

## HIGH-LEVEL T2S PROGRAMME PLAN

### Introduction

Like all large-scale programmes, the T2S programme consists of a huge number of activities that will have to be conducted in a “flexible order”, involving many different stakeholders and resulting in a series of deliverables that will lead to the successful launch of the T2S system, currently scheduled for Q2 2013.

In order to allow all stakeholders to get a general overview of the various activities and deliverables, it is proposed to split the programme into 9 core workstreams: (I) governance, (II) user requirements, (III) functional specifications, (IV) non-functional specifications, (V) technical infrastructure, (VI) financial framework, (VII) legal framework, (VIII) testing & migration and (IX) information security management. Each of these workstreams is expected to result in a few deliverables, the majority of which require input from other workstreams and/or are input for other workstreams<sup>1</sup>.

In addition to these, there are two supporting workstreams that do not result in any significant deliverables that can be scheduled as part of a master plan, but which imply continuous efforts and indirectly are of crucial importance in order to keep all activities on track and to keep all stakeholders involved.

The first of these supporting workstreams consists in co-ordinating all other workstreams, in a way that keeps the overall process consistent. These activities, such as programme planning, budget monitoring, resource planning, quality management, project risk management etc. are performed by a Project office.

The second workstream consists in continuously informing all stakeholders, both direct (future) users of T2S, and associations and authorities that play an important role in keeping the momentum and in creating an environment of moral suasion for CSDs and their participants to join T2S. The tools commonly used to do this are speeches, bilateral contacts with CSDs, newsletters, information reports to the Governing Council, regulators, governmental bodies etc., special information seminars for CSD participants etc.

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<sup>1</sup> The numerous 4CB activities for the building of T2S (Project phase) and for the operation of T2S (running phase) are not mentioned in this overview. Only the 4CB activities which have a direct link with the management of the T2S programme are mentioned.

In addition to the 9 core and the 2 supporting workstreams, attention is drawn to two value adding workstreams, i.e. harmonisation and non-euro business. These are no project requirements since T2S can be delivered without independently from these activities. However, if there are requests from those two processes, this may have a significant impact on the majority of the core and supporting workstreams, given their inherently transversal nature.

This note aims at presenting only the core workstreams and deliverables and at proposing the most optimal timelines for each of them, taking into account their interdependencies and the expected resources. The table in annex 1 gives a synoptic overview of the most important issues presented in this note. Annex 2 gives a detailed overview of all deliverables identified so far.

The objective is that this note is further enhanced later, e.g. by also describing the objectives and main deliverables of the supporting and value adding workstreams, and by complementing it with a draft master plan.

It is important to note that the dates mentioned in this document are the result of careful considerations and planning exercises that have taken place in recent months. Nevertheless, they have to be taken as indicative dates, since continuous attempts are being made (and will continue to be made throughout the project phase) to further optimise the different processes and their interrelations. Thus they are of indicative and not of a legally binding nature.

# **1. Workstream I: Governance**

## **1.1 General objectives**

The Governance workstream aims at finding the adequate answers to the more fundamental questions in relation to the offering of securities settlement services by the Eurosystem. According to T2S principle 1, in line with the Governing Council's decision in July 2006 already, T2S will be fully owned and operated by the Eurosystem<sup>2</sup>. Nevertheless, principles 12 (on voluntary participation of CSDs) and 18 (on full cost recovery) create strong conditions for the Eurosystem to carefully take into account the views of the T2S users and to create the most appropriate decision-making structure.

The most pertinent questions in this respect are whether T2S (as a programme and/or as a product) should be managed by a separate legal entity, what are the possibilities for (future) T2S users to influence the decisions to be made by the Governing Council, what are the conditions for directly connected CSD participants and for CSDs located outside the euro area and/or settling non-euro transactions, as well as for the relevant central banks. Other questions still open for the post-specification phase relate to which fora are available to the various stakeholders to advise the Eurosystem, what is their mandate and how are they composed. A third set of question relates to the organisation of responsibilities within the Eurosystem.

