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1. Introduction

This report provides information on the new large euro payment system SORBNET-EURO, launched on March 7, 2005 at the National Bank of Poland, the scope of its functionality, architecture and the principles of pricing policy.

Works on the SORBNET-EURO system were initiated on the grounds of the decision of the NBP Management Board of July 10, 2003 defining the strategy of the SORBNET system development. The key objectives of the strategy included:

- 1) maintaining and developing the existing SORBNET system supporting zloty payments by the time Poland joins the euro area,
- 2) developing, on the basis of the SORBNET system, and launching not later than in 2005 the SORBNET-EURO system that settles euro payments and indirectly participates in the TARGET system within the framework of option 4.

The above decision was taken after a detailed analysis of the decision of the Governing Council of the European Central Bank (ECB) of October 24, 2002 on the possible voluntary participation of the acceding countries in the TARGET system as soon as from the day of joining the European Union. The opinions of the Polish banks, the National Clearing House (*Krajowa Izba Rozliczeniowa — KIR S.A.*) and the National Depository for Securities (*Krajowy Depozyt Papierów Wartościowych — KDPW S.A.*), indicating an urgent need to set up an RTGS system supporting euro payments in Poland, submitted to the NBP, were also considered.

In compliance with the above-mentioned decision of the NBP Management Board of July 2003, the NBP initiated works on developing the SORBNET-EURO system. The new system was to become a copy of the SORBNET system for zloty payments, in operation since 1996, with euro accounts maintained in it. As compared with the SORBNET system, the new system was to include the following:

- solutions enabling banks to route cross-border payment orders to the NBP,
- connections with a selected central bank of the euro area for routing cross-border payments via the TARGET system.

A series of consultations with banks, KIR S.A. and KDPW S.A. were held in order to agree on the detailed scope of functions performed by the SORBNET-EURO system. In August 2003 the above actions resulted in the initial acceptance by the NBP of the following deadlines:

- November 2, 2004 — launch of the basic version of SORBNET-EURO system for settlement of domestic and cross-border payments in euro (without supporting the liquidity by the intraday credit facility),
- January 2, 2005 — launch of an extended version of the SORBNET-EURO system, with the intraday credit facility available for banks,
- April 1, 2005 — launch of an extended version of the SORBNET-EURO system, with the possibility of connecting with a selected central bank from the euro area via a fully modernised SWIFT desk at the NBP.

The crucial steps taken by the NBP so far included selection of a central bank from the euro area to act as a correspondent — an intermediary to connect the SORBNET-EURO system with the TARGET system (in order to exchange cross-border operations in option 4), that offered connection on terms satisfactory to the NBP and was willing to co-operate with the NBP. The foregoing selection was preceded by a comparative analysis, conducted by the NBP, of terms of connections offered by the central banks from five countries of the euro area, which the NBP addressed with a request for proposals. The selection was governed by met the following assessment criteria, which were crucial for the NBP:

- impact of a given proposal on the duration of the project implementation with maintaining the expected functionality,
- the scope of additional services, e.g. a possibility of monitoring the account, managing the account or the method of ensuring liquidity at the NBP,
- the costs to be borne by the NBP for participation in a given system and the scheme of absorbing the costs by the whole banking system,
- the ability to maintain the adopted solution after the launch of the Single Shared Platform (SSP), the core component of the future TARGET2 system.

As a result of the evaluation of the proposals received from the five central banks, conducted on the basis of the above-listed criteria, the Bank of Italy was selected.

On December 19, 2003, the Management Board of the NBP resolved on choosing the Bank of Italy as the correspondent bank — the intermediary between the SORBNET-EURO system and the TARGET system.

Due to some external and internal factors disclosed in July 2004, the NBP decided to re-schedule the SORBNET-EURO system launch and joining the TARGET system from November 2, 2004 to February 7, 2005. Due to external procedural factors the deadline was further postponed to March 7, 2005.

2. Rules governing the NBP's participation in the TARGET system

Apart from internal works performed within the framework of the SORBNET-EURO project in the Head Office departments of the NBP, the decisions of the Management Board of the NBP of July 10, 2003 and December 19, 2003 resulted in commencing a closer co-operation between the NBP representatives, the representatives of the European Central Bank (ECB) and of the Bank of Italy. Its aim was to agree on the formal-legal terms as well as technical-operational requirements for the planned connection of the SORBNET-EURO system with the TARGET system in option 4 through the correspondent account of the NBP maintained at the Bank of Italy.

