underlines this special bond. Fortunately, some specimens have survived in working order. These milestones in the history of Swiss railways and technology can thus not only be admired at the Swiss Museum of Transport. It is a special experience to see the impressive electric old timers in action, of course especially on the steep ramps and in the helical tunnels of the Gotthard route. There will also be the opportunity to experience a historical railway during the anniversary year. On Sunday, 7 July 2019, the anniversary train will travel on the Bern-Thun line, on which SBB began electrical operation exactly 100 years ago. But the "Crocodile" is not only a legend in this country: In September 2015, a "Crocodile" locomotive from SBB Historic was invited to the "100 Years of Electric Trains" festivities at the Swedish Railway Museum in Gävle. The historic machine was admired and celebrated all along the route and is also famous in Sweden. In this way, historical cultural heritage is combined with lively enthusiasm for a technical masterpiece created 100 years ago.

Text: SBB Historic

#### Sources:

Chr. Zellweger, Krokodil. Königin der Elektrolokomotiven. Zurich, 2005.  
H. P. Treichler, Bahn-Saga Schweiz. Zurich, 1996.  
Die Bahn durch den Gotthard. Zurich, 1981.

### DESIGN: RAPHAEL SCHENKER



Raphael Schenker was born in Zurich on 26 April 1971. He grew up in Kilchberg, where he also attended primary and secondary school. Before he trained as a graphic artist from 1988 to 1992, he completed the preliminary course at the F + F School for Art and Design in Zurich in 1987. After the death of his father, he took over the studio in Adliswil in 1993 under the new and current company name Schenker visuelle Kommunikation. The move to Zurich took place in 2001. His field of work includes the entire spectrum of creative work. Ideas and design concepts for print and online, including corporate design, graphic design and packaging. Raphael Schenker is a member of the SGD (Swiss Graphic Designers) trade association. He lives and works in the old town of Zurich.

## PRODUCT INFORMATION

### COMMEMORATIVE COIN "100TH ANNIVERSARY OF THE CROCODILE LOCOMOTIVE"



Proof

Face value: 50 Swiss francs  
Alloy: gold 0,900  
Weight: 11,29g  
Diameter: 25mm

Mintage  
Proof: 5,000 units, of which  
– signed: 250 units  
(certificate from the artist)

Design: Raphael Schenker, Zurich

Issue date: 9 May 2019  
Sales period: until 8 May 2022 or while  
stocks last



Proof with certificate  
of authenticity



Variation "signed" with  
additional a certificate from  
the artist

# CLIMB ABOARD AND ENJOY AN UNFORGETTABLE TRAIN RIDE WITH SWISSMINT

On the occasion of the launch of the "100th anniversary of the Crocodile locomotive" commemorative coin, Swissmint is giving away 17 x 2 tickets for a historic railway experience.

On 7 July 1919, the SBB put its first electric line into operation with the Bern to Thun section, on which the Ce 6/8 II "Crocodile" was used. 100 years later and with a bit of luck, you will ride together with us in a saloon carriage with the hundred-year-old Ce 6/8 II 14253 from Bern to Thun and back again. Simply answer the following questions correctly and send in the completed slip.

**Date:** Sunday, 7 July 2019  
**Location:** Bern  
**Start:** approx. 1.00pm  
**End of the event:** approx. 4.00pm

## Conditions of participation in the competition

The closing date is 30 May 2019 (postmark). Please participate only if you are actually available on the date mentioned. The winners will be notified in person. Prizes will not be paid out in cash and postponements are not possible. No legal recourse is possible. No correspondence will be entered into. The competition is not open to Swissmint and SBB Historic employees. Each person is only allowed to enter one competition slip.

## Send the competition slip (or a copy) to:

The Federal Mint Swissmint  
Bernastrasse 28  
3003 Bern



## Please answer the following questions

**How many versions of the Crocodile locomotive are still preserved today?**

☐ 2 versions    ☐ 3 versions    ☐ 5 versions

**On which mountain route was the Crocodile locomotive used?**

☐ Ceneri line    ☐ Simplon line    ☐ Gotthard line

**How many new electric locomotives did the SBB order in 1918?**

☐ 20    ☐ 33    ☐ 18

Customer number (if available)

Surname

First name

Address

Postcode/ city/town

Telephone no.

