



## FUTURE DEVELOPMENTS IN THE TARGET SYSTEM

*At the same time as the introduction of the euro and the single monetary policy in 1999, the Trans-European Automated Real-time Gross settlement Express Transfer (TARGET) system commenced live operations. TARGET, the large-value payment system for the euro, has contributed to the rapid integration of the euro money market and has since successfully served the needs of the monetary policy of the ECB.*

*Over the past few years, the environment in which TARGET operates has changed and still continues to change. Technical developments as well as the fast-moving process of European integration have triggered requests from system users for further and more harmonised services. In addition, TARGET will need to cope with the forthcoming EU enlargement process.*

*Against this backdrop, the Governing Council of the ECB decided in October 2002 to revamp the TARGET system. This article describes the transition stage from the current system to the next generation of TARGET (TARGET2). Section 1 provides a brief history of the current system, taking stock of the achievements made so far. Section 2 examines the driving forces behind the changes in TARGET. Section 3 outlines the cornerstones of the TARGET2 system and Section 4 discusses the envisaged time scale for the project.*

### I TARGET – THE LARGE-VALUE PAYMENT SYSTEM OF THE EUROSISTEM

The existence of efficient and robust large-value payment systems is of key importance for the smooth functioning of the economy. A large-value payment system should be efficient in order to ensure the uniform distribution of liquidity and a homogeneous level of short-term interest rates across a monetary area. This is a prerequisite for the efficient conduct of monetary policy operations. A large-value payment system should also be robust in order to cushion systemic risk and to contribute to financial stability. If a payment system for large-value transfers lacks robustness, not only could it cause disruptions in the financial sector, but it could also allow these to spread from one market participant to another.

In recognition of the important role played by payment systems in general and large-value transfer systems in particular, the Eurosystem has – in accordance with the Treaty – been assigned the task of promoting the smooth functioning of such systems. The Eurosystem carries out this task through the operation of payment facilities, as well as by overseeing the euro payment and settlement systems. These two functions are distinct in concept, but are

both geared towards fostering the secure and efficient transfer of payments.

With regard to the operational side of large-value payment systems, the Eurosystem manages the TARGET system.

### THE HISTORY AND FEATURES OF TARGET

Prior to the introduction of the euro and the launch of a single monetary policy in 1999, payments between EU countries mainly relied on correspondent banking. Correspondent banking is an arrangement under which one bank (correspondent) holds deposits owned by other banks (respondents) and provides payment and other services to those respondent banks. In view of the needs of the new monetary area, such arrangements were no longer considered appropriate and the establishment of an efficient and robust payment system for the euro area as a whole was required. Against this background, the Eurosystem decided to create TARGET, a large-value payment system for the euro. The main objectives of TARGET were the contribution to the singleness of the euro money market in order to serve the needs of the single monetary policy, and the improvement of the soundness and efficiency of payment transfers in the euro area.

Given the scope of the project, TARGET was developed under considerable time pressure. It was therefore designed on the basis of the current infrastructure in place at the national level. Thus TARGET became a decentralised system, consisting of 15 national payment systems and the ECB payment mechanism (EPM), which are interlinked. Harmonisation was only introduced for those features whose conformity was necessary to ensure the singleness of monetary policy and a level playing-field amongst credit institutions.

TARGET is a real-time gross settlement (RTGS) system that provides immediate intraday finality and settlement in central bank money. Security and business continuity has always been one of its key features. TARGET can be used for all credit transfers in euro, both interbank and customer payments, and furthermore there is no upper or lower value limit for payment transfers. In order to meet the needs of the financial market in general and its customers in particular, TARGET has daily operating hours starting at 7 a.m. and ending at 6 p.m. C.E.T., as well as common closing days. Liquidity is also widely accessible in TARGET. Minimum reserve holdings are available for settlement purposes during the day and the Eurosystem provides unlimited intraday credit free of interest (but collateralised) to its counterparties.

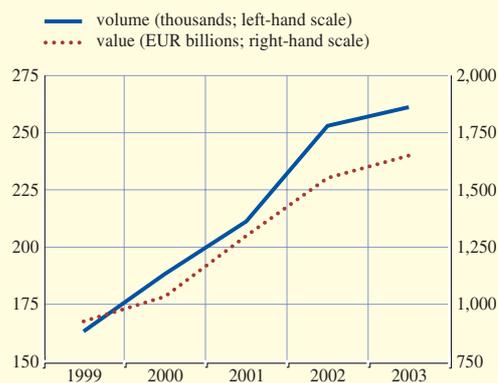
TARGET plays a key role in the financial system since it is the compulsory channel for monetary policy operations, and also due to the fact that all large-value net settlement systems in the euro area settle in central bank money via TARGET. Furthermore, TARGET is used for achieving delivery versus payment in securities settlement systems and for realising payment versus payment in the field of foreign exchange settlement.

