



## D3.4: Training Material & Programme, Iteration 1

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WP 3 – Dissemination and Training

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## List of Acronyms

RTD	Research, Technology and Development
DoW	Description of Work
TIMBUS	Timeless Business Processes and Services
WP	Work Package
WP2	Work Package Exploitation
WP3	Work Package Dissemination and Training
SAP	SAP AG
SBA	Verein zur Förderung der IT-Sicherheit In Österreich
SQS	Software Quality Systems AG
ITM	Westfälische Wilhelms-Universität Münster
INESC-ID	Instituto de Engenharia de Sistemas e Computadores, investigacao e Desenvolvimento em Lisboa
INTEL	Intel Performance Learning Solutions
CAIXA	Caixa Mágica SoftwareLDA
MAGICA	
LNCC	Laboratório Nacional de Engenharia Civil
KIT	Karlsruher Institut für Technologie
DPC	Digital Preservation Coalition
SME	Small and medium-sized enterprises
EC	European Commission
EU	European Union
ERM	Enterprise Risk Management
iERM	Intelligent Enterprise Risk Management
BPC	Business Process Continuity
BCM	Business Continuity Management
PCC	Project Coordination Committee, called 'General Assembly' in the Consortium Agreement
PM	Person Months
AV	Audio-visual
APARSEN	Project; <a href="http://www.alliancepermanentaccess.org/index.php/aparsen/">http://www.alliancepermanentaccess.org/index.php/aparsen/</a>
OPF	Open Preservation (Planets) Foundation; <a href="http://www.openplanetsfoundation.org/">http://www.openplanetsfoundation.org/</a>
Planets	Project; <a href="http://www.planets-project.eu/">http://www.planets-project.eu/</a>
SCAPE	Project; <a href="http://www.scape-project.eu/">http://www.scape-project.eu/</a>



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## 1 Executive Summary

This document is a report on the TIMBUS training material and programme as of the end of Year 2 (March 2013). It describes the training goals, stakeholder analysis, training methodologies, and material produced so far and planned for the rest of the project. It also accounts for the events that have been delivered, including their evaluation, and planned future events.

The output of the TIMBUS training programme at this point covers key foundation and intermediate topics relating to business process preservation. During the remainder of the project material more specific to TIMBUS outputs will be produced with an emphasis on tool demonstrations and methodological studies.

A variety of materials have been produced. Slides, standardised training plans to be used by trainers, online audio-visual materials, hands-on exercise worksheets with solution keys, and supplemental research papers have been made available on the TIMBUS website. Additionally, a standard set of organisational templates enables the effective organisation and evaluation of events.

The TIMBUS events held so far were highly successful. They addressed a variety of audiences internal and external to the project and in a variety of sectors and regions. Events were either wholly TIMBUS-run or co-organised, and were taught completely from TIMBUS developed materials or supplemented by guest speakers. We employed a variety of teaching methods, such as presentations, hands-on exercises, tool demonstrations and delegate interaction. Making the material available online will ensure sustainability of the TIMBUS training efforts.

This report describes these issues in detail.

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## 2 Introduction

The TIMBUS project on “Digital Preservation for Timeless Business Processes and Services” is a large-scale pan-European project co-funded by the European Union under the Seventh Framework Programme (FP7) and coordinated by SAP AG.

It focuses on **resilient business processes**. It makes the execution context, within which data is processed, analysed, transformed and rendered, accessible over long periods. Furthermore, continued accessibility is often considered as a set of activities carried out in the isolation of a single domain. TIMBUS, however, considers the **dependencies on third-party services, information and capabilities** that are necessary to validate digital information in a future usage context.

TIMBUS will deliver

- **processes** and **methods** for digitally preserving business processes.
- a flexible and extensible software **architecture** that supports the major technical components and prototypes from TIMBUS.
- intelligent **tools** and **technologies** to support digital preservation of business processes.
- **use cases** to guide the development of and with which to validate TIMBUS products. They are
  - engineering services and systems for digital preservation,
  - civil engineering infrastructures,
  - eScience in the field of pharmaceuticals.

to ensure

- **continued access to services**
- to **produce the context** within which information can be **accessed, properly rendered, validated and transformed into knowledge**.

This approach extends traditional digital preservation approaches by introducing the need to analyse and sustain accessibility to business processes and the supporting services, and it aligns preservation actions with enterprise risk management (ERM) and business continuity management (BCM). The complexity and scale of enterprise business processes makes TIMBUS exceptionally relevant.

For more information on the background of the project as well as further details on work packages, please refer to Annex I - “Description of Work” of the original project contract.

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Effective dissemination and training activities will ensure the widest possible adoption of these results in the user community as well as enabling commercial tool and service providers to compete in a new market place for differentiated preservation services and tools. WP3 is the Dissemination and Training component of the TIMBUS project. Its purpose is to raise awareness of TIMBUS, engage and involve prospective users of TIMBUS, and to maximise adoption of TIMBUS methodology, technology, and services. This is achieved through a variety of communication channels, such as internet presence, representation in standards bodies, publications and presentations at regional and international forums, training events and demonstrators. It forms constructive partnerships with EU and other digital preservation projects, TIMBUS partner institutions, funding bodies and wider intermediaries and influencers, such as trade and professional bodies in target territories.

WP3 draws on the findings of research conducted in WP2 (Exploitation) to inform outreach activities. Demonstrators and case studies will be deployed as part of the training program to support users embedding TIMBUS in their organisations. The two work-packages will collaborate in building a central resource of institutional and intermediary contacts which the project can draw on for input to TIMBUS development.