## **1.2 Deliverables and interdependencies**

In terms of deliverables, the output of this workstream should only be a set of documents describing the necessary arrangements for the T2S decision-making process and that will describe the rights and obligations of 4CB vis-à-vis the Eurosystem. Input from other workstreams is not particularly needed and the only purpose of these documents is to serve as input for the legal workstream, which should incorporate all the relevant provisions in the contracts with the CSDs and in those with 4CB. In this respect, the Governance Workstream can be considered as fairly isolated from the rest of the project.

## **1.3 Timing**

The current governance arrangements are defined until the end of the specification phase. Nevertheless, the substantial elements of the future governance arrangements will have to be integrated in the legally binding arrangement with the CSD in Q1 2009 already. The final governance arrangements will be a fundamental element to be taken into account in the participation decisions by the CSDs, which should be made in advance of the user testing phase (see section 8 below). Therefore, in order to allow sufficient time to the CSDs for their internal decision-making after the governance arrangements have been defined, it would be advisable that this debate is closed at least 2 years before the planned go-live date. This gives the CSDs time for final decision-making, time to adapt their internal IT systems and to participate in the T2S user tests.

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<sup>2</sup> Throughout this document, references to "the ECB" are meant as references to the ECB project team, basically the T2S division at the ECB (including consultants and advisors), while references to "the Eurosystem" are intended to describe the community of euro area central banks, in most cases embodied by the ECB Governing Council.

## **2. Workstream II: User requirements**

### **2.1 General objectives**

On 17 July 2008, the Governing Council approved version 4.0 of the User Requirements (UR), which is used since then as the baseline version for the specification phase. This document reflects the current understanding between the market and the Eurosystem about which service(s) T2S should deliver.

Unfortunately the UR cannot be considered as static, since various stakeholders will see the need to improve the system by proposing changes. Such change requests follow a pre-defined process before being accepted or rejected. Those that are accepted, trigger amendments to the UR. Although it is logistically impossible to produce a new version for every approved change request, such new versions are intended to be produced annually in order to avoid that stakeholders have to check various documents (i.e. the last available version and all subsequent change requests) in order to know the precise situation or at the request of the AG (when deemed necessary).

### **2.2 Deliverables and interdependencies**

Ideally, this workstream should not generate any new deliverables, since the stability of the UR will be a key success factor for the project as a whole. Nevertheless, it is to be acknowledged that a number of issues have deliberately been left open in version 4.0 because of their complexity and/or potential controversy, and hence the impossibility to close them in time. It is therefore necessary to account for change requests to the UR, which in turn result in new versions.

The preparation of these documents does not require particular input from other workstreams, but input will be coming from a number of AG sub-groups. The UR are currently maintained on the basis of input from the Subgroup on User Requirements Management, the Subgroup on Process Efficiency and the Subgroup on Corporate Actions.

Besides the fact that these documents will be the basis for the functional and non-functional specifications, they will also be input for the legal framework and for the security assessment. The UR will also be used to establish the internal and external testing plans.

### **2.3 Timing**

Version 4.0 of the UR has been approved by the Governing Council on 17 July 2008. A number of change requests will most probably result in the production of a new version (4.1) by the end of February 2009 if requested by the AG. This will be the basis for the contract with the CSDs and for the GFS version 2.0 that will underpin the initial legal arrangement with 4CB, scheduled to be finalised by end March 2009.

As already indicated before, additional new versions of the UR will probably be unavoidable, in order to integrate approved change requests into a consolidated UR document from time to time. It is expected that UR version 5.0 will be produced by end 2009, approximately when the first complete version of the UDFS will be finalised. That version of the UR should in principle be frozen as the basis for the go-live. As from that moment, change requests should only be approved if a rejection or postponement would have a severe impact on T2S.

### **3. Workstream III: Functional specifications**

#### **3.1 General objectives**

This workstream covers all the activities that are necessary to allow 4CB to develop the software for the T2S application. Such software is usually built on the basis of detailed functional specifications (DFS), which are based on General Functional Specifications<sup>3</sup> (GFS). The latter are prepared on the basis of User Requirements (UR), the reference version of which (version 4.0) has been approved by the Governing Council on 17 July 2008.

While the DFS are in principle an internal document for 4CB, the User Detailed Functional Specifications (UDFS), form the basis on which the T2S users will adapt their internal systems to T2S. For T2S, the preparation of the UDFS is dependent on a particular activity, i.e. the definition of new messages as ISO20022-compliant messages, because the existing messages are not sufficient to cover all the T2S needs.