As a result of discussions, the ECB suggested two options of participation of the NBP (and other central banks of the acceding countries) in the TARGET system:

- 1) “full” option 4, i.e. with the NBP required to meet the same requirements as those imposed on other central banks of the EU countries remaining outside the euro area, specified by the ECB, with the exception of solutions related to the connection to the TARGET system under the Interlinking; this option allows the NBP to grant the intraday credit in euro to Polish banks;
- 2) “pure” correspondence relations with the Bank of Italy; under this option, the NBP would not be required to meet the ECB's requirements but neither would it be able to obtain the intraday credit.

Of the above-described solutions, on May 7, 2004 the Management Board of the NBP chose to participate in the TARGET system within the framework of option 4 with the intraday credit facility, i.e. the “full” option 4. The selection of this option meant the necessity to meet

all the requirements specified by the ECB, except for the solutions related to the connection to the TARGET system under the Interlinking. On February 11, 2005, the TARGET Agreement was signed. The Agreement was prerequisite for the launch of the SORBNET-EURO system in the “full” option 4 and the commencement of the NBP’s participation in the TARGET system. The signing of the Agreement was preceded by arrangements between the NBP and the ECB and other central banks regarding the expansion of the previously binding version of the TARGET Agreement, signed, among others, by the central banks of Denmark, Sweden and Great Britain, participating in the TARGET system since 1999. The arrangements pertained to the following: approval of the participation in the TARGET system under option 4, detailed terms and conditions of the Agreement and the NBP’s fulfilment of relevant requirements specified by the ECB. The NBP also consulted the ECB on numerous occasions regarding the final versions of documents specifying the legal framework for the SORBNET-EURO system, including, among others, the template agreement on the terms and conditions for opening and maintaining the RTGS account in the SORBNET-EURO system.

In compliance with the decision of the Management Board of the NBP of December 19, 2003, the Bank of Italy shall maintain the settlement account of the NBP for execution of all the cross-border payment orders incoming to and outgoing from the SORBNET-EURO system. As results from the proposal of the Bank of Italy, the account has got the characteristics of a correspondent one. However, it has been placed on the same platform as the Italian RTGS (named BIREL), and therefore it can be serviced comparably to the accounts maintained directly in the BIREL system. Cross-border payment orders sent to the SORBNET-EURO system debit the bank’s account and credit the NBP’s intermediary account in the system, which is followed by debiting the NBP’s settlement account at the Bank of Italy and crediting the account of the respective bank, maintained in the BIREL system or any other RTGS system participating in TARGET. Cross-border payment orders incoming to the SORBNET-EURO system cause a reverse action in the TARGET system and in the system of the Bank of Italy, i.e. debiting an appropriate account of the bank in the BIREL or another RTGS system participating in TARGET, and crediting the NBP’s settlement account maintained by the Bank of Italy. Each order executed in the NBP’s settlement account is confirmed by an appropriate message sent to the SORBNET –EURO system by the Bank of Italy. In the case of the cross-border orders incoming to the SORBNET-EURO system, it results in debiting the NBP’s intermediary account and crediting the account of a respective bank in the SORBNET-EURO system, followed by

sending an appropriate message to the bank. Thanks to the tools made available by the Bank of Italy, the NBP is able to monitor the balance in its settlement account maintained at the Bank of Italy. The agreement on the correspondent account maintained at the Bank of Italy, enabling the SORBNET-EURO system to participate in the TARGET system, was concluded by and between the Bank of Italy and the NBP on February 23, 2005.

3. Rules governing participation in the SORBNET-EURO system

The principles of executing interbank euro settlements in the SORBNET-EURO system and the type of entities allowed to participate are specified in Regulation No. 6/2004 of the President of the National Bank of Poland of April 20, 2004 on the method of executing interbank settlements (Official Journal of the NBP, No. 3 item 7 as amended). Pursuant to the Regulation, participants of the SORBNET-EURO system, i.e. entities entitled to maintain accounts in that system and submit payment orders to that system, may include:

- 1) the NBP,
- 2) domestic bank, credit institution, branch of credit institution and branch of foreign banks holding a banking account in euro with the NBP Head Office - in each case in the meaning of the Polish law implementing the Directive 2000/12/EC, excluding electronic money institution as defined in the Directive 2000/46/EC,
- 3) an institution providing clearing or settlement services, inter alia a clearing agent, overseen by a competent authority, holding a banking account in euro with the NBP Head Office (currently these institutions are KIR S.A. and KDPW S.A.).