The TIMBUS Training task is part of TIMBUS Workpackage 3 on Dissemination, Standards and Training. It creates learning materials that will serve as one vehicle for making the outputs of TIMBUS research sustainable and widely accessible. These materials will help a wide stakeholder base across many sectors to acquire the necessary knowledge and skills to effectively apply the TIMBUS project's processes, methods and technology to their own process preservation needs.

The Training task has 4 main phases:

- A phase that produces project-internal training material on background topics in Digital Preservation and Business Continuity Management. Their goal is to level the research playing field for project participants from different backgrounds.
- Following the Planning, Preservation and Redeployment steps of TIMBUS,
  - A phase that produces a general presentation of the objectives and the contents of the TIMBUS project in the form of introductory tutorials. They help establish the business and economic risk associated with not engaging in long term business continuity management and how to plan for long term business continuity management following the TIMBUS approach.
  - A phase that produces training courses focusing on the technology resulting from RTD activities. The following technologies form components that can be flexibly placed into a general training programme or an industry specific programme: Intelligent ERM; Service Dependency Analysis and Reasoning; Legalities Lifecycle Management; Software Service Engineering for Digital Preservation; Business Process Virtualisation and Storage; and Business Process Redeployment and Integration.

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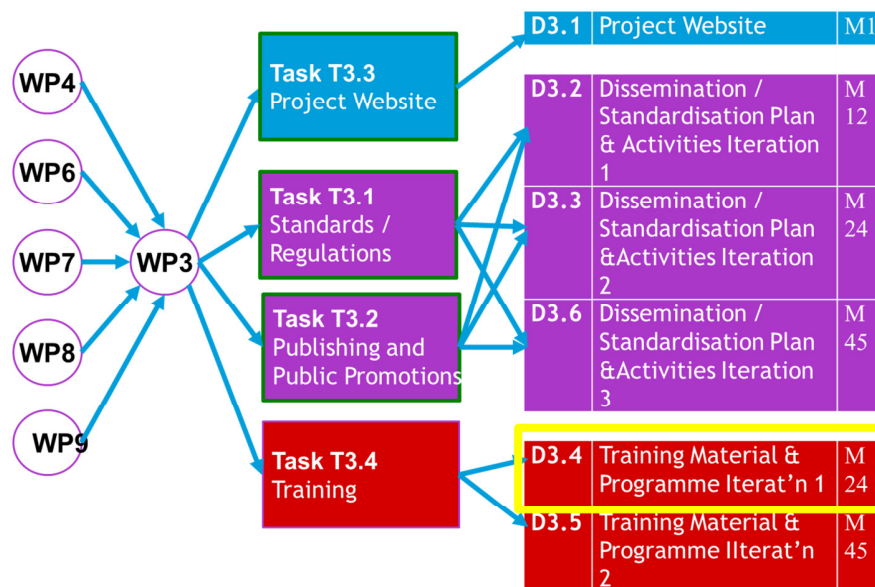
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Workpackage 4 on methodologies, workpackage 6 on tools, and the industrial use cases (workpackages 7-9) are the primary sources of material for this aspect of training.

- A phase that produces material to instruct training personnel. The business need for TIMBUS will continue to increase in the coming years and training must be available beyond the end of the project through third parties.

Training is performed under the leadership of the Digital Preservation Coalition and includes all consortium members.

The TIMBUS Training task will report on its work in 2 instalments. This deliverable, D3.4, is a report on the TIMBUS training material and programme as of the end of Year 2 in March 2013 (see Figure 1). It describes the training goals, stakeholder analysis, training methodologies, material produced so far and planned for the rest of the project. It also accounts for the events that have been delivered, including their evaluation, and planned future events.



**Figure 1: Dissemination, standards and training deliverables produced by workpackage 3 resulting from TIMBUS RTD. The yellow box indicates the first iteration of the training report.**

The output of the TIMBUS training programme at this point covers key foundation and intermediate topics of business process preservation. Each topic (or module) is covered in at least one introductory sub-module, and may additionally contain sub-modules on in-depth studies of specific sub-topics or hands-on exercises. The target audience is a mix of stakeholders with backgrounds in digital

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preservation and in business continuity and risk management. Because of these diverse backgrounds it was necessary to develop introductory, self-contained materials that required no background knowledge. On top of these introductory sub-modules we have created in-depth studies and introduced the first tool prototypes developed in TIMBUS to illustrate the direction of research. In the remainder of the project material more specific to TIMBUS will be produced with an emphasis on tool demonstrations and methodological studies.

A variety of materials have been produced. In addition to the slides that were created for training purposes, we put together standardised training plans to be used by trainers that state learning goals and teaching methodology. For the key modules we produced online audio-visual materials. A first set of hands-on exercise worksheets have also been compiled, together with solution keys. This material can be supplemented by TIMBUS research papers. All of these materials have been made available on the TIMBUS website. The creation of a standard set of organisational and evaluation templates will enable the effective organisation and evaluation of events.

The TIMBUS events held so far were highly successful, attracted good attendance and achieved very positive feedback. We sought a variety of audiences. Some TIMBUS training material was used internally to the project in order to assure that project participants were brought up to speed in all relevant areas. This and additional material coming out of the project research has also been made available for external use. Several events catered for the traditional Digital Preservation community in memory organisations and universities and familiarized them with topics relating to digital resilience and disaster recovery as well as legal issues. We also organised events for the business continuity community and the storage infrastructure industry introducing them to digital preservation issues and the potential of integrating digital preservation aspects into their domains. Additionally we targeted Ireland and Northern Ireland as a region inviting a broad array of industries local to the area, where we hosted the first full-day TIMBUS-only training day.