Like for the user requirements, the functional specifications cannot be considered as static, since various stakeholders will see the need – or at least the possibility – to improve the system by proposing changes. Such change requests follow a pre-defined process before being accepted or rejected. Those that are accepted, trigger amendments to the GFS and/or the UDFS. Although it is logistically impossible to produce a new version of these documents for every approved change request, such new versions will have to be produced from time to time in order to avoid that stakeholders have to check various documents (i.e. the last available version and all subsequent change requests) in order to know the precise situation.

In addition to the specifications, there will also be a need to prepare User Handbooks (UHB), which will explain how the T2S functions are to be used by the T2S users. This description will mainly cover the so-called “User-to-Application (U2A)” functions, i.e. those that are directly available to operators on the basis of web-based interactions with the T2S platform.

#### **3.2 Deliverables and interdependencies**

As already mentioned before, the main deliverables of this workstream are the first version of the GFS and UDFS, as well as change requests, which in turn result from time to time in new versions of these documents. In addition, the users will receive a UHB, explaining how the T2S functions, in particular the U2A functions, can be used.

The preparation of these documents does not require particular input from other workstreams, but input will be coming from a number of AG sub-groups, 4CB working groups and ECB task forces. They will be drafted by the 4CB and validated against the UR by the ECB Functional Validation Task Force / ECB Project Team, while the preparation of the message formats for the UDFS has already started at 4CB, and benefits from a close involvement of market participants via a AG Subgroup on Message Standardisation.

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<sup>3</sup> The GFS consist in an annex to the General Specifications (GS). The first (draft) version of the GS will be published in the first quarter of 2009.

Besides the fact that these documents will be decisive for the way the T2S application will actually work, they will also be input for the legal framework and for the security assessment. The UDFS will also be used to establish the internal and external testing plans.

The UHB are prepared by 4CB on the basis of the UDFS and the actual T2S application. They will be used to prepare user trainings. No input is needed from other workstreams.

### **3.3 Timing**

A first version of the GFS will be published in Q1 2009. The GFS version, which will be part of the legal arrangement between the Eurosystem and 4CB, is scheduled to be final in Q2 2009.

Version 1.0 of the UDFS is scheduled to be final by mid-January 2010, at which point in time also a new version of the UR is expected, in order to keep the documents fully consistent. The finalisation of version 1.0 of the UDFS will mark an important turning point in the project. As from that moment, change requests will have to be approved not only on the basis of their costs and merits, but also on the basis of their urgency. In case they are not considered important enough to be available when T2S goes live, they will be put on the waiting list for one of the next releases. This is to avoid that the 4CB, the testing teams and the CSDs will be trying to hit a “moving target”. Indeed, the UDFS will have to be considered “frozen” as from a certain point in time, allowing the IT developers to do their work on the basis of stable specifications. It is proposed that this “freezing moment” takes place when version 3.0 of the UDFS is finalised, currently scheduled for end 2011. As from that moment, change requests should only be accepted if they are indispensable for the go-live of T2S.

As far as the UHB are concerned, a first version is expected to be ready before the user testing starts, i.e. in Q2 2012. The final version should be ready soon before the go-live date, updated on the basis of experience gained during the user tests.

## **4. Workstream IV: Non-functional specifications**

### **4.1 General objectives**

Besides the functional aspects of T2S, arrangements are equally important in establishing the service offering by the Eurosystem to the CSDs. This is mainly related to the technical performance of the system, as well as the operational procedures.

The technical performance relates to questions such as processing capacity, maximum response times to queries, latest times to send notifications and/or regular reports to the users, etc. In addition, it is important to agree with 4CB (and with the users) on how these criteria will be measured, in order to define the appropriate service levels.

The operational requirements mainly relate to the operating days and hours of the system, the support provided by 4CB during and outside these hours, the escalation procedures in case of incidents, communication arrangements with individual users and/or with the community, etc.

For both technical performance and operational procedures, there are two sides to the story: on the one hand, the Eurosystem will have to agree with the users what they expect in terms of service level, while on the other hand the product offered by 4CB will have to match these requirements. These two aspects cannot be separated, neither in time, nor in substance, and will have to be managed in parallel.

