YEAR VIII SPECIAL 4-YEAR SUPPLEMENT OCTOBER 2014



### **Eight years of BILLETARIA**

Welcome to our second special four-year BILLETARIA supplement, this time covering the period 2011-2014. The journal was launched eight years ago, in 2006, and its 170-plus contributors from more than 40 countries have published 168 original articles or other contributions on its pages.

This special supplement brings together in one place the full list of contributors, front covers, maps, and articles published during the second four years of the journal. Together with the first special supplement, published in October 2010, it completes the overview of BILLETARIA's life since its inception.

BILLETARIA remains committed to its principles of independence, respect, quality, and professionalism, while adapting its format and content to its readers' needs and a policy of cost-containment: there is more emphasis on opinion articles and special issues on specific topics, new sections have been added (numismatic museums), and there is less reference to international and other events. There is now also wider distribution in digital format.

Once again we would like to thank all our many contributors for their selfless support, issue after issue, helping make this a forum for the exchange of opinions and experience between central bank cash professionals. Thanks also to our ever growing number of enthusiastic readers, who constantly encourage us to make the effort to keep BILLETARIA alive.

Many thanks to you all.

- The digital versions of past issues are avaliable on the Banco de España website www.bde.es, in the "Bulletins and journals" section under "Publications", and on the website of a number of other central banks and institutions, whose support we gratefully acknowledge.
- You can contact us by e-mail at billetaria@bde.es.

















### Structure and organisation

Issues of BILLETARIA have a uniform structure:

- 1. EDITORIAL AND CONTRIBUTORS. The editorial summarises the contents of the current issue, gives news of interest, and occasionally reflects on general topics relating to the world of currency. A list of all the contributors to the current issue is also given.
- 2. INTERVIEW. This section publishes an interview with a personality of recognised prestige in the currency world who has accumulated experience during an extensive career. We generally look for individuals who have retired from active professional life. Particular tribute is also paid to persons of recognised authority who have made an outstanding contribution to the development and enhancement of our profession, and readers are offered an interesting set of opinions and reflections.
- 3. OPINION ARTICLES. This section of the journal includes opinion articles on various topics from a variety of sources. These are sometimes requested by the editorial team and in other instances are spontaneous contributions, for which we are always particularly grateful. We look for topics of general interest and texts are edited to fit into the available space, while always respecting the contributor's authorship and freedom to express their opinion. The emphasis is on professional rigour and quality of exposition.
- 4. BANKNOTES, DEPARTMENTS AND MUSEUMS. From issue 1 to 15 BILLETARIA asked Latin American currency departments for articles introducing their banknotes and describing how their currency department is organised. The articles were published in alphabetical order of countries. In issue 12 we began a new series of contributions in which we present museums and cultural institutions devoted to the topic of money and currency.
- 5. CASH ACTIVITIES AND TECHNOLOGY. For this section we seek contributions on organisational, technology, and business topics, including articles from printing works, paper mills, and machinery manufacturers, who sometimes offer a different perspective from that of central banks.
- CIGE. The International Course on Cash Management (CIGE), run by the Banco de España's Cash and Issue Department in collaboration with various Latin American central banks, was held annually from 2004 to 2011. Since 2013 it has been held every two years.
- 7. MISCELLANEOUS This section includes items with news, publications, and events, and groups the main banknote security features. This section was larger in the earlier issues of the journal and has been made progressively shorter since issue 13.
- 8. BACK COVER This includes one of the hallmarks of BILLETARIA's design and image: an antique world map of artistic and historical importance. The aim is to underscore the idea of internationalisation with a collection of the first cartographic documents showing all the world's inhabited continents.



# Interviews

Cronological order	Issue	Dat	9
Mr. Leopold Surga Former sub-director of the Cash and Payments System Department of the Czech National Bank. Interviewed by: Fernando León.	9	April	2011
<b>Mr. Gonzalo Gil</b> Former Deputy Gobernor of the <i>Banco de España</i> . Interviewed by: J. Darío Negueruela and María Luisa Leyva.	10	October	2011
Mr. Manuel Galán Former Director of Directorate General of Currency Issuance of the Banco de México. Interviewed by: J. Darío Negueruela.	11	April	2012
Mr. Marc Salade Former Director of the Banknote Printing Works of the National Bank of Belgium. Interviewed by: Fernando León.	12	October	2012
Mr. Charles Spencer Former Director of Business Knowledge and International Relations in the Currency Department of the Bank of Canada. Interviewed by: J. Darío Negueruela.	13	April	2013
Ms. Astrid Mitchell Editor of Currency News. Reconnaissance International. Interviewed by: J. Darío Negueruela.	14	October	2013
Mr. Fausto Giori Principal Advisor of KBA-NotaSys. Interviewed by: J. Darío Negueruela.	15	April	2014
Mr. Mauri Lehtinen Former Cashier of the Bank of Finland. Interviewed by: J. Darío Negueruela.	16	October	2014

