For training delivery we chose a mix of TIMBUS run and co-organised events. We either taught the events completely from TIMBUS developed materials or supplemented them with guest speakers. We employed a variety of teaching methods. In addition to presentations, we had hands-on exercises, tool demonstrations and delegate interaction. Making the material available online will help to ensure continuous sustainability of the TIMBUS training efforts.

In the second half of the project we will continue on the same trajectory but develop increasingly TIMBUS-specific materials. We will also target new audience groups, such as civil engineers and legal experts. Our planning collaboration with other EU projects, such as APARSEN and SCAPE<sup>1</sup>, will be

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<sup>1</sup> APARSEN Project; <http://www.alliancepermanentaccess.org/index.php/aparsen/>; SCAPE Project; <http://www.scape-project.eu/>

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translated into the co-ordinated development of training suites and into larger-scale co-organised events. We will provide a training programme that ensures the successful take-up of TIMBUS project outputs.

The sections of this document will cover the following:

- Section 3 defines the training goals considering available effort.
- Section 4 presents a stakeholder analysis.
- Section 5 examines the training methodologies and materials that have been developed, including training plans and tools for event organisation.
- Section 6 discusses the training events that have been held, including their evaluations, lessons learnt from the training events and conclusions drawn that will influence future actions.
- Section 7 discusses materials and events planned for the future, including collaborative efforts with other EU projects.

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### 3 Training Goals

We will provide a training programme that ensures the successful take-up of TIMBUS project outputs.

#### Training Objectives

The TIMBUS training goals are informed by the objectives of the TIMBUS dissemination and training strategy established in Year 1 and reconfirmed in Year 2. These objectives are as follows:

1. to foster project internal communication, cohesion and information exchange.
2. to raise stakeholder awareness of the benefits TIMBUS products provide.
3. to promote TIMBUS results and inform stakeholders of significant milestones reached.
4. to make TIMBUS products available to the community.
5. to maximise adoption of TIMBUS products
  - a. of TIMBUS methodology, technology, and services.
  - b. of TIMBUS specifications in appropriate standards and regulatory bodies.
6. to provide sustainable training material that can be used past the end of the project.
7. to collaborate and align TIMBUS results with external initiatives and, possibly, form alliances.
8. to manage external expectations of TIMBUS.
9. to support exploitation
  - a. through dissemination and training activities that lead to the successful exploitation of TIMBUS products.
  - b. to use outreach events as an opportunity for open dialogue with key stakeholders and user communities to gather requirements and to understand the impact of emerging technological trends on them, and adjust TIMBUS tools and services accordingly.

In particular our training objectives aim at:

- developing online sustainable learning materials that open up our core-strengths to a wide community.
- developing components for a co-ordinated digital preservation educational programme for the European Community
- providing capabilities to consultancies, SME technology developers, and vendors.

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## Digital Preservation Training Needs

Over the course of 2012 the APARSEN project developed a study “APARSEN Deliverable, D43.1 Survey for the Assessment of Training Material/Assessment of Digital Curation Requirements” (Cirinnà, McMeekin, Kilbride, 2012). It investigates in depth the digital preservation skills required in a breadth of sectors, current digital preservation training provisions, and the gaps apparent from this analysis. The study concludes that the topics in Table 1 are in need of development. TIMBUS research and training addresses a large number of these topics.

**Table 1: APARSEN Identification of training gaps in relation to specific topics (Training coverage - green: topic well covered, amber: some training coverage, red: limited or no training available)**

Topic	APARSEN Rated Need	TIMBUS Coverage
Preservation Planning	amber	green
Discovery and Access (Package Description)	amber	n/a
Annotation and Data Quality	red	n/a
Representation Information and Preservation Description Information	amber	green
Accessibility (incl. interoperability and usability)	red	n/a
Sustainability	red	green
Digital Preservation Policy	red	green
Enabling Novel Uses of Archived Data and Releasing Value	green	green
Legislation and Regulatory Frameworks	amber	green
Digital Rights Management	amber	green
User Analysis (understanding Designated Communities)	red	n/a
Authenticity and Provenance	red	green
Establishing Trust (incl. Peer Review and Audit)	amber	n/a
Digital Preservation Lifecycles	green	n/a
Standards for Digital Preservation	green	green
Advocacy	amber	n/a
Selection and Appraisal	amber	n/a
Change Management	red	green
Succession Planning	amber	green
Requirements Analysis	green	green
File Format Characterisation	green	n/a
Quality Assurance	red	green
Risk Mitigation	red	green
Business Planning and Cost Analysis	amber	green



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**Preservation Planning** is a core topic in TIMBUS. Establishing the preservation context, integrating this with risk management and cost/benefit analysis, and basing preservation decisions on these analyses is at the heart of TIMBUS. It takes preservation planning further than the customary utility analysis as a basis for migration decisions we usually see addressed, and, therefore, presents a broader framework for preservation planning. Preservation planning is the first step in the TIMBUS planning – preserving – redeployment approach.

The broad goal of process preservation goes beyond the APARSEN study focus. So, unsurprisingly issues of process preservation are not mentioned there. However process and context preservation and dependency analysis should be seen as a generalisation of the topic of **Representation Information and Preservation Description Information**, which is listed in the study.

**Sustainability** is at the heart of TIMBUS. The project is running concrete studies, for example, to enable software escrow as one concrete methodology for preservation of the software environment.

**Digital Preservation Policy** needs to dictate, amongst other concerns, what is considered a risk, what significant characteristics of a process need to be preserved, what regulatory framework applies and what cost considerations play a role in the decision process. These approaches are encoded in the TIMBUS iERM approach. The context model provides the structure in which the underlying information can be encoded.