### **4.2 Main deliverables and interdependencies**

Important deliverables of this workstream are the Service Level Agreements (SLA), both with 4CB, and with the T2S users. These SLAs will contain as precisely as possible the technical and operational commitments taken by the service providers for the benefit of their customers. In that sense, they will be an important and integral part of the contractual arrangements.

The technical performance and operational support requirements will also have an impact on the cost of building and operating the service, and will be an important input for the cost/pricing workstream.

In addition to the SLAs, the operators and the users need a manual of operational procedures (MOP), which describes from a process-oriented perspective how situations, e.g. incidents, will be handled and what are tasks which different stakeholders are expected to fulfil.

### **4.3 Timing**

The SLAs should be ready by Q3 2012. It will form part of the contractual arrangements for the operational phase between the Eurosystem and the CSDs. It is expected that already for the contractual arrangements for the development phase, the main service level elements, or at least a set of minimum performance/support criteria, will have to be specified.

As for the MOP, the proposal is that a first version should be ready Q2 2012, i.e. some time before the user testing starts, and that the final version should be ready shortly before the go-live, updated on the basis on experience gained during the user testing.

## **5. Workstream V: Technical infrastructure**

### **5.1 General objectives**

Like in any project, the technical infrastructure is likely to be the most tangible output of the T2S project. It is the tool that will ultimately allow the Eurosystem to offer settlement services to the T2S users. In principle, this workstream consists mainly of combining all hardware, software and network components into a technical system that meets all user requirements and specifications. Typically, such systems are built several times, as testing environments – with lower capacity and backup arrangements – and as production environments, capable of offering the full service as agreed between the parties.

### **5.2 Main deliverables and interdependencies**

4CB will deliver a document called “General technical design” (GTD)<sup>4</sup>, which will be reviewed by the Eurosystem, as a result of which a “Technical Assessment Report” will be produced.

Thereafter the testing platforms and the production platforms will be provided by the 4CB.

While the testing platform is an absolute pre-requisite for the internal 4CB, acceptance and user tests, the production platform is the necessary starting point for the migration (after some volume and business continuity tests). The latter, as well as the technical design documentation will also be an important input for the security assessment.

In terms of input required from other workstreams, the test platform will mainly be built on the basis of the functional specifications, while the production platform will also have to take on board the non-functional requirements, in particular those related to the technical performance.

### **5.3 Timing**

The first version of the General technical Design will be ready by Q1 2009, in order to allow the technical review process to take place at an early stage of the building phase, so that possible deficiencies identified can be eliminated as early as possible.

Starting from the assumption that T2S will go live in Q2 2013, the production environment should be ready approximately 6 months in advance, in order to perform the volume and business continuity tests, and to strengthen the system’s performance in case the initial tests would not be satisfactory. This would mean that the production platform should be ready by Q4 2012.

The testing platform should be ready at the latest when the acceptance tests are about to start, i.e. approximately 12 months prior to go-live, which means Q2 2012.

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<sup>4</sup> The General Technical Design consists in an annex to the General Specifications (GS). The first version of the GS will be delivered in the first quarter of 2009.



## **6. Workstream VI: Financial framework**

### **6.1 General objectives**

In terms of financial flows between stakeholders, the set-up of the T2S project is a two-stage concept. On the one hand, the 4CB will make a cost assessment on the basis of the first stable version of the GFS, which will be charged to the Eurosystem on the basis of a schedule still to be defined. On the other hand, the CSDs will outsource their settlement activity to the Eurosystem, who will use T2S (procured from the 4CB) to provide the (technical) settlement services to the CSDs. The latter will pay a price to the Eurosystem on the basis of a pricing scheme still to be defined. Consequently, from the Eurosystem's perspective, there are two separate financial processes, which are formally completely separated, even if economically both are expected to match (taking into account the ECB's own costs): the compensation to be paid to 4CB for providing and operating T2S, and the fees to be received from the CSDs for the provision of the (technical) settlement services.

### **6.2 Main deliverables and interdependencies**

On the procurement side, the main deliverable is the (conditional final) offer from 4CB. The input needed to finalise this are the GFS. In addition, in order to reassure the Eurosystem that the 4CB costs (which are the basis for this offer) are calculated according to the common ESCB methodology, an audit is expected to be organised, the result of which will be a report to the ECB Governing Council. This report may result in some amendments to the offer from 4CB, before it is accepted by the Eurosystem, and can be attached to the contract with the 4CB.