#### THE ACHIEVEMENTS OF TARGET

The TARGET system has contributed to the high degree of liquidity in the euro money market. With the launch of live operations in 1999, the national money markets were successfully integrated into an efficient single euro money market practically overnight.

**Chart 1 TARGET traffic – volumes and values**

(daily averages)



Source: ECB.

TARGET has been the market's preferred system for large-value payments in euro from the outset. In its first year of operations, the number of payments processed in TARGET amounted to a daily average of more than 163,000 payments, representing a value of €925 billion. Four years later, in 2003, around 261,000 payments with a value of €1,650 billion were transferred on average per business day (see Chart 1). This represents a share in overall large-value payments made in euro of almost 87%, in terms of value, and 58%, in terms of volume. Together with the Fedwire Funds Service in the United States, TARGET belongs to the two biggest large-value payment systems in the world.

The preferred use of TARGET is also attributable to the network externalities it offers. Today, more than 43,400 banks – including branches and subsidiaries – are accessible through TARGET worldwide, while more than 3,300 credit institutions participate in the system. The broad market coverage of TARGET has also facilitated the harmonisation of market business practices in the European Union (e.g. with regard to the operating days of the euro money market and foreign exchange transactions involving the euro). In order to be aware of and respond to participants' needs, the Eurosystem attaches high importance to

maintaining an ongoing dialogue with TARGET users.

TARGET is widely utilised for liquidity shifts across credit institutions. In particular, multi-country banks and banking groups use TARGET for their centralised treasury management. This has brought about the high average value of TARGET inter-Member State interbank transfers, which stood at €17 million in 2003. It is worth noting that TARGET is also increasingly used for retail (customer) transfers at the inter-Member State level. In 2003 customer payments accounted for 48% of the total inter-Member State volume, but only 5% of the inter-Member State value (compared with 23% and 2% in 1999, respectively). Because correspondent banking activities within the euro area have substantially declined since the introduction of the euro, to a certain extent, retail traffic has been shifted to TARGET. This development may, however, only be of a temporary nature since the banking community is currently taking measures to create an efficient Single Euro Payment Area (SEPA), which include work on pan-European infrastructures for retail payments.

Theoretically, in an RTGS system where transfers are settled individually throughout the day, there is an intrinsic tendency amongst banks to wait for incoming payment flows before initiating their own payments. This tendency not only complicates banks' treasury management, but also means that there is a risk that not all payment transactions can be completed before the system shuts down. In TARGET, however, credit institutions follow the guidelines on liquidity management published by the European Banking Federation, which, inter alia, promote the early submission of payments. Furthermore, unrestricted provision of intraday credit by the Eurosystem, backed by a collateral policy based on a wide list of eligible assets, has contributed to the timely processing of payments. Nearly 50% of the inter-Member State volume is settled in the first three hours of TARGET operations (i.e. between 7 a.m. and 10 a.m. C.E.T.).

The use and acceptance of a payment system largely depends on its safety and reliability. In this respect, TARGET has proven to be robust and resilient. In spite of the decentralised structure of TARGET the level of availability stood at 99.79% in 2003. Temporary service interruptions in TARGET were bridged by special contingency arrangements aimed at ensuring the smooth and timely processing of specific payments, whose delayed processing could have potentially triggered systemic risk. Almost 96% of the inter-Member State traffic was processed in less than 5 minutes. Owing to exceptional service disruptions, the processing time exceeded 30 minutes for 0.28% of inter-Member State payments in TARGET.

## 2 THE NEED FOR CHANGES IN TARGET

Experience gained over the past five years of operation shows that the TARGET system has clearly met its objectives, by contributing to the reduction of systemic risk and enhancing financial stability, and has therefore become the preferred system for large-value processing in euro. However, there are changes in the field of payment systems, both in terms of technology and business practice, with which TARGET must keep pace. For example, payment system users are increasingly demanding enhanced services, particularly in the field of liquidity management. This inter alia has triggered a movement towards hybrid systems, which seek to be more liquidity-efficient by combining elements of both gross and net settlement systems. Furthermore, Continuous Linked Settlement, a relatively new system for settling foreign exchange transactions, has led to an increased time-criticality of payments.