**Enabling Novel Uses of Archived Data and Releasing Value** is a declared training goal. Process preservation is novel and comprehensive. It stretches the more limited approaches we have considered in the past to encompass the whole organisational environment including file, data, computing environment, process and third-party dependency preservation. The goal is to release value beyond the traditional digital preservation stakeholders in the memory industry, to a broad range of sectors.

Several TIMBUS tasks are dedicated to **Legislation and Regulatory Frameworks** in digital preservation. One of the key deliverables is a legalities-lifecycle decision support system - a request frequently voiced by stakeholders.

**Digital Rights Management**, while not a focus in TIMBUS, is addressed in investigations, such as software escrow systems.

**Authenticity and Provenance** are basic requirements for successful digital preservation. The main tool for supporting them lies in the collection of the relevant preservation metadata. The TIMBUS context model plays a key role in this issue.

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**Standards for Digital Preservation** have a TIMBUS task dedicated to them. The main efforts at this point lie in engagement with the PREMIS<sup>2</sup> (PREMIS, 2012) and Archimate<sup>3</sup> (Open Group, 2012) *de-facto* standards.

**Change Management** is important to TIMBUS. Preserving changing processes over a long time requires sustained effort at realising when process or environment information changes, so that the preserved processes need to be updated. This consideration is part of the TIMBUS methodology.

**Succession Planning** is an aspect of information preservation in order to enable redeployment of functionality in a changing environment. Specifying the significant characteristics of a process is the foundation for enabling succession planning.

**Requirements Analysis** is one of the key components in the iERM approach. Requirements drive what is considered at risk and what is considered necessary for preservation.

**Quality Assurance** is a necessary part of process redeployment. The TIMBUS validation and verification task addresses this issue.

**Risk Mitigation** as well as **Business Planning and Cost Analysis** are inherent parts of the iERM cycle described in the ISO 31000 framework and play a central part in the TIMBUS approach.

It is not surprising that TIMBUS ticks so many boxes in the APARSEN trainings analysis. With its focus on process preservation the project has a broader scope than most digital preservation approaches and by using established industry methodologies it is able to address many of the sustainability, deployability, and end-to-end life-cycle concerns of stakeholders.

TIMBUS touches on some of the remaining topics: Discovery and Access (Package Description), Annotation and Data Quality, Accessibility (incl. interoperability and usability), User Analysis (understanding Designated Communities), Establishing Trust (incl. Peer Review and Audit), Digital Preservation Lifecycles, Advocacy, Selection and Appraisal, File Format Characterisation. Where it does not, there are issues of repository design, management, access or use, collection management, and governance, which are out of scope for the project.

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<sup>2</sup> "The PREMIS Data Dictionary for Preservation Metadata is the international standard for metadata to support the preservation of digital objects and ensure their long-term usability." <http://www.loc.gov/standards/premis/>;

<sup>3</sup> "ArchiMate®, an Open Group Standard, is an open and independent modelling language for enterprise architecture that is supported by different tool vendors and consulting firms. ArchiMate provides instruments to enable enterprise architects to describe, analyze and visualize the relationships among business domains in an unambiguous way." <http://www.opengroup.org/subjectareas/enterprise/archimate>

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## Responsibilities, Content and Timelines

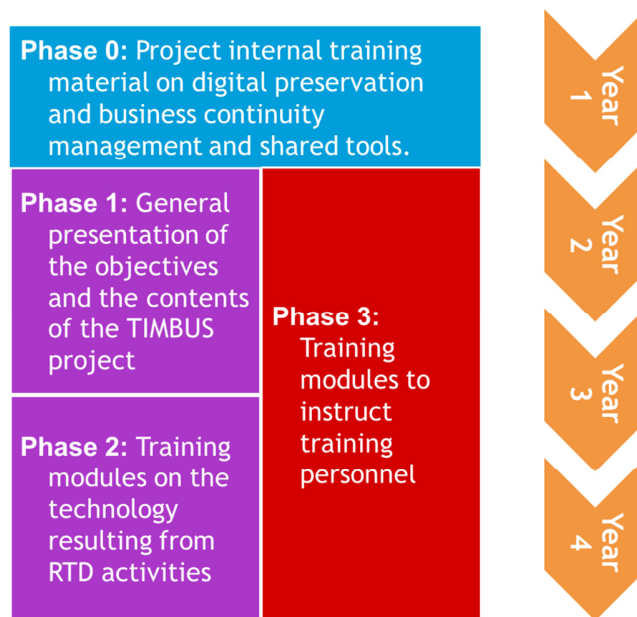
The overall responsibilities, content and timelines for TIMBUS training are captured in the following tables. The first table illustrates the overall responsibilities for developing training material and organising events.

**Table 2: Responsibilities in the TIMBUS training task**

	Responsibility	What	When
<b>Material</b>	<ul style="list-style-type: none"> <li>WP3, project management and workpackage leads plan the content of training material.</li> <li>The Advisory Board advises on the desired training content.</li> <li>Project participants prepare training material.</li> <li>Project participants provide contact information about potential target audiences.</li> </ul>	Training segments: <ul style="list-style-type: none"> <li>problems addressed</li> <li>solutions developed</li> <li>case studies</li> <li>“how-to” demonstrations</li> </ul>	To be ready for training events; distributed over the project duration  Online resources: whenever mature material can be developed
<b>Events</b>	<ul style="list-style-type: none"> <li>WP3, project management and workpackage leads plan the content of training events.</li> <li>Project participants provide contact information about local target audiences.</li> <li>Project participants prepare and deliver training sessions.</li> <li>WP3 plans, organises, advertises, and executes training events.</li> <li>WP3 and project participants deliver training materials at events.</li> <li>WP3 hosts and promotes training material on the project website timbusproject.net</li> </ul>		

In alignment with the project structure there is a natural progression of materials over 4 phases of content development. This is depicted in Figure 2 and described in the following tables. See section 5 for a detailed description of the training materials that have been developed so far.