Email address



# 50TH ANNIVERSARY OF APOLLO 11 MOON LANDING

## A mission with the involvement of Bern

**Almost 50 years ago, astronaut Neil Armstrong told the world: "The Eagle has landed". As part of the American Apollo programme, the first two humans stepped onto the moon's surface with the Apollo 11 mission on 21 July 1969. This was the first of a total of six moon landings completed by 1972. The only non-American experiment on board the Apollo 11 was the so-called solar wind sail of the University of Bern. Swissmint is honouring this historic event and the important role played by the University of Bern by issuing a commemorative silver 20-franc coin.**

Apollo 11 is the name of the first manned flight to make a moon landing. The space mission was part of the US space agency NASA's Apollo programme. The mission was successful and fulfilled the mission given to the nation by US President John F. Kennedy in 1961 to bring a man to the moon and safely back to Earth before the end of the decade.

### Eagle as mission symbol

The emblem of Apollo 11 shows the heraldic animal of the United States, the bald eagle. In its claws it carries an olive branch, which underlines the peaceful intentions of the first moon landing. The Earth, start and end point of the mission, can be seen against a black background symbolising the unknown of space.

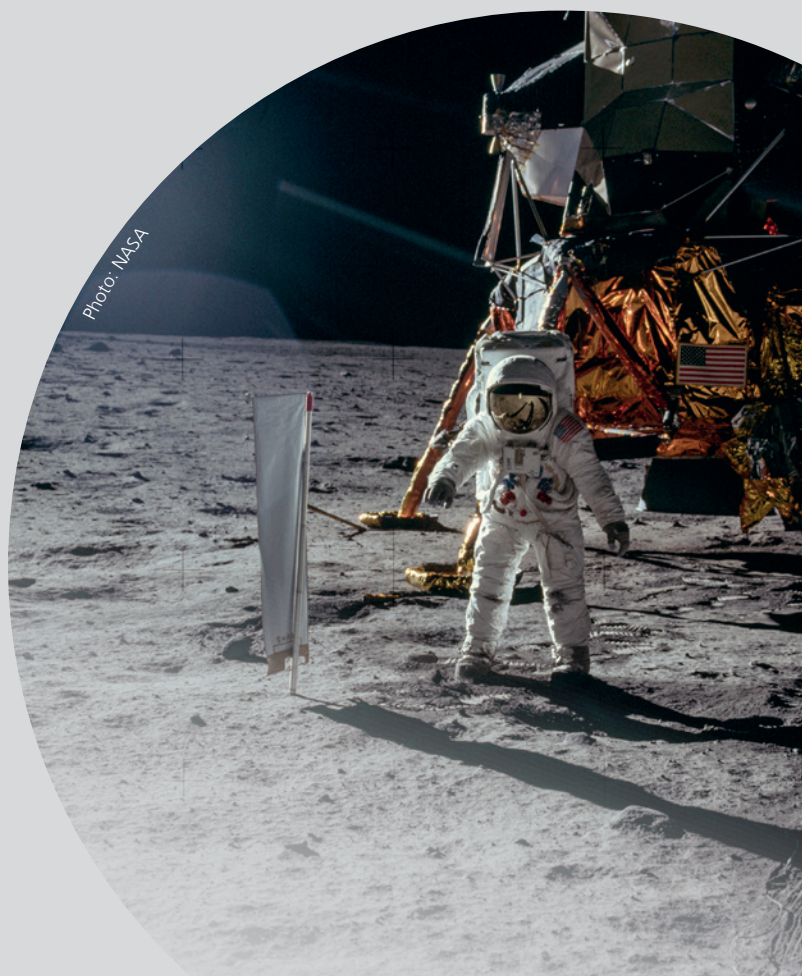
The crew was advised by the NASA management to use "venerable" names for the names of the spacecraft because of the historical significance of the mission, on the previous Apollo 10 flight the two spacecraft had been named after figures from the comic series "Peanuts", Charlie Brown and Snoopy. The Apollo 11 astronauts finally decided to call the lunar module "Eagle", after the motif used in the emblem, while the command capsule received the call sign Columbia. Columbia was chosen after "Columbiad," the cannon in the history of Jules Verne's novel "From the Earth to the Moon".

### Historical moon landing

The three astronauts Neil Armstrong, Edwin "Buzz" Aldrin and Michael Collins launched a Saturn V rocket from the Kennedy Space Center in Florida on 16 July 1969 and reached moon's orbit on 19 July. While Collins remained behind in the command module of the Columbia spacecraft, Armstrong and Aldrin landed with the Eagle lunar module on earth's satellite the next day. A few hours later, at 02:56:20 UTC, Armstrong was the first man to walk on the moon and spoke the famous words:

"That's one small step for a man, one giant leap for mankind". After nearly 22 hours the lunar module took off again from the lunar surface and returned to the mother ship. On its return to earth on 24 July, Columbia splashed down in the Pacific Ocean about three kilometres from the USS Hornet salvage vessel. Apollo 11 was also the first time that rock samples from another celestial body were brought to earth. Unmanned missions had previously failed.