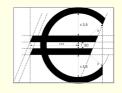
# Opinion

Cronological order	Issue	Date	
<ul> <li>Hybrid substrates: the future is now Clemens Berger. Louisenthal.</li> <li>Some obsrvations on technological developments in durable substrates Timothy Crane. Crane Currency.</li> <li>Durasafe®: the contribution of Landqart Andrew Bonnell. Lanqart AG.</li> <li>FabrianoDnA: Durable, natural and Authentic Sergio Antoci. Fedrigoni SpA.</li> <li>Long-life substrates Pierre Doublet. Arjowiggins Security.</li> <li>Extending banknote lifetime Bridget Taxy. De La Rue Currency.</li> <li>Developing improved banknote substrates Antonio Olmos. FNMT-RCM.</li> </ul>	9	April	2011
<ul> <li>The first ten years of the euro banknotes         José Manuel González-Páramo. European Central Bank.</li> <li>The integrity of euro banknotes         Ton Roos. European Central Bank.</li> <li>The singularity of the euro banknotes         Antti Heinonen and J. Darío Negueruela. European Central Bank and Banco de España.</li> <li>The ongoing harmonisation of the Eurosystem's cash policy         Helmut Rittgen. Deutsche Bundesbank.</li> <li>The circulation of euro banknotes outside the euro area         Stefan Augustin. Oesterreichische Nationalbank.</li> <li>The euro (banknotes and coins) as seen by European citizens         Vicente Ventura. European Central Bank.</li> <li>The Banco de España's survey on cash         Cash and Issue Department. Banco de España.</li> </ul>	10	October	2011
<ul> <li>Economic theory and banknote counterfeiting         Juan Carlos Pérez. Banco de México.</li> <li>Peru's new banknotes         Juan Antonio Ramírez. Banco Central de Reserva del Perú.</li> <li>Cash-related communication and training policies at the Banco de Portugal         António Pinto. Banco de Portugal.</li> <li>The relationship (or not) between the number of banknotes in circulation and the central bank's network of branches         J. Darío Negueruela. Banco de España.</li> </ul>	11	April	2012
<ul> <li>Cash issuance and distribution in China         Wen Sili. People's Bank of China.</li> <li>Canada's new polymer bank notes: why and how?         Charles Spencer and Andrew Ward. Bank of Canada.</li> <li>Average banknote lifespan         José M. Cao and J. Darío Negueruela. Banco de España.</li> </ul>	12	October	2012
<ul> <li>Cash in the Americas and Europa         J. Darío Negueruela. Banco de España.     </li> <li>A new banknote for Morocco. A 25-dirham commemorative banknote for the 25th anniversary of Dar As-Sikkah         Adil Zaâmoun and Lahcen Hadouni. Bank Al-Maghrib.     </li> <li>Nigeria's experience with cash processing         Olajumoke M. Fakiyesi. Central Bank of Nigeria.     </li> <li>Training and information for banking-system professionals in Russia: an anticounterfeiting strategy         Mariya Klysh. InterCrim-press.     </li> <li>The Europa series of euro banknotes         Belén Pérez. European Central Bank.     </li> </ul>	13	April	2013