On the selling side, the main deliverable is the pricing scheme, which will need to be integrated in the legal arrangements with the CSDs. Most likely, this scheme will not be developed from scratch, but on the basis of a pricing policy, that will need to be discussed with the market and approved by the ECB Governing Council. In addition, the scheme cannot be developed before clarity has been provided about (i) the real final cost, i.e. the price to be paid to 4CB and the Eurosystem's own costs and (ii) a detailed list of the services that have to be priced. For the policy note no specific input is expected from other workstreams or deliverables. For the pricing scheme up-to-date volumetric assumptions are needed.

As soon as the pricing scheme (and its detailed implementation) is finalised, the billing specifications (for the invoices to be sent to the CSDs) should also be finalised. In case the decision is made to integrate these specifications into the T2S application, 4CB will need to develop the software. Alternatively, it could be decided to buy a billing software, which would result in a procurement procedure. In any case, the billing application will need to go through a testing phase, before it can actually be used.

### **6.3 Timing**

Together with the finalisation of the GFS by March 2009 or shortly after, the 4CB are expected to present their conditional final offer to the ECB, which should be accepted by mid 2009, on the basis of an audit report.

Regarding the pricing schemes, since these are important for the CSDs to make their final decision whether or not to join T2S, they should be ready sufficiently long in advance in order to allow a sound internal decision-making process. Given that a positive decision will be the trigger for them to allocate resources to amend their internal systems in accordance with the UDFS, it is important that a first version of the pricing schemes is ready around the same time as the UDFS 1.0, i.e. Jan 2010. The pricing policy should therefore be defined by mid 2009.

The finalisation of the pricing schemes by Q4 2010 should also allow to develop the billing specifications and to develop/procure the necessary software and test it in view of the first invoicing shortly after the go-live of T2S.

## **7. Workstream VII: Legal framework**

### **7.1 General objectives**

The overall T2S legal framework will consist of a multifaceted approach. The CSDs (and non-euro NCBs) will enter into a contractual relationship with the Eurosystem, specifying the mutual rights, obligations, expectations and liabilities. This will be complemented by the Eurosystem internal legal set-up, which will define the attribution of tasks within the Eurosystem, in particular as regards the 4CB. These external and Eurosystem internal legal arrangements will to a large degree have to follow a back-to-back concept: the obligations regarding the provision of T2S services by the Eurosystem to the CSDs will have to be backed by similar obligations of the 4CB towards the Eurosystem.

### **7.2 Main deliverables and interdependencies**

Towards the CSDs, it is envisaged to have two steps: first the legal arrangement for the specification and development phase, together with some fundamental aspects that will apply to the production phase; then at the latest before the start of the migration phase, the legal arrangements for the production phase will have to be finalised. The drafting of the legal arrangements is dependent on input expected from a number of other workstreams/deliverables. For the specification and development phase, this concerns mainly the Eurosystem internal governance, the general features of the pricing scheme and the programme management/programme plan including the identification of key milestones. This in turn requires delivery of GS, the GFS, the UR/GFS change management procedures, the 4CB project schedule and the conditional final offer. For the legal arrangement for the operational phase, final versions of all these deliverables will be needed, in particular the UDFS, the final financial offer, the Service Level Agreement, the release management procedures and the T2S security framework.

The legal framework for T2S will have to be complemented by the Eurosystem internal legal arrangements necessary to define the Eurosystem internal allocation of tasks and responsibilities.

Finally additional legal arrangements will have to be established, e.g. in relation to non-euro NCBs or third party service providers.

### **7.3 Timing**

The legal arrangements for the specification and development phase, both regarding the CSDs and the Eurosystem internal arrangements (including with the 4CB) are scheduled for Q1 2009, pending the input from the various other workstreams; while the contracts for the operational phase can be finalised shortly before the start of the user tests, e.g. by Q3 2012.

## **8. Workstream VIII: Testing and migration**

### **8.1 General objectives**

This workstream consists of two separate sub-workstreams. The main objectives of testing are the following:

- for the Eurosystem to accept the software application on the basis of the UDFS; possibly with involvement of the users
- for the CSDs to accept the software application on the basis of the UR;
- for the Eurosystem to certify that the CSDs are able to use the T2S functions in a proper way (user tests).