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**Figure 2: Phases of TIMBUS training development**

In the first year there was a need to create a level playing field for all project participants. TIMBUS participants have different backgrounds and need to be enabled to work together from a shared level of understanding and terminology. Phase 0 produced background training material on Digital Preservation and Business Continuity Management and empowered project participants to use shared tools productively. This phase included mainly project-internal material, but the material can be reused outside the project.

**Table 3: Training Phase 0**

<b>Training Phase 0:</b> Project internal training material on digital preservation and business continuity management and shared tools.	<b>When</b>
<b>Digital Preservation Crash Courses:</b> Introduction to Digital Preservation	Year 1
<b>Business Process Criticality and Recovery of Complex Landscapes:</b> SAP internal training	
<b>The Redmine Repository and Wiki / Using the Protégé Ontology tool:</b> Introduction to the project collaborative platform	

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In Year 2, following the Planning, Preservation and Redeployment phases of TIMBUS, Phase 1 produced a general presentation of the objectives and the contents of the TIMBUS project and introductory tutorials on TIMBUS processes. They help establish the business and economic risk associated with not engaging in long term business continuity management (BCM) and how to plan for long term business continuity management following the TIMBUS approach. Workpackage 4 on methodologies, workpackage 6 on tools and the industrial use cases (workpackages 7-9) are the primary sources of material for this aspect of training. The target audience is both on a national or regional basis and in different industrial sectors. The material contains:

- motivation and objectives
- the basic TIMBUS approach
- introductory tutorials on TIMBUS methodology, architecture, tools and services

Each sub-module consists of a 30 - 60 minute presentation or activity. Core introductory sub-modules may be supplemented by sub-modules consisting of hands-on exercises, software demonstrations, case studies or further in-depth lectures. The core sub-modules of each module can be combined flexibly for seminars and extended as needed. Each module was delivered at least once in Year2.

The following topics were identified in collaboration of the project leadership, the Exploitation workpackage, the dissemination and training workpackage and workpackage leads:

**Table 4: Training Phase 1**

<b>Training Phase 1:</b> General presentation of the objectives and the contents of the TIMBUS project	<b>When</b>
<b>Introduction to Digital Preservation of Business Processes</b>	Year 2, M12 – M24 (Training Material & Programme Iter.1 due in M24)  Events organised by DPC (Briefing Day on Intellectual Property Rights and on Digital Resilience).  Events in combination with PASIG <sup>4</sup> conference.
<b>Context information, Metadata &amp; Reasoning</b>	
<b>Linking Digital Preservation and Enterprise Risk Management</b>	
<b>Business Continuity Management</b>	
<b>Infrastructure, Architecture and Storage</b>	
<b>Legal issues of Digital Preservation</b>	

<sup>4</sup> Preservation and Archiving Special Interest Group (PASIG) <http://sun-pasig.ning.com/>, accessed on 7 March 2013

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In the third and fourth year, the project products will have reached sufficient maturity in order to introduce audiences to them. Phase 2 produces training courses focusing on the technology resulting from RTD activities with an emphasis on tool demonstrations and methodological studies. It is aimed at introducing the TIMBUS methodology, architecture, tools and capabilities to the European service providers and consumers. The following technologies will form components that can be flexibly placed into a general training programme or industry specific programme:

**Table 5: Training Phase 2**

<b>Training Phase 2:</b> Training modules on the technology resulting from RTD activities	<b>When</b>
<b>Intelligent ERM</b>	M25 – M44 (Training Material & Programme Iter.2 due in 45)  Events at conferences: iPres, TPDL, BCI, etc.  Event in collaboration with APARSEN, SCAPE <sup>5</sup> , and others.  Event organised by LNEC.
<b>Service Dependency Analysis and Reasoning</b>	
<b>Legalities Lifecycle Management</b>	
<b>Software Service Engineering for Digital Preservation</b>	
<b>Business Process Virtualisation and Storage</b>	
<b>Business Process Redeployment and Integration</b>	

In parallel to the training material development in Years 2, 3 and 4 there is a Phase 3, which produces material to instruct training personnel of tertiary university and industrial courses for training beyond the end of the project. The business need for TIMBUS will continue to increase in the coming years and training must be available beyond the end of the project.

**Table 6: Training Phase 3**

<b>Training Phase 3:</b> Training modules to instruct training personnel	<b>When</b>
<b>Audio-visual material</b>	Year 2, 3 and 4
<b>Slides</b>	
<b>Worksheets and solution keys</b>	

<sup>5</sup> APARSEN Project; <http://www.alliancepermanentaccess.org/index.php/aparsen/>; SCAPE Project; <http://www.scape-project.eu/>

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<b>Training Plans</b>	
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## Effort and Budget

“Effort” is discussed under the section on “Training Goals” since aspirations have to be balanced with person and financial resources. The person effort estimated for training activity for the duration of the projects is as depicted in Table 7. The numbers indicate that the TIMBUS training task is relatively slim compared to other EU projects. Much has been accomplished with this effort. In the second half of the project more person months are allocated (25.85 person months) than in the first half (19.71 person months) as more mature research output will be available for producing training materials.