Cronological order	Issue	Dat	е
Environmental impact management of banknote production and improvements Angelamaria Fiori. Banca d'Italia.  Federal Reserve's efforts to recycle shredded currency Shaun E. Ferrari. US Federal Reserve System.  Burning banknote waste in a cement works Beatriz García. Banco de España.  Environmentally conscius activities of the NPB Hitoshi Tanaka. National Printing Bureau, Japan.  Anti-bacterial treatment of the banknote paper Georgy Kornilov and Yelena Kurkova. Goznak.  The FNMT's paper manufacturing and the environment Antonio Olmos. FNMT-RCM.  The carbon footprint of banknote security features Beat Attinger. Orell Füssli Security Printing Ltd. Incorporating diffractive optically variable devices in banknotea in a environmentally sustainable way Peter Muehlfelder. Leonard Kurz Stiftung & Co. KG.  The "green" banknote. A holistic view Alfred Kraxenberger, Christoph Mengel and Alfred Schmidt. Louisenthal and Giesecke & Devrient GmbH. The polymer banknote: a reduction in environmental impact Jaime Pacreu. Innovia Security S. A. de C. V. Environmental impact management. Security inks for banknotes René Berger and Brigitte Sheung. SICPA, S. A.	14	October	2013
What the future holds for the use of cash Brane Bertoncelj and Laura Godler. Banka Slovenije. Risk management and cash-related risks Helena Tejero. Banco de España. Recent trends in bank branches and ATMs in Spain Carlos González. Banco de España. Methodology for counterfeit analysis Carlos Oliva. Banco de España. 20th anniversary of the BCR's Cash Analysis Service Vladimir Avdoshin. Central Bank of The Russian Federation.	15	April	2014
The Banco de España's cash survey Marina Pérez, Sonia Guinea and J. Darío Negueruela. Banco de España.  The Bundesbank study on payment behaviour in Germany Helmut Rittgen and Martina Eschelbach. Deutsche Bundesbank.  European Central Bank surveys Marina Nunes. European Central Bank.  Cash plays a key role in consumer spending James Narron and Barbara Bennett. Federal Reserve System.  Market research by the Banco de México cash department Office of Cash Studies and Analysis. Banco de México.  Bank of Canada's currency surveys Currency Department. Bank of Canada.  Cash surveys: Peru's experience Juan Medina and Javier Pereda. Banco Central de Reserva del Perú.  Reserve Bank of Australia's Survey of Consumer's Use of Payment Methods Crystal Ossolinski and Eden Hatzvi. Reserve Bank of Australia.  The Bank of England's public consultation programme on polymer banknotes Victoria Cleland and Chris Sullivan. Bank of England.  The Banco Central do Brasil's cash surveys João Sidney de Figueiredo. Banco Central do Brasil.  Survey on the supply and fitness of banknotes and coins in Colombia Bernardo Calvo. Banco de la República.  The use of surveys by central banks Ángela Benítez, Isabel Alcalde and J. Darío Negueruela. Banco de España.	16	October	2014











### **BILLETARIA** covers

















### **Banknotes and Coins**

Cronological order	Issue	Dat	е
Mexican banknotes  Manuel Galán. Banco de México.	9	April	2011
<ul> <li>New clothes for the euro         Reinhold Gerstetter. Banknote designer.</li> <li>The design of the first series of euro banknotes         Robert Kalina. Banknote designer.</li> <li>Euro banknote production         Nunzio Minichiello. Banca d'Italia.</li> </ul>	10	October	2011
Nicaragua's Banknotes Guillermo Selva. Banco Central de Nicaragua.	11	April	2012
■ Banknotes of Paraguay Edmundo Quevedo. Banco Central del Paraguay.		October	2012
Banknotes of the Dominican Republic     Samuel Ramírez. Banco Central de la República Dominicana.	13	April	2013
■ The banknotes of Venezuela Jacquelín Bastardo. Banco Central de Venezuela.	14	October	2013
Peru's banknotes Juan Antonio Ramírez and Abraham de la Melena. Banco Central de Reserva del Perú.	15	April	2014
■ Uruguay's banknotes Héctor Mantel. Banco Central del Uruguay.	16	October	2014



