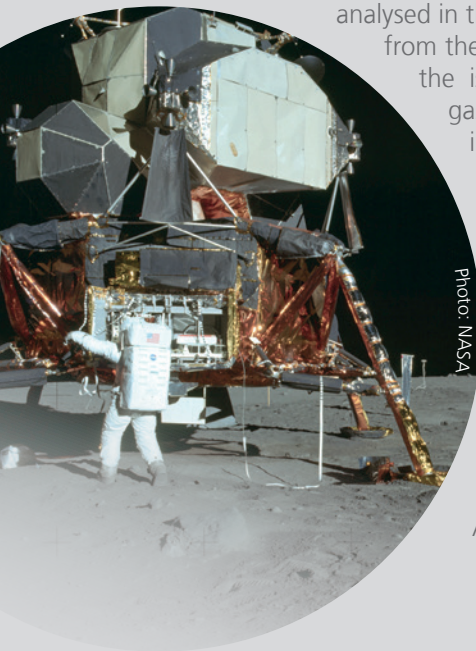
This historic event was filmed both by Aldrin from the window of the lunar module and by a television camera at the foot of the lunar module. Around 600 million television viewers on earth experienced the live broadcast.



### Solar wind sail: the only non-American experiment

Twenty minutes after Armstrong, "Buzz" Aldrin also left the lunar module and stepped onto the moon's surface. His first job, before hoisting the American flag, was to put up the so-called solar wind sail. This "Solar Wind Composition Experiment" (SWC) was developed by Bernese physicists under the leadership of Prof. Johannes Geiss from the Institute of Physics at the University of Bern. Its simplicity of use and low weight convinced the American space agency NASA at that time, making the solar wind sail the only non-American experiment on the Apollo 11 mission. Particles of the solar wind were captured in an exposed and differently coated aluminium foil measuring 1.40m by 0.3m and analysed in the laboratory after returning

from the moon. The results included the isotope ratios of the noble gases helium, neon and argon in the solar wind, upper limits for an atmosphere and a magnetic field of the moon, as well as indications of the acceleration mechanisms. The simple, lightweight and successful experiment was repeated on all lunar missions except the last Apollo 17 mission (experiment not on board) and the failed Apollo 13 mission.



### Switzerland in space

The Apollo solar sail was a success story for the University of Bern and Switzerland. Switzerland's membership of the European Space Agency (ESA) also enables Swiss research institutes and companies to acquire outstanding expertise in scientifically and technologically challenging areas and to celebrate further successes in space travel; whether with Claude Nicollier, the only Swiss astronaut to date to have four successful flights aboard the Space Shuttle, or with the first Swiss satellite, the SwissCube, which is investigating the so-called night sky brightness in the upper layers of the atmosphere.

Reason enough to also celebrate the historic event of the first moon landing in Switzerland: the University of Bern, with the support of the Swiss Space Office, is organising a wide range of events. The highlight will be a big party on the Bundesplatz in Bern at the end of June.

#### Sources:

University of Bern; State Secretariat for Education, Research and Innovation SERI – Space Office; Lukas Viglietti, Swissapollo, author of the book "Apollo Confidential"; Wikipedia

### DESIGN: REMO MASCHERINI



Remo Mascherini was born in Florence, Italy, in 1958 and grew up in Kehrsatz in the canton of Bern after his parents moved to Switzerland. After he finished school, he completed four years of vocational training in engraving under the renowned Bernese relief engraver Klaus Graber. He also attended the Bern School of Arts and Crafts (now called the School of Design), where he completed courses in engraving, drawing and three-dimensional design. Having spent many years working for companies in the packaging and graphic arts industry, he has a wealth of professional experience, particularly in his specialisation of relief and steel-plate engraving. Since 2009, he has been designing his engraving templates and reliefs digitally using a CAD/CAM system. In 2013, Remo Mascherini took up the post of engraver at Swissmint.