**Table 7: TIMBUS training effort by partner**

Deliverable Nr.	D3.4	D3.5
Deliverable Title	Training Material & Programme Iter.1	Training Material & Programme Iter.2
SAP	1.56	1.00
SBA	1.00	1.00
SQS	1.00	1.00
ITM	0.50	2.00
INESC-ID	1.00	1.00
Intel	2.20	1.80
CMS	0.40	1.60
LNEC	0.55	1.45
KIT	1.50	
DPC	10.00	15.00
<b>Sum Plan</b>	<b>19.71</b>	<b>25.85</b>

There is a financial budget of 30'000 € for organising training events for the duration of the project. This expenditure supports the provision of basic resources at training events, including venue hire, accommodation, catering, reproduction of training packs, equipment hire, marketing, promotion and all other direct non-staff costs. It is based on an assumption of a minimum of two trial runs with a maximum of 30 participants and a minimum of 3 trainers per event at central location in the UK. After the trial runs, a 24 hour delegate rate of around 150 per person is assumed which excludes tax.

Figure 3 shows the budget plan for the all-TIMBUS training day in Dublin. About half of the budget was allocated to the production of online AV coverage of the training materials.

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### Digital Preservation of Business Processes

1-day Trainings Course in Association with PASIG 2012

16 October 2012, Gresham Hotel, Dublin, Ireland

TIMBUS Project - is co-funded by the European Union under FP7 ICT-2009-6 (Grant Agreement no. 269940)

#### Draft Budget

##### Estimate T&S

Hotel	100
Travel	200
Food	40
<b>Total</b>	<b>340</b>

##### Instructors

Instructor	Mike Nolan
Instructor	Wasif Gilani
Instructor	Barbara Kolany
Instructor	Angela Dappert
	William Kilbride
<b>Total</b>	<b>5</b>

Room size	40
Number of participants	35
Number of instructors	5

Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8
	room hire	lunch	coffee	handouts	recording		<b>Total Cost</b>
Per Person		23.50	12.00	10.00			
Total	400.00	940.00	480.00	400.00	2,300.00		<b>4,520.00</b>

#### 3-year Budget Total

500000: Other direct cost. This expenditure supports the provision of basic resources at training events, including venue hire, accommodation, catering, reproduction of training packs, equipment hire, marketing, promotion and all other direct non-staff costs. It is based on an assumption of a minimum of two trial runs with a maximum of 50 participants and a minimum of 3 trainers per event at central location in the UK. It assumes 24 hour delegate rate of around 150 per person. It excludes tax.

#### O'Carroll/Parnell room

two rooms open into one  
coffee served during the breakout in that room  
combined costs 500 euro full day, 375 euro half day  
40 people

#### O'Sullivan room

bright room  
400 euro for a full day and 275 for a half day  
40 people



Figure 3: Budget plan for a TIMBUS training event



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Deliverable	D3.4:Training Material & Programme, Iteration 1

## 4 Stakeholder Analysis

In Deliverable D3.3<sup>6</sup> we identified the project's internal and external stakeholders in order to engage successfully with them. Requirements of significant stakeholder groups are a key consideration when producing dissemination and training outputs throughout the project.

### Potential TIMBUS User Industries

The training addresses stakeholders from a large spectrum of potential industries by liaising with Internal Business Units of the large consortium partners, including:

- Industry and service companies involved in the different sectors represented by the case studies
- Financial and Public Services
- Manufacturing
- Service

Detailed descriptions of these groups can be found in Deliverable D3.3

### Potential TIMBUS User Roles

The potential users of TIMBUS processes, methods and tools include

- Business Continuity Managers/Planners (managerial),
- Risk Managers/Planners (managerial),
- Product Architects (technical),
- Software Service Engineers (technical),
- Professional Escrow Service Providers (technical),
- Digital Preservation Officers (managerial and technical).

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<sup>6</sup> D3.3: TIMBUS Dissemination / Standardisation Plan & Activities, Iteration 2; WP3– Dissemination and Training; Delivery Date: 31/03/2013

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Deliverable	D3.4:Training Material & Programme, Iteration 1

## Potential Stakeholder Interest in TIMBUS

The potential users of TIMBUS processes, methods and tools inevitably have different interests in TIMBUS and its activities and outcomes. Some of the most important interests are:

- **Strategic direction:** How TIMBUS outcomes influence the strategic direction of an organisation
- **Organisational impact:** What impact using the TIMBUS approach might have on an organisation
- **Project progress:** How the TIMBUS project progresses, where difficult research areas or quick win opportunities are identified
- **Tools, services and infrastructure:** Availability of TIMBUS products
- **Research:** TIMBUS research results
- **Competitive position:** How TIMBUS products influence an organisation's competitive position
- **Partnership/ collaboration:** Where opportunities for partnerships and collaborations lie.

In our evaluation form in section 5.1.7 we enquired about training participants' roles and interests in order to assure that our expectations reflected reality. Initial answers were:

- To gain initial understanding of business processes preservation and issues around it. Specifically, what I can take away and use in my organisation /with my clients. (6)
- To find out what the TIMBUS project is doing and whether I could learn anything from the project. (3)
- Professional development (3)
- General curiosity of digital preservation topics (2)
- Networking
- To be aware of future demands on the storage and backup infrastructure

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## TIMBUS Stakeholders and Stakeholder Analysis

The following table displays the TIMBUS stakeholder groups, their definition and example organisations.

In D3.3, Dissemination and Standards, a more extensive stakeholder analysis maps the stakeholder groups against the TIMBUS goals for engaging in communication, the project key messages and against their interests defined in the previous section.