The terms and conditions of opening and maintaining the banks' euro accounts by the NBP are laid down in Resolution No. 20/2004 of the Management Board of the National Bank of Poland of April 22, 2004 on the terms and conditions of opening and maintaining accounts of banks by the National Bank of Poland (Official Journal of the NBP, No. 3, item 6 as amended).

Moreover, the legal documentation regulating the SORBNET-EURO system includes the Resolution of the Management Board of the NBP regarding the introduction of the template agreement on opening and maintaining the RTGS account in the SORBNET-EURO system. Details of opening and maintaining euro accounts of banks, KDPW S.A. and KIR S.A. at the

NBP in the SORBNET-EURO system are regulated in detail in agreements concluded by and between the NBP and the above-mentioned entities.

On the user's side (the banks, KDPW S.A.), a uniform SORBNET_BW module is used for the SORBNET and the SORBNET-EURO system, which facilitates entering messages related both to zloty and euro payments. The banks and KDPW S.A., participating in the SORBNET system or the SORBNET-EURO system, are connected to the SWAT (*Szybka Warstwa Transportowa* — Swift Transporting Layer) module at the NBP by an always-on connection to the TCP/IP network operated by "EXATEL" S.A. From the SWAT module, zloty and euro payments are routed to the central module of a relevant system (SORBNET or SORBNET-EURO).

Payment orders are transferred to the central module in the form of messages in the EDIFACT standard.

However, from the very start of the system, euro payment orders may be transferred from the internal systems of banks to the banking module in the form of a SWIFT message or via network supply by using system tables.

Communication between the SORBNET-EURO system and the Bank of Italy is based on the SWIFT system.

4. Architecture of the SORBNET-EURO system

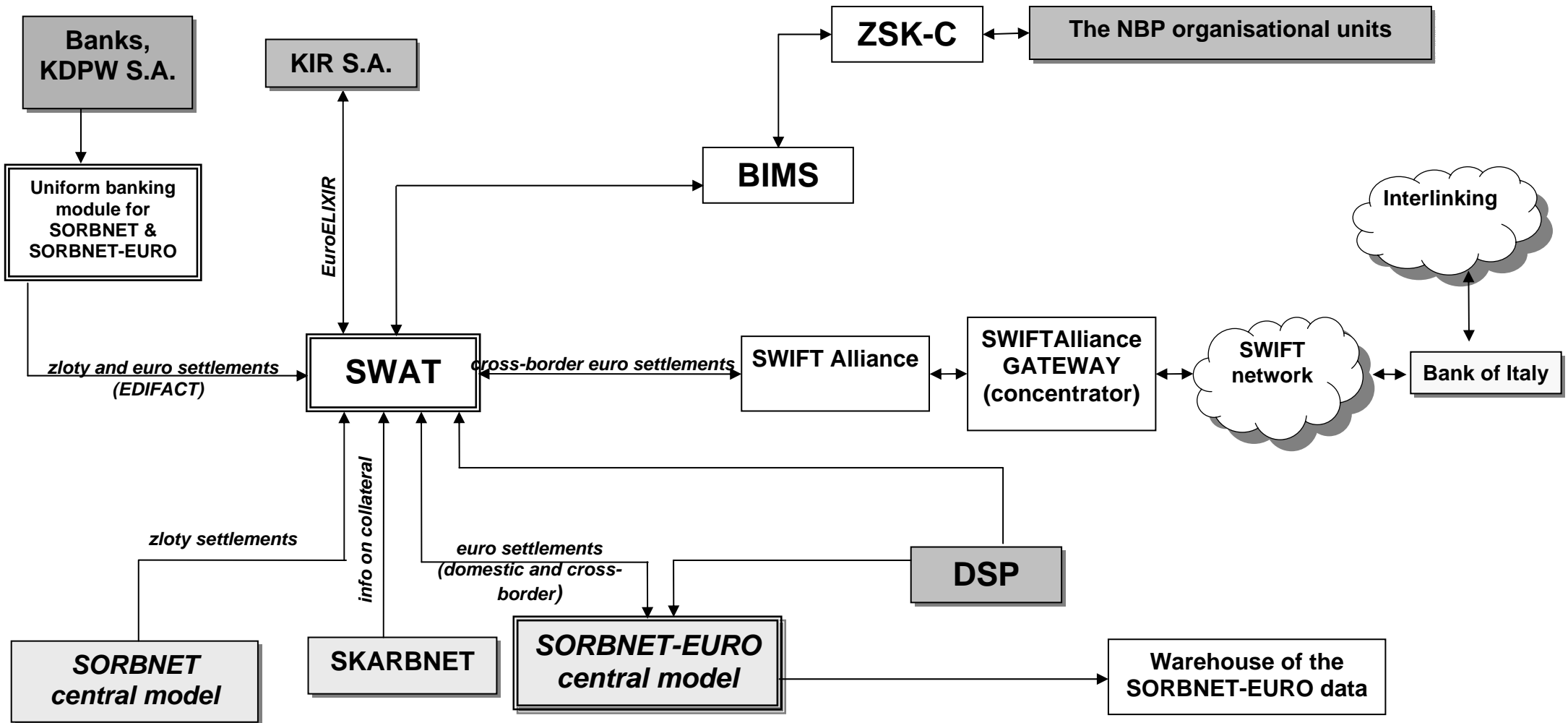
In terms of its IT structure, the SORBNET-EURO system is composed of the following elements:

- 1) banking modules (i.e. SORBNET_BW applications) used by the banks and the National Depository for Securities,
- 2) the SWAT module at the NBP,
- 3) the central module at the NBP.

The architecture of SORBNET-EURO is presented in detail in Fig. 1.

Figure 1

SORBNET-EURO system architecture



5. List of key functions performed by the SORBNET-EURO system

The SORBNET-EURO system performs the below-listed functions:

- maintenance of euro current accounts for banks, ancillary accounts for KDPW S.A. and KIR S.A. and the NBP's own accounts,
- execution of domestic and cross-border euro payments,
- management of the flow of payment orders and messages between the participants and the NBP,
- managing the queue of orders pending same-day or non-same day execution,
- settlement of payments from external systems including the KDPW system and EuroELIXIR,
- servicing the intraday credit facility, in a manner corresponding to that applied in the SORBNET system, provided that it can be obtained to the limit agreed with the ECB,
- connecting the NBP with the Bank of Italy in order to route cross-border payments via the TARGET system,
- any other functions consistent with the requirements for participation in the TARGET system specified by the ECB,
- transferring system data to the data warehouse for statistical purposes,
- recording of information on payment orders for the purposes of the General Inspectorate for Financial Information,
- bookkeeping,
- monitoring the balance of the NBP's own funds in the account maintained at the Bank of Italy,
- system administration.

6. Types of orders executed in the SORBNET-EURO system

As in the SORBNET system, banks only place crediting payment orders — both domestic and cross-border ones — on their own behalf (or on behalf of their customers), debiting their own account maintained in the system. In addition, the NBP, KIR S.A. and KDPW S.A., apart from placing orders of this kind that debit their accounts, are entitled, under authorisations issued by banks, to place orders on behalf of the banks, debiting banks' current accounts to the extent specified in the authorisations.

A bank participating in the system can issue domestic and cross-border euro payment orders with respect to:

- a domestic interbank or customer payment to another domestic bank or to a bank customer,
- a domestic interbank or customer payment to the NBP or to a customer of the NBP or to KDPW S.A.,
- a cross-border interbank or customer payment to a foreign bank participating in a different RTGS system within the TARGET system, or to its customer.

Being a system participant, KDPW S.A. can make domestic and cross-border payments for a domestic bank, a foreign bank or their customers, especially payments that stem from trading in securities. KDPW S.A. can issue domestic and cross-border payment orders on its own behalf or on behalf of the bank where it acts as the clearing agent, in compliance with an appropriate authorisation granted by the bank.

Being a clearing agent, KIR S.A. is entitled to issue payment orders with respect to:

- mutual liabilities and receivables of banks, arising from netting of domestic retail payments in the EuroELIXIR system (aggregated net positions),
- cross-border euro payments routed via the EuroELIXIR system to the STEP-2 system from the moment of the NBP's accession to STEP-2 (aggregated gross positions).