The need to develop the next generation of TARGET also derives from the ongoing process towards the integration and consolidation of the European financial system. The TARGET system has contributed significantly to the acceleration of this process. As European integration gains momentum, market participants' needs are becoming

increasingly alike. The next generation of TARGET will need to accommodate the strong demand from TARGET users for a more harmonised service at the European level.

The EU enlargement process brings an additional dimension to the process of financial integration. Even today, the decentralised structure of TARGET, with one payment processing platform per EU country plus the ECB's platform, generates cost-related problems (for example, each software modification has to be implemented in 16 platforms in 16 different ways). If the decentralised structure of TARGET were to be kept, the accession of ten acceding countries could lead to an extremely complex system composed of a total of 26 platforms. The economic logic behind such a fragmented infrastructure, as well as its overall operational reliability, are highly debatable.

In the light of the above developments, it can be concluded that the existing TARGET system – with its fully decentralised and heterogeneous infrastructure – is no longer in keeping with today's needs. The future generation of TARGET will need to be geared towards technical consolidation and service harmonisation in line with the principle of cost-efficiency.

### 3 TARGET2 – THE NEXT GENERATION OF TARGET

On 24 October 2002, the Governing Council of the ECB defined the strategic direction for the next generation of TARGET (TARGET2) with the aim of overcoming the shortcomings of the current system which could render it incapable of meeting future challenges. The main objective of the Eurosystem is to ensure that TARGET develops into a system that (i) better meets customers' needs by providing a harmonised level of service; (ii) ensures cost-efficiency; and (iii) is prepared for swift adaptation to future developments, including the enlargement of the EU and the Eurosystem.

#### CONSOLIDATION OF THE TECHNICAL INFRASTRUCTURE

In TARGET2, it will no longer be necessary for each national central bank to maintain a payment processing platform of its own. All central banks will be able to share one technical platform, the Single Shared Platform (SSP), thus supporting the RTGS services that they offer to their banks. However, the settlement account relationship and the intraday credit extension would continue to belong to the

Table Distribution of payment flows in TARGET (2003)<sup>1</sup>

	Value <sup>2)</sup>	Percentage	Volume	Percentage
ELLIPS (BE)	13,558.2	3.2	1,752,802	2.6
KRONOS (DK)	3,207.5	0.8	102,560	0.2
RTGSplus (DE)	128,543.7	30.6	32,792,174	49.2
HERMES euro (GR)	3,343.1	0.8	1,324,274	2.0
SLBE (ES)	70,208.3	16.7	3,345,946	5.0
TBF (FR)	96,326.9	22.9	3,863,830	5.8
IRIS (IE)	5,502.1	1.3	802,875	1.2
BI-REL (IT)	24,760.7	5.9	9,423,103	14.1
LIPS-Gross (LU)	4,754.7	1.1	383,323	0.6
TOP (NL)	21,365.4	5.1	4,716,842	7.1
ARTIS (AT)	5,177.3	1.2	2,380,100	3.6
SPGT (PT)	3,254.8	0.8	1,021,046	1.5
BOF-RTGS (FI)	3,645.4	0.9	268,746	0.4
Euro RIX (SE)	1,897.0	0.5	96,994	0.1
CHAPS Euro (UK)	31,180.4	7.4	4,292,282	6.4
EPM (ECB)	4,023.8	1.0	41,103	0.1
Total	420,749.3	100.0	66,608,000	100.0

Source: ECB.

1) When interpreting the figures on the volumes and values of payment transactions which are provided in this table, consideration should be given to the fact that they are affected by certain characteristics particular to each individual payment system.

2) EUR billions.

business relationship between each central bank and its national banking community.

By sharing their technical infrastructure, central banks can, for the benefit of the TARGET user community, reduce the costs per transaction through economies of scale. The exploitation of scale economies clearly supports the agreed principle of cost-efficiency in TARGET2. The potential positive effects of consolidation on costs in TARGET can be corroborated by the uneven distribution of payment flows across the existing payment processing platforms today. The five biggest platforms process almost 83% of the total TARGET volume, whereas the five smallest systems account for less than 1.5% of TARGET traffic (see the table).

