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**CASA DA MOEDA
DO BRASIL**



BANKNOTES

Since the 1960s, Brazil has been self-sufficient in the production of banknotes, with the Casa da Moeda do Brasil - CMB being the Brazilian government's supplier. In addition to meeting domestic demand, from the 1980s onwards the company began exporting banknotes to countries in Africa, South America and Central America.

The engineering designs of the banknotes, as well as the artistic designs, are produced by CMB specialists, professionals with a strong academic background and award-winning work in Brazil and abroad.

The engineering projects define, among other things: (a) the shape of the banknotes; (b) the conformation of the substrate (paper or polymer) and its intrinsic elements (watermark, security threads, colored fibers, visible and/or invisible); (c) the printing techniques to be used (offset, intaglio, typography, screen printing, etc.); (d) the set of security elements to be introduced into the banknotes, based on the needs presented by the client.

As for artistic projects, CMB interacts with its clients by translating the iconographic elements they propose into graphic art, following their values, landmarks, and historical figures, as well as their flora and fauna elements, among others. All of this, with the introduction of complex security backgrounds in offset; latent images in the intaglio phase; exploring the variations of security inks, harmonizing them with the artistic projects, all with the close monitoring of the clients at each stage of the project, who can propose adjustments or alterations that they deem pertinent.

CMB continually keeps up to date with the latest security elements available on the market and can offer a wide range of alternatives.





CMB's printing plant has state-of-the-art equipment, capable of producing the required and contractually agreed demands with quality and on time.

For all these reasons, CMB is able to offer the banknote market:

1

A complete set of services/products, from the conception of a banknote family project to the delivery of finished banknotes, in accordance with international quality standards, contractually agreed with projections of delivery for the short, medium and long term;

2

Reproduction of banknotes that are already in circulation, either from digital files or matrices available from clients, or by adopting reverse engineering, whereby CMB identifies all the elements present in the banknotes, producing products similar to those in circulation;

3

Engineering and artistic designs for new banknotes, delivering digital files through which the matrices for printing the banknotes can be produced. In this case, CMB can even supply the necessary matrices in the required quantity;

4

Technical advisory service for new banknote projects, advising on alternative sets of security features and their respective costs x benefits.



CIRCULATION COINS

CMB has been producing coins since it was founded in 1694. The company is able to produce artistic and engineering designs in the same way as for banknotes, and also offers products, designs, molds and technical advisory services.

It has the capacity to produce coins with the most diverse types of metals and alloys, including: stainless steel; copper-coated carbon steel; bronze-coated carbon steel, cupro-nickel, nickel, etc.





COMMENDATIONS, COMMEMORATIVE COINS AND MEDALS

CMB has been producing commendations, commemorative coins and medals for decades.

Commemorative coins are pieces that, on the one hand, preserve and perpetuate in small works of art elements of the culture and personalities of the country that issues them. On the other hand, they arouse great interest from the community of international collectors, the numismatists, and can become big business, as is the case in countries such as the United States, Canada and England.

Commemorative coins and medals are usually made from noble metals such as gold, silver and bronze.



CMB's expertise in the field of numismatics is internationally recognized, as it has produced and supplied commemorative coins and medals, among others, for the following sporting events: the Football World Cup and the Olympic and Paralympic Games, held in Brazil in 2014 and 2016, respectively, as well as medals from the 2007 Pan American Games, which Rio de Janeiro hosted.

For the Olympic and Paralympic Games, it also designed and produced the athletes' award medals, in a huge challenge based on the principle of sustainability, using raw materials sourced from renewable sources. The gold is produced without the use of mercury in its processing.



Example of a
Commendation



As for the commendations, these are exclusive pieces designed to honor personalities. The last major sale of this product was made by CMB to Angola.



For medals and commemorative coins, we recommend visiting the website:

clubedamedalha.com.br





PASSPORTS

CMB produces Brazilian passports in accordance with the strictest recommendations of the International Civil Aviation Organization (ICAO). Our clients are the Federal Police (PF) and the Ministry of Foreign Affairs (MRE).

CMB is able to produce artistic and engineering projects in the same way as for banknotes and coins, also offering products, projects, matrices and technical advisory services.

Considering the characteristics of each supply, CMB serves its customers differently:

Federal Police – the PF captures citizens' biographic and biometric data and sends it to the CMB electronically via secure information traffic. CMB produces the passport books and personalizes them with the captured data, returning the passports to the Federal Police ready for delivery.

Ministry of Foreign Affairs – for this client, CMB delivers the passport booklets and the personalization is carried out by the MRE itself at Brazilian embassies and consulates around the world. In this case, CMB advises and guides the Ministry teams to carry out the personalization phase.



IDENTIFICATION DOCUMENTS

CMB produces identification documents for citizens, professional categories and vehicle documentation, among others. These documents can be produced on paper, plastic (polycarbonate, polyolefin, etc.) and/or digital media, with mobile applications.

The personalization of biographic and biometric data, captured in a technical way and in compliance with internationally adopted requirements, can be done at CMB's facilities or at customer sites.





TRACEABILITY

The traceability system uses sophisticated IT tools, industrial automation and security seals to control, monitor and inspect selected products, both by companies and governments. Traceability can meet different needs, such as quality control, product assurance, tax compliance, among others.

The solution consists of generating a unique code for each unit, batch or production stage. This code can be a QR Code, barcode, RFID (Radio-Frequency Identification) or alphanumeric sequence, protected by cryptographic algorithms such as AES (Advanced Encryption Standard) or blockchain, guaranteeing data integrity and protection.

Each time a product goes through a new production phase, the code is written down, recording information such as the operator responsible, the machine used and the manufacturing conditions. This information is stored in secure databases, allowing for a complete audit of the process.

This dynamic brings advantages such as:

Transparency and Reliability: All production cycle data is available for auditing and consultation;

Error reduction: Automated monitoring reduces human error and improves quality control;

Easy to recall: In the event of defects or contamination, products can be identified quickly and withdrawn from the market;

Supply chain integration: The system can be connected to suppliers and distributors, guaranteeing complete traceability all the way to the end consumer.



Its scope allows it to be applied to the entire product chain, from the start of the process to its completion at the point of sale to the consumer, allowing it to be monitored and including all intermediaries, such as transport and distributors. Some examples of traceable products are

Beverages and cigarettes: control from production in the factory, counting and identification (how much and what was produced), origin and application of a secure code (to identify the correctly controlled product).

Fuels: control initiated inside the refinery, it allows the quality of the monitored fuel to be checked at any time, which makes it possible to locate and prevent adulteration fraud against citizens and tax fraud against the state.

Agriculture: Agricultural or livestock products can be traced in order to verify their origin, whether they meet phytosanitary standards, among other things. The entire chain can be monitored, starting at the plantation or pasture, passing through warehouses, cold stores and transporters, all the way to places of sale such as markets. This monitoring encompasses food, pesticides, vaccines and other relevant segments.

Gold: tracks gold from its extraction (mining), smelting and marketing, protecting the environment, people and companies and guaranteeing governments fiscal control of production.

CMB combines analog technologies (seals with ink, printing and security paper) with digital technologies (cryptography). The set of tools that make up the traceability system provides an intact and secure environment to safeguard information and protect all those involved, whether they are users or administrators.



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