# **Departments and Museums**





























Cronological order	Issue	Dat	е
The Banco Central de Bolivia's Treasury Subdirectorate Walter Orellana and Abel Sanjinés. Banco Central de Bolivia.	9	April	201
The Banco de México's Directorate General of Currency Issuance Jorge Francisco de la Vega. Banco de México.	11	April	201
Issue and Treasury Department of the Banco Central de Honduras Geovanny Alfredo Bulnes. Banco Central de Honduras. The Casa de la Moneda museum: a journey through history Juan Teodoro and Julio Torres. Museo Casa de la Moneda. FNMT-RCM.	12	October	201
The Banco de Guatemala's Currency Issue Department Erick Prado. Banco de Guatemala. Colombia's central bank Numismatic Collection Angelina Araújo. Banco de la República. The Numismatic Space of the Banque Centrale du Luxembourg Michel Bourgeois and Sylviane Le Roy. Banque Centrale du Luxembourg.	13	April	201
Treasury Department of the Banco Central de Reserva de El Salvador César Roney Fuentes. Banco Central de Reserva de El Salvador. The Museum of the National Bank of Belgium Marianne Danneel. National Bank of Belgium. Guatemala's Numismatic Museum Ricardo Martínez. Banco de Guatemala.	14	October	201
The Banco Central do Brasil's Currency Department João Sidney de Figueiredo and Ricardo A. Brasil. Banco Central do Brasil. The Banca d'Italia Money Museum Massimo Morandini and Giuseppe Motta. Banca d'Italia. The Bank Al-Maghrib Museum Samia Daoudi and Abderrahim Chaaban. Bank Al-Maghrib.	15	April	201
The numismatic collection of the <i>Deutsche Bundesbank</i> Juliane Voss. <i>Deutsche Bundesbank</i> .  The Historical and Numismatic Museum of the <i>Banco Central de la República Argentina</i> Diego J. P. Aufiero and Silvia M. Fernández. <i>Banco Central de la República Argentina</i> .	16	October	201

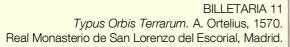
# **BILLETARIA** maps

BILLETARIA 9 World map by Domingos Teixeira, 1573. Bibliothèque nationale de France, Paris.





BILLETARIA 10 Europa recens descripta. W. Blaeu, 1635. European Central Bank Art Collection, Frankfurt am Main.







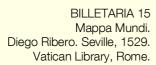
BILLETARIA 12 Universalis cosmographia secundum Ptholomaei traditionem et Americi Vespucii alioru[m]que lustrationes. Martin Waldseemüller, 1507. Treasures Gallery of the Library of Congress in Washington, D. C.



BILLETARIA 13 Totius Orbis Cogniti Universalis Descriptio. Gerard and Cornelis de Jode. Antwerp, 1589-1593.



BILLETARIA 14 Chinese map of the world (1763), copy of the map of the voyages by the mariner Zheng He, purported to have been drawn in 1418.







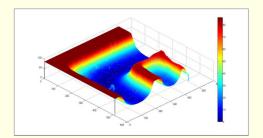
BILLETARIA 16 Suma de Cosmographia. Pedro de Medina. Seville, 1550. National Library, Madrid.

# **Cash Activities and Technology**

Cronological order	Issue	Date	)
<ul> <li>The Eurosystem efforts in the search for a longer lasting banknote         Torsten Meuer and Jérôme Martin. European Central Bank.     </li> <li>Varnishing solutions for a long-lasting banknote         Fernando León and Andreas Walter. Banco de España and Deutsche Bundesbank.     </li> <li>Analysis of substrates by the Banco de México         Enrique Guarner. Banco de México.     </li> <li>The Bank of Thailand's experience with high durability banknotes         Sopee Sa-nguandekul. Bank of Thailand.     </li> <li>Test on long-life paper         Ana María González and Diego Schweckandt. Banco Central de la República Argentina.     </li> </ul>	9	April	2011
<ul> <li>Euro cash statistics</li> <li>J. Darío Negueruela and María Luisa Leyva. Banco de España.</li> <li>The euro issuing countries</li> <li>Víctor Andrés. Banco de España.</li> <li>Legal framework of the euro</li> <li>Roberto Ugena, África Pinillos and María José Fernández. Banco de España.</li> <li>Information campaigns for euro cash changeovers</li> <li>Olivier Radelet. European Central Bank.</li> <li>Spain's cash-communication activities</li> <li>María Eulalia Andonegui. Banco de España.</li> </ul>	10	October	2011
<ul> <li>New technologies in the intaglio workflow: towards digital system and eco-friendly processes         Giorgio Paesano and Nicola Mainieri. Banca d'Italia.</li> <li>Analysis of banknotes and coins: the experience of the FNMT-RCM Laboratory Luis Sanz. FNMT-RCM.</li> <li>Measurement of banknote soiling by sorting machines: an empirical study Eduardo Kropnick. Banco de España.</li> </ul>	11	April	2012
<ul> <li>Paper substrate manufacturers in Europe</li> <li>Fernando León and Juan Pablo Garnacho. Banco de España.</li> <li>PVD: a green technology for intaglio plates</li> <li>Marco Viticoli. Banca d'Italia.</li> </ul>	15	April	2014