The Deutsche Bundesbank, the Banque de France and the Banca d'Italia have made a joint proposal to both develop and operate the SSP for the Eurosystem. The overall concept put forward by the three central banks is currently being examined by the Eurosystem and

TARGET2 will most likely become a single platform system.

#### HARMONISATION OF SERVICE

The provision of a harmonised level of service is considered one of the focal points of the TARGET2 project. In the light of the increasing congruence of user needs across Europe, identical services are regarded as a prerequisite for maintaining a level playing-field amongst the TARGET user community and will, furthermore, contribute to an efficient use of the TARGET2 infrastructure.

This harmonised level of service in TARGET2 will be based on the views, obtained by public consultation, of the entire community of TARGET users (see the box). In this context, measures will be taken to ensure that future TARGET2 services and functions are compliant with the Core Principles for Systemically Important Payment Systems, which the BIS Committee on Payment and Settlement Systems developed. The Governing Council of the ECB

#### Box

##### PUBLIC CONSULTATION ON TARGET2 USER REQUIREMENTS

The views of the entire community of TARGET users on the approach chosen for TARGET2, as well as on its level of service, were obtained by means of a public consultation. The consultation was launched in December 2002 and 14 responses from various banking and financial market associations in Europe were received. A summary of all the replies, together with the individual contributions, were made available on the ECB's website<sup>1</sup> on 14 July 2003.

All respondents welcomed the initiative of the Eurosystem to improve the functionality and performance of TARGET. At the same time, the responses indicated that the benefits of full harmonisation and integration, such as efficiency and effectiveness, could only be achieved by means of a single platform system. In addition, respondents indicated which services they thought should be included in the list of TARGET2 services. Services relating to effective liquidity management, as well as the provision of solid measures for business continuity, featured prominently in their comments. Furthermore, the banking industry stressed the importance of users being further involved in the TARGET2 project.

The Eurosystem will continue to consult TARGET users in the course of the TARGET2 project in order to ensure that the level of service meets the needs of the user community.

<sup>1</sup> [www.ecb.int/pub/cons/target2/pctarget2sum\\_en.pdf](http://www.ecb.int/pub/cons/target2/pctarget2sum_en.pdf).

has included these Core Principles in the set of standards used to evaluate the safety and efficiency of large-value euro payment systems. In addition, the specific role played by the TARGET system as a vehicle for the single monetary policy and as facilitator of the euro money market will be reflected in the level of service of TARGET2.

TARGET2 will be a system for the settlement of large-value euro payments in central bank money. Nevertheless, as is the case at present, there will be no *de jure* or *de facto* minimum limits set by the Eurosystem on any payments that users may wish to process in real time in central bank money.

Efficiency and robustness will be the guiding principles for the design of the harmonised TARGET2 services. In particular, the next generation of TARGET will provide services for a more efficient use of liquidity and will, for example, offer enhanced facilities supporting treasury management by TARGET users. In the wake of the tragic events of 11 September 2001, emphasis will be placed on a wide range of security aspects in order to strengthen business continuity measures in line with the high systemic importance of the TARGET infrastructure. TARGET2 will also centre on high performance, particularly with regard to the payment processing speed as well as processing capacity. Neutrality will be ensured by providing broad and open access to the system. TARGET2 users will gain access to the system through a uniform interface.

Despite the increasingly common service needs of the TARGET user community, specific requirements at the national level may vary somewhat. Against this background, the use of some services in TARGET2 may be optional. A single price structure, which will be determined in line with the cost-recovery principle, will be applicable to the harmonised services offered in TARGET2.