The objectives of the migration activities is to ensure that the CSDs that have been certified move their internal settlement activity to T2S in a way that is most efficient and cost-effective, both for the individual CSDs, and for the financial community as a whole (including RTGS and collateral management systems).

### **8.2 Main deliverables and interdependencies**

For the sub-workstream on testing, the Eurosystem should first agree on a testing strategy before the actual testing plans can be elaborated. These testing plans consist of two parts: functional testing (for the testing platform) and non-functional testing (for the production platform). While an agreement on the testing strategy does not depend on input from other workstreams, the elaboration of the functional test plans can only be finalised once the UDFS are final and the actual tests can only start once the testing platform has been made available. For the non-functional test plans (mainly related to throughput capacity and site failover times), they can be prepared without any particular input, but the actual tests on the production platform can only start once it has been made available and once a stable version of the Service Level Agreements is ready, in order to know what are the performance targets. Due to their technical nature, these tests will be under the 4CB responsibility but the Eurosystem will be closely involved in the preparation and the performance of those tests, and will receive from the 4CB a report presenting the tests and their results. Some elements of the testing strategy will need to be integrated in the legal arrangements with 4CB and with the CSDs.

For the sub-workstream on migration, the migration strategy should also come before the migration plans can be elaborated. Some elements of the migration strategy will need to be integrated in the legal arrangements with 4CB and with the CSDs. No specific input is requested from other workstreams.

For both migration and user testing, the AG subgroup on testing and migration is expected to be the coordinating body. The testing and migration activities themselves are expected to be coordinated by the ECB, in direct relationship with the 4CB, each individual CSD, each individual NCB or directly connected CSD participant.

### **8.3 Timing**

The testing and migration strategies should ideally be ready by Q1 2009, i.e. in time for the initial contracts with 4CB and with the CSDs. The acceptance test plans should be ready at the latest when the

testing platform will be made available, i.e. by Q2 2012. Similarly, the user test plans should be ready shortly before the user tests start, i.e. by Q4 2012.

The tests are split into two parts: the ECB acceptance tests will take place as of Q3 2012, and the user tests that will take place between Q4 2012 until shortly before the start of the migration, i.e. Q2 2013.

## **9. Workstream IX: Information security management**

### **9.1 General objectives**

The objectives of the workstream on information security management are to ensure that T2S will be managed and operated in accordance with international standards in terms of confidentiality, integrity and availability of information no matter which form it takes (e.g. stored electronically, transmitted across networks). The ECB and 4CB have agreed on a IS management framework based on the internationally recognised standard ISO 27002/17799<sup>5</sup>. It first identifies the “sources of risk” (in the form of a risk analysis) to the asset information, and then chooses the appropriate response to these threats, called “security controls”.

This “risk-control” relationship is consistently used throughout the risk management process. Standard security controls are assigned to the sources of risk they are addressing. It is then checked whether the specified security controls are implemented and effective. Subsequently the risks associated with any non-compliance are being estimated in terms of likelihood (probability) and impact (consequences). The reporting mechanism brings the outcome of the risk assessment to the attention of the system owner and asks for a decision (risk acceptance or risk mitigation).

### **9.2 Main deliverables and interdependencies**

There are mainly four deliverables that are expected to come out of this workstream. First, the T2S information security policy is needed, specifying the scope of the system that will be subject to the IS management framework and defining other guiding principles related to risk management. Apart from the user requirements and governance, no particular input is needed from other workstreams, but it forms the basis for the second deliverable, i.e. the security requirements and controls. Once this is completed, the general technical design (and other general – particularly non-functional – specifications) can be finalised. On the basis of the security requirements and controls, the 4CB will prepare the risk analysis, which indicates the controls that are actually in place and the estimated risk associated with any non-compliance. This is then input for the security assessment report, to be performed by the ECB, in co-operation with 4CB, and which will result in a comprehensive and structured overview of the risk situation that is to be submitted to the ECB Governing Council. If any risks are identified, action will be proposed through the decision making process whether a risk should be further mitigated or can be accepted.