### **CIGE**











CIGE	VIII	IX
BILLETARIA issue	9	13 and 14
Date	April 2011	April 2013 October 2013
Course venue	Lima, Peru	Cercedilla (Madrid), Spain

### **Miscellaneous**













Section	BILLETARIA issue	
International events	9, 11, 12, 13, 14	
Central banking news	9, 10, 11, 12, 13, 14, 15	
Publications devoted to cash	9, 10, 11	
Banknote security features	9, 10, 11, 12, 13, 15, 16	

### **Contributors**

Alcalde, Isabel Cash and Issue Department. Banco de España.

Andonegui, María Eulalia

Cash and Issue Department.

Banco de España

Andrés, Víctor Secretariat for the Eurosystem Unit Manager. Cash and Issue Department.

Antonci, Sergio
Manager of the Security Products Division.

Fedrigoni SpA.

Araújo, Angelina

Advisor, Art and Other Collections Unit.

Culture Division.
Banco de la República. Colombia.

Attinger, Beat

Director of Marketing & Sales.
Orell Füssli Security Printing Ltd.

Aufiero, Diego J. P.

Historical and Numismatic Museum.
Banco Central de la República Argentina.

Augustin, Stefan Director of the Cashier's Division and Branch Offices.

Payment Systems Department. Oesterreichische Nationalbank

Avdoshin, Vladimir Director of Professional Training Division. Cash Circulation Department.

Central Bank of the Russian Federation.

Barrera, Yolanda

Bastardo, Jacquelín

Treasury Manager.
Banco Central de Venezuela.

Benítez, Ángela Cash and Issue Department.

Banco de España.

**Bennet, Barbara**Vice President and Chief Strategist.
Federal Reserve System of the United States.

Berger, Clemens Group Vice President.

Louisenthal.

Berger, René Head of Analysis and Product Conformity.

SICPA S A

Bertoncelj, Brane Former Director of the Cash Department.

Banka Sloveniie.

Bonnell, Andrew

Product Manager for Durasafe®. Landgart AG

Bourgeois, Michel

Head of the Cash and Numismatics Department. Banque Centrale du Luxembourg.

**Brasil, Ricardo A.**Advisor in the Currency Management Department.

Banco Central do Brasil.

**Bulnes, Geovanny A.** Head of Issue and Treasury Department. Banco Central de Honduras.

Calvo, Bernardo

Director of the Treasury Department. Banco de la República. Colombia.

Cao, José María Statistics Unit Manager.

Cash and Issue Department.

Banco de España.

**Chaaban, Abderrahim**Director of the Bank Al-Maghrib Museum.

Bank Al-Maghrib.

Cleland, Victoria Chief Cashier and Director of Notes.

Bank of England.

Crane, Timothy R&D and Technology Manager.

Crane Currency.

Danneel, Marianne

Banque Nationale de Belgique.

Daoudi, Samia

Cultural Relations Manager.
Cultural Activities and Programmes Unit.
Bank Al-Maghrib.

Doublet, Pierre

R&D Manager. Arjowiggins Security

Eschelbach, Martina Economic Analyst. Cash Department.

Deutsche Bundeshank

Fakiyesi, Olajumoke M. Deputy Director. Currency Operations Department.

Central Bank of Nigeria

Fernández, María José Head of the Resources Division. Cash and Issue Department.

Banco de España.

Fernández, Silvia M.

Historical and Numismatic Museum.
Banco Central de la República Argentina.

Fernández Ordóñez, Miguel

Governor. Banco de España.

Ferrari, Shaun E. Assistant Director. Reserve Bank Operations & Payment Systems Division.

Federal Reserve System of the United States.

Figueiredo, João S. de

Head of the Currency Management Department. Banco Central do Brasil.

Fiori, Angelamaria Deputy Head.

Banknote Printing Department.

Fuentes, César Roney

Head of Treasury Department. Banco Central de Reserva de El Salvador.

Galán, Manuel Former Director of Currency Issuance. Banco de México.

García, Beatriz
Regulation and Control Unit Manager.

Cash and Issue Department. Banco de España.

Garnacho, Juan Pablo

Cash and Issue Department. Banco de España.

Gerstteter, Robert Banknote designer

Gil. Gonzalo

Former Deputy Governor Banco de España.