**Table 8: TIMBUS stakeholders and how to target them**

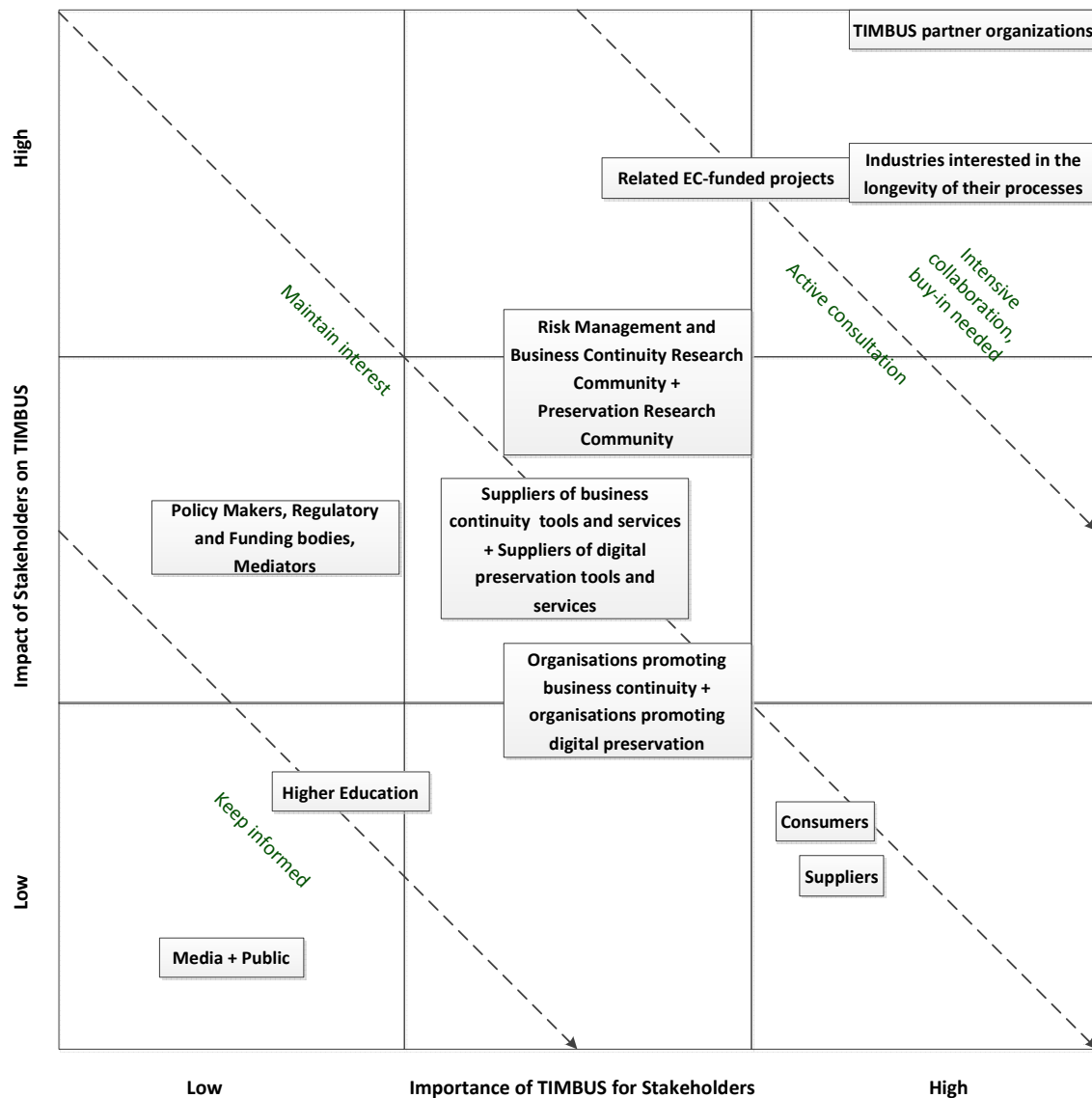
<b>Community</b>	<b>Description</b>	<b>Examples</b>
<b>TIMBUS participants</b>	Researchers and administrators working on the TIMBUS project	The individual participants in the TIMBUS project
<b>TIMBUS partner organisations</b>	TIMBUS partner organisations	The partners listed in Table 7
<b>Preservation Research Community</b>	Research groups interested or directly involved in digital preservation	Members of organisations, such as, the Digital Preservation Coalition (DPC), the Digital Curation Centre (DCC), the National Coalition for Digital Preservation (NCDD), the National Digital Information Infrastructure and Preservation Program (NDIIPP)
<b>Risk Management, Business Process Management, Business Intelligence and Model Driven Engineering Community</b>	Research groups interested or directly involved in risk management, business process management, business continuity management, business intelligence, IT disaster recovery, etc.	Examples include BPMI, BPM Research, Model Driven Architecture (MDA), Workflow Coalition Management.
<b>Related EC-funded projects</b>	EC funded projects on digital preservation and or process or workflow preservation	e.g. Aparsen, Scape, The HEPiX Forum, and DigCurV. See Appendix B, Relevant Organisations and Projects
<b>Organisations promoting digital preservation</b>	Organisations whose goal is advocacy, advice, training and promotion	e.g. the Digital Preservation Coalition (a TIMBUS member), the Open Planets Foundation, the Alliance for Permanent Access, the DCC, the Library of Congress education initiatives, the DPTP, SNIA See Appendix B, Relevant Organisations and Projects