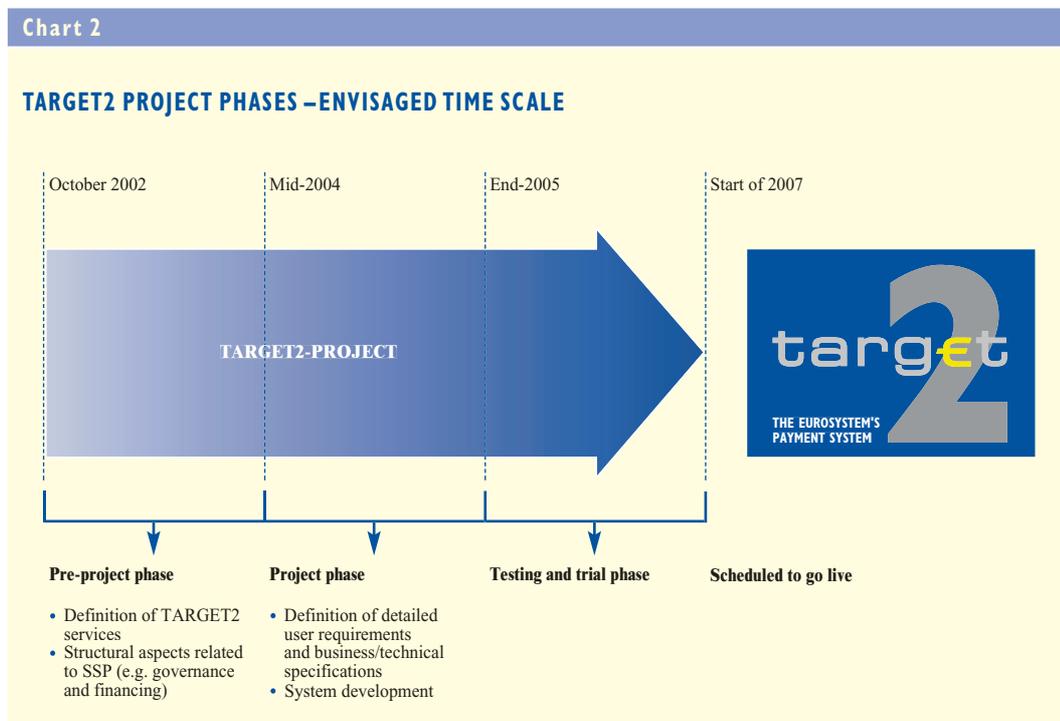
#### 4 ENVISAGED TIME SCALE FOR THE TARGET2 PROJECT

The further preparation of the next TARGET generation can be divided into three phases, namely the pre-project phase, the project phase and the testing and trial phase. The ECB will perform any type of coordination function that may be necessary in the course of the three phases of the TARGET2 project.

The pre-project phase began immediately after the Governing Council of the ECB agreed upon the strategic direction of TARGET2 in October 2002. The phase will come to an end once the work on a harmonised level of service has been completed following further confirmation by TARGET users. This phase also comprises work on the structural aspects of the SSP, such as budgetary matters and issues relating to the appropriate governance employed by the central banks joining the SSP.

The subsequent project phase will involve drawing up detailed specifications and developing the new system. The third phase will be devoted to intensive testing and pre-production trial runs. Throughout all phases of the project, work on a sound cost methodology for TARGET2 will be carried out. It will serve as a basis for the determination of the TARGET2 price structure and ensure that the principle of cost-recovery is observed.

Given the large scale and resulting complexity of the project, there is an element of uncertainty in the time scale of the project. On the assumption that central banks join the SSP offered by the Deutsche Bundesbank, the Banque de France and the Banca d'Italia, the pre-project phase should be completed by mid-2004. The project phase would then be likely to go on until the end of 2005, and the subsequent testing and trial phase would take up the whole of 2006. On the basis of this tight time frame, and subject to further feasibility studies, TARGET2 is scheduled to commence live operations at the beginning of 2007 (see Chart 2).



In this context, it is worth mentioning a work stream, which is closely related to the TARGET2 project, and which focuses on the possible temporary connection of acceding countries to the existing TARGET system. Ten countries from central and eastern Europe and the Mediterranean (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia) will join the EU on 1 May 2004. Accession country central banks will have the possibility – but will be under no obligation – to connect to the TARGET system from the date on which they join the EU. Participation in TARGET will only become compulsory once they adopt the euro, as this is a prerequisite for participation in the single monetary policy.

## 5 CONCLUSION

Operational since the introduction of the euro, the TARGET system is the backbone of the euro payment systems infrastructure. In order to meet its objectives and at the same time live up to users' expectations, TARGET has been

subject to continuous enhancements over the past five years of operation. However, converging user needs due to financial integration in combination with forthcoming challenges, such as EU enlargement, have brought about the need for a comprehensive transformation of the TARGET system.

Technical consolidation and service harmonisation are at the forefront of the development of the TARGET system. As a result of this, the next generation of TARGET will continue to provide a firm foundation for safe and efficient payment processing across Europe.

The development of the TARGET2 system gives expression to the Eurosystem's firm commitment to contribute to financial stability and the reduction of systemic risk. In order to comply with future market needs and to provide an attractive payment service in the long term, the Eurosystem will continue to seek input and feedback from TARGET users.