The NBP can issue orders for performance of domestic or cross-border operations (on its own behalf, on behalf of its customers or on behalf of a bank when holding a relevant authorisation), arising from such euro operations as:

- domestic payments of the NBP or its customers to a domestic bank (or its customer) or KDPW S.A.,
- cross-border customer or interbank payment orders placed by the NBP on behalf of a domestic bank in favour of a foreign bank or its customers,
- cross-border payments of the NBP or its customers in favour of a foreign bank or its customers, e.g. repayment of an intraday credit to a foreign bank from the euro area by the NBP or payments to the EBA (Euro Banking Association) Clearing, the operator of STEP-2, arising from liabilities of the Polish banks in the STEP-2 system,
- crediting euro current accounts of domestic banks by the NBP on account of the granted intraday credit.

Incoming cross-border orders reach the SORBNET-EURO system via the Bank of Italy and may be related to the following payments:

- cross-border payments of foreign banks (or their customers) in favour of domestic banks or their customers or in favour of KDPW S.A.,
- cross-border payments of foreign banks (or their customers) in favour of the NBP or its customers, e.g. an intraday credit contracted by the NBP from the euro area and a payment made by the EBA Clearing to the NBP arising from receivables of the Polish banks participating in the STEP-2 system (following the NBP's connection to STEP-2).

Apart from payment orders, information messages are transferred between the system participants and the NBP. Information messages used for euro payment orders in domestic trading in the SORBNET –EURO system are identical to the messages used in the SORBNET system.

Annex 1 includes detailed schemes showing the flow of payment and information messages.

7. Solutions supporting euro intraday liquidity

The NBP supports the liquidity of settlements in the SORBNET-EURO system by granting the intraday credit in euro to banks.

Introduction of the mechanism was conditional not only to the NBP receiving a pool of euro funds in an amount corresponding to the limit assigned by the ECB, but also to entering into a

relevant agreement with a selected commercial bank from the euro area which grants the credit to the NBP. The obtained credit is distributed among the banks participating in the system on a daily basis in accordance with the amounts allocated to each bank. Specific principles with respect to limiting the credit amount, securing its repayment, drawing and repayment of the euro intraday credit are specified in the agreement between the NBP and the banks on the terms and conditions for opening and maintaining the RTGS account in the SORBNET-EURO system.

The intraday credit is extended in accordance with the rules corresponding to those governing the SORBNET system. However, it is secured solely with T-bonds, subject to fixing at MTS-CETO S.A., valued with their market value.

8. Settlement of net results from EuroELIXIR and STEP-2

The core functions of the EuroELIXIR system include:

- clearing of euro domestic transactions on terms corresponding to those governing in the currently operating ELIXIR system,
- transferring of euro transactions sent to and received from the STEP-2 system by the participants (following the commencement of the NBP's participation in STEP-2),
- distribution of euro payments routed from the euro area via the NBP among the participants — the NBP plans to act as the so-called “entry point” (on July 15, 2004, the Management Board of the NBP adopted a decision on performing that function).

The principles of conducting the EuroELIXIR settlement sessions for euro domestic payments are identical to those applicable to settling zloty payments, cleared in the ELIXIR system. Domestic transactions are settled in the SORBNET-EURO system during two sessions (a morning session at 11.00 — 11.30 a.m. and a day-end session at 4.45 — 5.15 p.m.). In turn, EuroELIXIR settlement sessions for euro cross-border payments are synchronised with the clearing times of the STEP-2 system, with the NBP as its direct participant.

The settlement of cross-border payments sent to/from the STEP-2 system will be executed via the NBP's account at the Bank of Italy and the EBA Clearing account at the ECB. The settlement will be arranged on a two-step basis. In the first step, the funds resulting from

payment orders sent by the Polish banks from EuroELIXIR to STEP-2 on a given day will be blocked in the banks' accounts in the SORBNET-EURO system on the same day. The banks' accounts in the SORBNET-EURO system will be actually debited directly at the beginning of the following day, i.e. at 7.00 a.m. The NBP will route the above-mentioned funds to the EBA account at the ECB by 7.10 a.m. on the same day. Step two will take place after 4.30 p.m., where the EBA transfers to the NBP's account at the Bank of Italy the funds resulting from the cross-border payment orders routed to the Polish banks from STEP-2 to EuroELIXIR. Only then will the NBP be able to credit the accounts of banks in SORBNET-EURO in this account.