### **9.3 Timing**

Starting from the last deliverable, which has to be finalised shortly before the start of the migration, i.e. Q2 2013, the security assessment report should preferably be prepared at least 3 months before, i.e. by Q1 2013. The preparation of the risk analysis, serving as input for the report, is a very intensive activity, consuming considerable resources from 4CB which should be completed by Q3 2012. In order

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<sup>5</sup> ISO/ICE 27002:2005 comprises ISO/ICE 17799:2005 and ISO/ICE 17799:2005/Cor.1:2007. Its technical content is identical to that of ISO/IEC 17799:2005. ISO/IEC 17799:2005/Cor.1:2007 changes the reference number of the standard from 17799 to 27002.

to take the security requirements and controls into account in the design of the platform, those should be ready by Q2 2009. The security policy should be ready as well by Q2 2009.

Workstream	Main deliverables	Planned due date	Input for ...	Input required from ...
I. Governance	Substantial elements	2009 Q1	Legal framework, in particular: Legally binding arrangement Eurosystem internal legal set-up	T2S management
	Governance arrangements for operation phase	2011 Q2	CSD contracts Eurosystem internal legal set-up	
II. User requirements	URD v4.1	2009 Q1	Legal framework	SG-User Requirements Management
	URD v5.0	2009 Q4	Testing plans	SG-Process Efficiency
	URD v6.0	2010 Q4		SG-Corporate Actions
	URD v7.0	2011 Q4		
	URD v8.0	2012 Q4		
III. Functional specifications	GFS v1.0	2009 Q1	Legal framework	URD
	GFS v2.0	2009 Q2	Information Security	TF-Functional Validation
	UDFS v1.0	2010 Q1	Legal framework	GFS
	UDFS v2.0	2010 Q2	Testing plans	SG-Message Standardisation
	UDFS v3.0	2011 Q4	Information Security	WG-Message Specification



	UDFS v4.0	2013 Q1		
	UHB v1.0	2012 Q2	Information Security	UDFS
	UHB v2.0	2013 Q2	Operational management procedures	4CB
IV. Non-functional specifications	Manual of Operational procedures	2012 Q2	Legal framework Testing plans Information Security	SG-Operational procedures
	SLA with 4CB - Substantial elements - Final arrangements	2009 Q1 2012 Q3	Eurosystem internal legal framework 4CB	SG-Non-Functional Requirements
	SLA with T2S users - Substantial elements - Final arrangements	2009 Q1 2012 Q3	Contract with CSDs	
V. Technical infrastructure	General technical design	2009 Q1	Information Security General specifications	4CB
	Test platform	2012 Q2	Acceptance testing User testing Certification of T2S users	UDFS
	Production platform	2012 Q4	Technical tests (volumes, failover)	GFS

			Migration	Non-functional requirements/specifications
VI. Financial framework	Final conditional offer	2009 Q2	Pricing schemes	4CB
	Pricing schemes	2010 Q4	Contracts with CSDs Contracts with non-€CBs	
VII. Legal framework	Contracts with CSDs		Start of migration	Functional requirements/specifications Non-functional requirements/specifications Testing/Migration Governance Cost/pricing
	- contract for specification and development phase	2009 Q1		
	- contract for operational phase	2012 Q3		
	Eurosystem internal legal framework with 4CB		Start of migration	
- For development phase	2009 Q1			
- For operational phase	2012 Q3			
	Contracts with non-€CBs	tba		
VIII. Testing/migration	Testing strategy	2009 Q1	T2S users Legal framework	URD UDFS
	Testing plans	2012 Q2	Test teams T2S users	SG-Testing/Migration

	Migration strategy	2009 Q1	T2S users	
	Migration plans	2012 Q1	T2S users Legal framework	
	Start acceptance testing	2012 Q3	User testing	Test platform Functional acceptance test plans
	Start user testing/certification	2012 Q4	Migration	Functional user test plans Result of acceptance tests
	Start technical testing	2013 Q1	Migration	Production platform Technical test plans
	<b>Start of migration</b>	<b>2013 Q2</b>	<b>EFFICIENT POST-TRADE PROCESSES FOR EURO- DENOMINATED TRANSACTIONS</b>	<b>Result of User testing/certification</b> <b>Result of technical test</b> <b>Security assessment</b> <b>Final contracts with CSDs</b> <b>Final contracts with 4CB</b>
IX. Information Security				
	T2S Information Security Policy	2009 Q2	4CB ExB/GovC T2S Security Requirements and Controls	T2S Management URD Governance