Giori, Fausto

KBA-NotaSvs.

Godler, Laura

Expert.

Cash Department. Banka Slovenije.

González, Ana María Deputy Laboratory Manager.

Laboratory sub-directorate.
Banco Central de la República Argentina.

González, Carlos Analysis and Reports Unit Manager.

Cash and Issue Department. Banco de España.

González-Páramo, José M.

Member of the Executive Board.

European Central Bank

Grimal, Jean Michel

Head of the Currency Development Division. Directorate Banknotes.

European Central Bank

**Guarner, Enrique** Manager of the Banknote Printing Works. Banco de México.

**Guinea, Sonia** Cash and Issue Department.

Banco de España.

Dar As-Sikkah Banknote Printing Works and Mint.

Bank Al-Maghrib.

**Hatzvi, Eden** Manager of Currency Policy. Note Issue Department.

Reserve Bank of Australia.

Heinonen, Antti

President.
CBCDG Executive Committee.

Furopean Central Bank

Kalina, Robert Former designer.

Oesterreichische Nationalbank.

Klysh, Mariya Editor-in-Chief. InterCrim-Press.

**Kornilov, Georgy**Director of the Research and Development Institute.

Goznak.

**Kraxenberger, Alfred**Managing Director, Technology and Innovation.

Banknote Paper.

Kropnick, Eduardo Technology Unit Manager. Cash and Issue Department.

Kurkova, Yelena Deputy Head of the Paper Technology Department.

Le Roy, Sylviane Officer in the Numismatics Section.

Cash and Numismatics Department. Banque Centrale du Luxembourg.

Lehtinen, Mauri

Cash Department.

**León, Fernando**Research and Development Unit Manager.
Cash and Issue Department.

Banco de España.

Leyva, María Luisa

Head of International Currency Division.
Cash and Issue Department.

Banco de España.

Mainieri, Nicola

Expert.

Banknote Printing Department.

Mantel, Héctor Head of Treasury Unit.

Treasury Department.
Banco Central del Uruguay.

Martin, Jérôme Expert in the R&D Section. Directorate Banknotes

European Central Bank

Martínez, Ricardo

Head of the Interinstitutional Relations and Culture Section. Communication and Institutional Relations Department. Banco de Guatemala.

Maslen, Aubrey
Currency Education Programme Manager.
Federal Reserve System of the United States.

Medina, Juan

Analyst.

Currency Management Department Banco Central de Reserva del Perú.

Melena. Abraham de la

Currency Analysis Specialist.
Currency Management Department.
Banco Central de Reserva del Perú.

Mengel, Christoph Head of Product Development. Banknote Printing. Giesecke & Devrient GmbH.

Meuer, Torsten Head of R&D Section.

Directorate Banknotes

European Central Bank.

Minichiello, Nunzio Head of Banknote Printing Department. Banca d'Italia.

Mitchell, Astrid

Editor of Currency News. Reconnaissance International

Morandini, Massimo Expert assigned to Senior Management. General Cashier Directorate.

Banca d'Italia.

Moreno, José Cash and Issue Department.

Banco de España.

Motta, Giuseppe
Expert assigned to Senior Management.
General Cashier Directorate.

Banca d'Italia.

Muehfelder, Peter

Head of Business Area Security. Leonard Kurz Stiftung & Co. KG.

Narron, James
Senior Vice-President and Product Manager.

Federal Reserve System of the United States.

Negueruela, J. Darío

Director of the Cash and Issue Department. Banco de España.

Nunes, Marina Expert in the Currency Development Division. Directorate Banknotes

European Central Bank

Oliva, Carlos Anti-Counterfeiting (NAC) Unit Manager.

Cash and Issue Department. Banco de España.

Olmos, Antonio

Paper Mill Director.
Fábrica Nacional de Moneda y Timbre-Real Casa de la Moneda.

Orellana, Walter Monetary Operations Manager

Banco Central de Bolivia

Ossolinski, Crystal Manager of Payment Systems Efficiency. Payments Policy Department. Reserve Bank of Australia.

Pacreu, Jaime General Manage

Innovia Security S. A. de C. V.

Paesano, Giorgio

Expert.

Banknote Printing Department. Banca d'Italia

Pereda, Javier

Currency Management Department. Banco Central de Reserva del Perú.

Communications Consultant.

