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# Technical aspects of a new banknote series

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#### Introduction

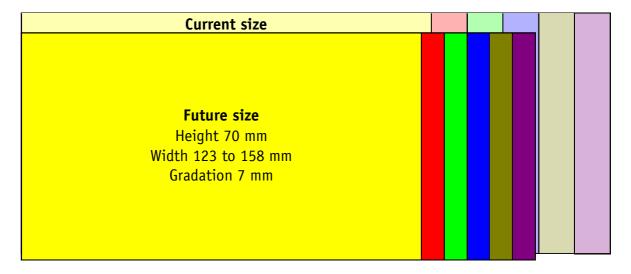
The design of banknotes has to meet various requirements. For one thing, the banknotes must guarantee a high degree of security. For another, they must satisfy the requirements of the users. They expect the banknotes to be durable, easy to handle and distinguish, and available in practical denominations. When planning a new banknote series, we thus have to define some principles from the start. In the following, I would like to inform you of the major decisions that have already been taken.

#### **Format**

As experience has shown, the needs regarding the format of banknotes change over time. It is thus absolutely necessary that the format issue be re-evaluated each time a new banknote series is developed. The most important criteria are the needs of the public and the processing requirements of banknote sorting machines. As previously, the relevant needs and requirements for the new series were assessed through various procedures. We reached the conclusion that the gradation of length should be smaller for the new format series. For reasons of proportionality, the dimensions of the entire series will thus be smaller than those of the current series. In the resulting format series, the smallest banknote measures  $70 \times 123$  mm, the largest one  $70 \times 158$  mm. Compared with the current series, the most significant difference is the smaller gradation of length (7 mm instead of 11 mm). The format of the new 10-franc note will thus hardly differ from the dimensions of the current one, but the new 1,000-franc note will be significantly shorter.

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With their proportions being more ideal, the banknotes will not only give a more favourable overall impression, but wear and tear in the wallet can also be reduced. At the same time, the new banknotes will even better satisfy the current and future requirements with regard to machine processing. In addition, costs can be cut at the production, packaging, storage and transportation stages.

### **Denominations and values**

The new banknote series will have the same number of denominations as the current one, i.e. it will continue to consist of six different banknote values. It would not be advisable to introduce a larger number of denominations as this would give rise to considerable adjustment costs for banknote payment transactions. At the same time, it is not reasonable to reduce their number as all denominations have become well-established.

The banknote values of the current series (CHF 10/20/50/100/200/1,000) will remain unchanged. The newly introduced 200-franc note will be kept as it has proven its worth in everyday transactions as can be seen from its considerable share in the banknote circulation both with respect to numbers and volume. However, it is not planned to reintroduce the formerly known, yet rarely used, 500-franc note, since this would cause substantial additional costs, also for the economy as a whole. Even before the current banknote series was designed, the question whether the 10-franc note should be replaced by a 10-franc coin was evaluated. At the time, the Federal Department of Finance, which is responsible for this matter, decided not to issue such a high-value coin as it would be prone to a significant risk of counterfeiting. The users' reaction to this decision showed that there was no real need to replace the 10-franc note with a coin in the first place. This situation has not changed in the meantime.

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## **Security features**

Apart from the tried-and-tested security features, some state-of-the-art technologies will also be applied on the new banknote series of the Swiss National Bank. The banknotes will have to meet the highest security standards.

The most important concern when developing a new banknote series is to gain a technological advantage. When issuing the current series, we introduced some innovations that most central banks apply nowadays. Only very few innovations in this area have since come on the market, though. Several projects on the development of new security features are currently under way, which should give us an advantage over the current and future counterfeiting technology. We are trying to use the expertise available in Switzerland to develop new security features. We are in a very fortunate position in this respect. World-renowned companies in the security features area, such as SICPA, KBA-Giori, OVD or Landqart, are domiciled in Switzerland. Moreover, thanks to Orell Füssli, we can count on an excellent printing company. As Switzerland requires a relatively small number of banknotes, this facilitates the introduction of innovations. We collaborate closely with the companies mentioned. You will surely understand that we cannot give you more detailed information on our security technology projects for reasons of security and patent protection. The new security features allow us to continue to ensure that the public can at any time easily verify the authenticity of our banknotes without any aids.

## **Colours**

Within the eight banknote series developed by the Swiss National Bank to date, four denominations have never fundamentally changed their main colour: the 1,000-franc note has always been purple, the 100-franc note dark blue, the 50-franc note green and the 10-franc note orange. The colour of the 20-franc note was changed for the current banknote series. With its previous light blue colour, the 20-franc note was frequently confused with the 100-franc note, and its colour was thus changed to red/dark-red. All in all, this new colour was received well, although differentiating between the red 20-franc note and the green 50-franc note is rather difficult in certain forms of colour blindness. If one looks at the colour spectrum, the colour scheme of the current series is not completely satisfactory. We will not change the order of colours. We know from experience that continuity with respect to banknotes is an important criterion for the consumers in addition to providing a valuable orientation aid. The colours of the new banknote series will thus in principle not be changed.