T2S Security Requirements and Controls	2009 Q2	Risk analysis	URD GS
Risk analysis (4CB)	2012 Q3	Security assessment report	
Security assessment report (ECB)	2013 Q1	Start of migration	Functional requirements/specifications Non-functional requirements/specifications Technical infrastructure

## Detailed list of identified deliverables

### **Workstream I: Governance**

- Governance development phase- initial views
- Governance development phase - final document
- Governance production/operational phase - initial views
- Governance production/operational phase - final document

### **Workstream II: User requirements**

- URD 4.0
- URD 4.1
- URD 4.2 (URD with CRs from open issues list)
- URD 5.0 ("frozen" URD at end of specifications phase)

### **Workstream III: Functional specifications**

- GS V1- main document
  - GS V1- 4CB specific (4CB organisation)
  - GS V1- 4CB domain (technical architecture)
  - GFS V1
  - GS V2 - main document
  - GS V2 - 4CB domain (technical architecture)
  - GFS V2
  - UDFS V1
  - UDFS V2
  - UDFS V3
  - UDFS V4
  - UHB V1
  - UHB V2
- 
- ISO standards - to be used in T2S (to be included in the UDFS)

### **Workstream IV: Non-functional specifications**

- ECB/4CB work allocation during the production phase (roles and responsibilities)
  - System management framework (roles and responsibilities)
  - Manual of Operational procedures
  - Crisis management procedures
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- T2S high level SLA-CSDs for production phase
  - T2S detailed SLA - CSDs for the production phase
  - T2S high level SLA 4CB for production phase
  - T2S detailed SLA-4CB for the production phase

**Workstream V: technical infrastructure**

- General technical Design
- Technical Assessment Report
- Test/functional acceptance system
- Production platform
- Technical Design documentation

**Workstream VI: financial framework**

- Pricing principles
- Pricing approach and framework high level
- Pricing approach and framework detailed level
- Pricing scheme and price brochure
- Service catalogue
- Billing application specification
- CRs for pricing requirements
- Review of economic hypothesis
- ESCB business case (cost analysis)
- Financing guide
- Offer from 4CB to ECB
- Total project costs estimates from ECB to the market
- Review of the 4CB offer – audit report
- Financial reporting scheme full cost recovery

**Workstream VII: legal framework**

- Arrangements CSD-Eurosystem specif. and dvt phase
- Arrangements CSD-Eurosystem test and migration phase and prod phase
- Arrangements Eurosystem internal, including 4CB specif. and dvt phase
- Arrangements Eurosystem internal, including 4CB test and migration phase and prod phase
- Arrangements non euro countries specif. and dvt phase (NCB) -
- Arrangements non euro countries testing and migration phase and prod phase (NCB) -
- Arrangements non euro countries specif and dvt phase (CSD) -
- Arrangements non euro countries testing and migration phase and prod phase (CSD) -
- Arrangements for interaction with TARGET2
- Arrangements for interaction with CCBM/CCBM2

## Other legal issues:

- Declaration of comfort by DG Comp
- Competition law aspects of the pricing principles
- Regulatory requirements of relevance to CSDs
- Intellectual property and trademark legal issues
- Confidentiality and non-conflict of interest regime
- Change management procedure
- Auditing framework
- Tax framework
- Continuous assessment of changes to national and EU legal regimes of relevance
- Continuous assessment of changes to national and EU regulatory regimes of relevance

- Legal harmonisation (LCG, UNIDROIT, Conflicts of law)
- Harmonisation of regulatory rules (CESR)

### **Workstream VIII: testing and migration**

- Testing and Migration strategy
- System Acceptance criteria - Market acceptance
- System Acceptance criteria - Eurosystem acceptance
- Test plan and test cases for Eurosystem testing
- Test plan and test cases for User testing (incl. certification)
- Test report/acceptance report

### **Workstream IX: information security management**

- T2S security framework
- Security policy
- Security requirements and controls
- Risk analysis
- Pre-production security assessment