## PRODUCT INFORMATION

### COMMEMORATIVE COIN "50TH ANNIVERSARY OF APOLLO 11 MOON LANDING"



Face value: 20 Swiss francs  
Alloy: silver 0,835  
Weight: 20g  
Diameter: 33mm



Uncirculated

Mintage  
Uncirculated: 20,000 units, of which  
– in a folder: 1,000 units  
Proof: 5,000 units, of which  
– signed: 250 units  
(certificate from the artist)

Design: Remo Mascherini, Flamatt

Issue date: 9 May 2019  
Sales period: until 8 May 2022 or while  
stocks last



Folder



Proof with certificate  
of authenticity



Variation "signed" with  
additional a certificate from  
the artist



## PRODUCT INFORMATION

### 2019 CLASSIC COIN SET *Brilliant uncirculated with roe deer bimetall coin*



Brilliant uncirculated

Face value: 18.85 Swiss francs  
Alloy: copper-nickel and aluminium-bronze  
Measurements: 171mm x 106mm x 8mm

Mintage: 8,000 units

Issue date: 24 January 2019  
Sales period: until 23 January 2022  
or while stocks last



### 2019 CLASSIC COIN SET *Proof with roe deer bimetall coin*



Proof

Face value: 18.85 Swiss francs  
Alloy: copper-nickel and aluminium-bronze  
Measurements: 171mm x 106mm x 8mm

Mintage: 2,500 units

Issue date: 24 January 2019  
Sales period: until 23 January 2022  
or while stocks last



## PRODUCT INFORMATION

### 2019 BABY COIN SET *Brilliant uncirculated with bear medal*



Face value: 8.85 Swiss francs  
Alloy: copper-nickel and aluminium-bronze  
Measurements: 171mm x 106mm x 8mm



Brilliant uncirculated

Mintage: 8,000 units  
Issue date: 1 January 2019  
Selling period: up to 31 December 2021  
or while stocks last



### 2019 BIRTHDAY COIN SET *Brilliant uncirculated with birthday medal*



Face value: 8.85 Swiss francs  
Alloy: copper-nickel and aluminium-bronze  
Measurements: 171mm x 106mm x 8mm



Brilliant uncirculated

Mintage: 2,000 units  
Issue date: 1 January 2019  
Selling period: up to 31 December 2021  
or while stocks last





# SWISSMINT-NEWS

## Win Circus Knie tickets

We are giving away 20 tickets for sector **\*B\*** seats worth CHF 65 each. These can be redeemed at all Swiss venues during the 2019 season (restrictions: not redeemable a) Saturday evening, b) on Sundays and public holidays in the afternoon). To take part in the prize draw, please send an email with the subject "Knie" by 30 May 2019 to [info@swissmint.ch](mailto:info@swissmint.ch). Remember to include your address, telephone number and email address. Good luck!

## Customer satisfaction

Every two years Swissmint carries out a comprehensive customer satisfaction analysis. We wrote to more than 12,000 of our customers and asked them to complete the questionnaire. Approximately 20% of those contacted complied with our request. Overall 84% of respondents were satisfied or very satisfied with Swissmint's performance. We are delighted with this result. We are motivated to continue serving and satisfying our customers with great numismatic products in the best possible way in the future. Of course, we did not simply ignore points of criticism. Correspondingly, we will try to correct these points of criticism in the coming weeks and months within the bounds of our possibilities.

## Sales start

The sales start is on the day of issue, 9 May 2019, at 8am, i.e. the new products will be available at [www.swissmintshop.ch](http://www.swissmintshop.ch) and can also be ordered by telephone via our customer service (tel. +41 58 4 800 800) from this time.

## How are very limited edition products allocated?

Certain products such as trial mintings and commemorative coins in proof quality with the certificate of the artist are only available in very limited quantities. This means demand greatly exceeds supply. Sales per customer are therefore limited so that as many people can be served as possible.

No reservations can be accepted or taken into account. Small quantities are made available online via the Swissmint shop and by telephone via our customer service team. The remaining stock is distributed by drawing lots. All emails and order forms we receive between the time the customer receives the customer magazine and the issue date will be entered into the draw.

## When can I receive a discount on my order?

You can receive a volume discount when you order certain products. For all coin sets and coins in "Proof" quality, you will receive a discount of up to CHF 30 per unit depending on the alloy and amount ordered.

Product/quality	Minimum purchase	Discount per unit
Proof bimetal*	From 10 units	CHF 5
Proof silver*	From 10 units	CHF 5
Proof gold*	From 5 units	CHF 30
Coin sets	From 10 units	CHF 10

\* no volume discount on Proof coins with artist certificate

## Outlook on other issues

<b>12. September 2019</b>	"Furka Pass" silver coin Trial minting of the "100 years of Circus Knie" commemorative coin 2019 Christmas coin set
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