A detailed schedule of the trading day in SORBNET-EURO is presented in Annex 2.

9. Principles of pricing policy

The structure of fees paid for the transactions in the SORBNET-EURO system corresponds to that applied in the SORBNET system. In particular, it signifies three basic categories of fees charged in the system: the one-off fee charged for joining the system, the flat fee for maintaining the account, to be charged on a quarterly basis, and the fee for execution of payment orders (for domestic and foreign payments).

The NBP charges the participants of the SORBNET-EURO system as follows:

1. The NBP charges the new participants of the SORBNET-EURO system for joining the system. It has been assumed that the one-off fee in the amount of 25,000 zloty is charged from each new participant upon accessing one of the systems (SORBNET or SORBNET-EURO). The existing participants of the SORBNET system will be exempt from the fee because they paid a similar fee in the past to cover the costs of preparation of the banking module and the cryptographic protection package.
2. The following fees in zloty will be charged to the SORBNET-EURO system participants:
 - quarterly fees for maintaining the account (4,000 zloty), i.e. in the amount corresponding to the fee paid in the SORBNET system,
 - monthly fees for execution of euro domestic payments (3.0 zloty per execution of a payment order).

3. In accordance with the requirements of the TARGET system, fees for cross-border euro payments shall be charged in euro in the amount specified by the European Central Bank in the TARGET Guideline (1.75 euro per each transaction for the first 100 transactions in a month, 1.00 euro per each of the following 900 transactions in a month and 0.80 euro per each transaction beyond 1,000 transactions in a month).

The above-listed fees are included in the new “Tariff of Bank Fees and Commissions at the NBP” adopted with the resolution of the Management Board of the NBP on July 9, 2004. Provisions of the resolution related to the SORBNET-EURO system came into effect on February 7, 2005.

Furthermore, the above-mentioned fees do not include the costs to be borne by the banks towards the NBP due to the access to the euro intraday credit facility.

10. Main organisational works, formal and legal actions

The launch of the SORBNET-EURO system and the commencement of the NBP’s participation in the TARGET system via the Bank of Italy required numerous activities. These included in particular:

- development of the SORBNET-EURO application as a copy of the SORBNET system and its adjustment to service euro bank accounts and execute euro payment orders,
- extension of the SWAT platform to service both zloty and euro messages,
- internal tests within the NBP, followed by tests between the NBP and the banks, KDPW S.A. and KIR S.A.,
- adjustment of the SWIFT platform to servicing cross-border payments to/from the SORBNET-EURO system,
- testing the system with the Bank of Italy and other participants of the TARGET system and with EBA Clearing with participation of the SORBNET-EURO system participants,
- preparation of draft regulations and agreements required to launch the SORBNET-EURO system,

- signing the TARGET Agreement with the European Central Bank and central banks of the EU countries participating in the TARGET system,
- signing an agreement with the Bank of Italy on opening a correspondent account of the NBP at the Bank of Italy and intermediary in the access to the TARGET system,
- signing an agreement with a commercial bank from the euro area on extending an intraday credit facility to the NBP,
- signing bank account agreements with the banks, KIR S.A. and KDPW S.A. setting forth the terms and conditions of their participation in the SORBNET-EURO system.

Following the final arrangements with the ECB and the Bank of Italy regarding formal and legal conditions for the maintenance of the correspondent account of the NBP at the Bank of Italy and regarding the NBP's indirect participation in the TARGET system, the TARGET Agreement referring to the TARGET Guideline was signed on February 11, 2005. The agreement was signed by: the President of the ECB, presidents of central banks in the euro area, presidents of central banks outside the euro area, i.e. Denmark, Sweden, Great Britain, and by the President of the NBP.

On February 23, 2005, the agreement on the correspondent account was concluded by and between the Bank of Italy and the National Bank of Poland, concerning the connection of the SORBNET-EURO system with the TARGET system. On the same day, the NBP and a commercial bank from the euro area concluded an agreement on extending the intraday credit facility in euro to the NBP.

Until March 4, 2005, separate agreements were concluded with 33 banks, KIR S.A. and KDPW S.A., concerning the terms and conditions for opening and maintaining euro accounts for these entities in the SORBNET-EURO system by the NBP.

The list of participants of SORBNET-EURO as at March 7, 2005 constitutes Annex 3.