Directorate General Communications & Language Services. European Central Bank

Pérez, Juan Carlos

Specialist researcher

Directorate General of Currency Issuance. Banco de México.

Pérez, Marina

Cash and Issue Department. Banco de España.

Pinillos, África

Legal Counsel.

Legal Department Banco de España

Director of the Issue and Treasury Department.

Banco de Portugal.

Prado, Erick

Director of the Currency Issue Department. Banco de Guatemala.

Quevedo, Edmundo

Chief Cashier.

Treasury Department. Banco Central del Paraguay.

Project Manager for Euro Banknotes and Coins Communication. Directorate General Communications & Language Services.

European Central Bank.

Ramírez, Juan Antonio Manager of Currency Management Directorate.

Banco Central de Reserva del Perú.

Ramírez, Samuel

Director of the Issue and Custody Department. Banco Central de la República Dominicana.

Rittgen, Helmut Head of the Cash Department. Deutsche Bundesbank.

Roos, Ton

Director.

Directorate Banknotes European Central Bank

Sa-nguandekul, Sopee

Head of the Origination and R&D Division. Banknote Printing Works.

Bank of Thailand.

Salade, Marc

Former Director of the Banknote Printing Works.

Banque Nationale de Belgique.

Sanjinés, Abel

Treasury Sub-Manager.
Monetary Operations Directorate.
Banco Central de Bolivia.

Sanz, Luis

Head of Laboratory Department.
Fábrica Nacional de Moneda y Timbre-Real Casa de la Moneda.

Schmidt, Alfred Product Management Director.

Banknote Processing. Giesecke & Devrient GmbH.

Schweckandt, Diego

Laboratory Technician

Laboratory sub-directorate.
Banco Central de la República Argentina.

Selva. Guillermo

Financial Operations Specialist. Treasury Management. Banco Central de Nicaragua.

Sheung, Brigitte

Marketing Editor SICPA, S. A.

Sili, Wen

General Manager

Cash, Gold and Silver Department. People's Bank of China.

Spencer, Charles

Former Director of Business Knowledge and International Relations Currency Department.

Bank of Canada.

Sullivan, Chris

Banknote Education Team.

Directorate Banknotes Bank of England.

Surga, Leopold

Gurga, Leopold Former sub-director. Cash and Payment Systems Department. Ceská národní banka.

Tanaka, Hitoshi

General Manager.
Environmental Management Division.

National Printing Bureau, Japan.

Taxy, Bridget
Director of Strategic Marketing.

De la Rue Currency.

**Tejero, Helena**Head of the Risk and Processes Division.
Control, Budget and Accounting Department.

Banco de España.

**Teodoro, Juan**Director of the Museo Casa de la Moneda.

Fábrica Nacional de Moneda y Timbre-Real Casa de la Moneda.

Torres, Julio
Curator of the Museo Casa de la Moneda.

Fábrica Nacional de Moneda y Timbre-Real Casa de la Moneda.

**Ugena, Roberto**Director of the Legal Department. Banco de España

Vega, Jorge Francisco de la Manager of Banknote and Coin Desk Planning and Research Division.

Directorate General of Currency Issuance Banco de México.

Ventura, Vicente

Expert in the Currency Development Division. Directorate Banknotes.

European Central Bank

Viticoli, Marco

Research and Development Unit Manager. Banknote Printing Department.

Voss. Juliane

Curator Numismatic Museum.

Deutsche Bundesbank.

Walter, Andreas Banknote Development and Production Engineer.

Cash Department.

Deutsche Bundeshank

Program Manager, Next Generation Bank Note Project. Currency Department. Bank of Canada.

Workum, Win van

Head of Cash Operations Department. De Nederlandsche Bank.

Zaâmoun, Adil

Quality Department Manager. Dar As-Sikkah Banknote Printing Works and Mint.

Bank Al-Maghrib.



Cien pesetas banknote. Issue of June 24, 1898. Mariano Fortuny y Madrazo (Paris 1871- Venice 1898). Banco de España Art Collection.

# BANCODE **ESPAÑA**

Eurosistema

#### **BILLETARIA**

October 2014. Special 4-year supplement

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Banco de España / Cash and Issue Department

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### Secretariat

Cash and Issue Department, Banco de España Alcalá, 522 28027 Madrid

Tel.: +34 91 338 6310 Fax: +34 91 338 6887

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