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<b>Community</b>	<b>Description</b>	<b>Examples</b>
<b>Organisations promoting business continuity</b>	Organisations whose goal is advocacy, advice, training and promotion	e.g. British Standard Institute (BSI), International Standard Organization (ISO), Business Continuity Institute (BCI), BSI Group, Deloitte, KPMG, Verizon Business, Gartner, Accenture
<b>Suppliers of digital preservation tools and services</b>	e.g. Digital repository providers	e.g. Ex Libris, Tessella, DAITSS, Duraspace, Archivematica
<b>Suppliers of business continuity / risk management tools and services</b>	e.g. Professional Escrow Service Providers (technical)	e.g. SAP
<b>Practitioners and managers in industries interested in the longevity of their processes</b>	e.g. see Section 4	Please see examples in TIMBUS Deliverable D2.1 on Exploitation opportunities
<b>Suppliers</b>	Suppliers that feed into business processes. Their input will impact the requirements for future forms of the relevant processes.	Suppliers of cloud storage, such as Amazon; suppliers of escrow services, such as NCC Group
<b>Consumers</b>	Consumers of business process outputs. Their usage and production of material will impact the requirements for future forms of the relevant processes.	anybody
<b>Influencers</b>	Governance bodies and decision makers and shapers	Policy makers, regulatory and funding bodies, mediators, politicians, members of parliament, management in industries interested in the longevity of processes, journalists
<b>Higher Education</b>	Providers of up-to-date training needs about digital longevity and BCM	Further and higher education, industry and government training programmes
<b>Media</b>	Providers of information on current technological and industrial developments	Newspaper, magazines, TV, radio, internet content producers
<b>Public</b>	The general public	Anybody

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The stakeholder power/impact matrix below is used to analyse the importance of each stakeholder to the project and the potential impact of the project on them, which determines the level and type of stakeholder management and communication activities. Looking only on the horizontal plane, we see that the further to the right a stakeholder is positioned in the matrix the more impact TIMBUS will have on them. Looking only on the vertical plane, we see that the further up a stakeholder is positioned in the matrix the more impact the stakeholder will have on the TIMBUS project.



**Figure 4: Stakeholder power/impact matrix**

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It is important to note that stakeholders may move up or down the matrix as the project progresses and the matrix, therefore, needs to be revisited during the project. Stakeholders can and should enhance and even alter the course of the project.

Several TIMBUS events catered for the traditional Digital Preservation community in memory organisations and universities and familiarized them with topics in digital resilience and disaster recovery and with legal issues. We also organised events for the business continuity community and the storage infrastructure industry introducing them to digital preservation issues and the potential of integrating digital preservation aspects into their domains. Additionally we targeted Ireland and Northern Ireland as a region inviting a broad array of industries local to the area, where we hosted the first full-day TIMBUS-only training day. In Year 3 we will target further audience groups, such as civil engineers and legal experts, and Portugal as a key region.

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## 5 Training Resources

The output of the TIMBUS training programme in the first 24 months consists of a set of training modules for foundation and intermediate topics of business process preservation. Each topic is covered in at least one introductory sub-module, and may additionally contain sub-modules on in-depth studies of a specific sub-topic or hands-on exercises. The target audience is a mix of stakeholders with backgrounds in digital preservation and in business continuity and risk management. Because of these diverse backgrounds it was necessary to develop introductory, self-contained materials that required no background knowledge. On top of these introductory sub-modules we built in-depth studies and introduced the first tool prototypes developed in TIMBUS to illustrate the direction of research. In the remainder of the project more TIMBUS product specific material will be produced with an emphasis on tool demonstrations and methodological studies.

### Training Methods

We employed a variety of teaching methods. In addition to slide presentations, we used hands-on exercises, software tool demonstrations, research posters as visuals and delegate interaction. The latter included audience-led problem solving (as depicted in Figure 5), Question and Answer sessions and panel discussions.

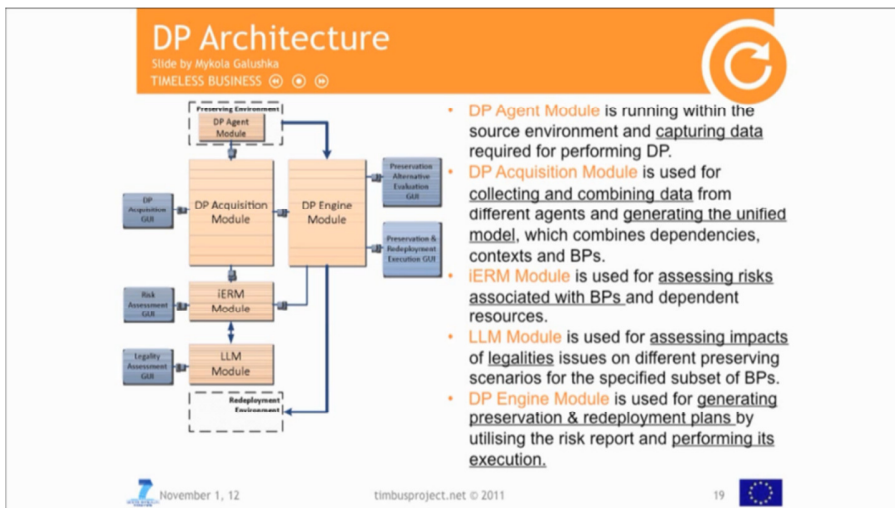


**Figure 5: Speaker developing solutions for audience-proposed example problems**

Making the material available online on the TIMBUS website, in addition to on-location presentation, will ensure continued sustainability of the TIMBUS training efforts. The online materials take a variety of forms. In addition to the slides that were created for training purposes, we put together standardised training plans to be used by trainers that state learning goals and teaching methodologies. For the key modules we produced online audio-visual recordings of presentations as depicted in Figure 6. A first set

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of hands-on exercise worksheets have also been compiled, together with solution keys. This material can be supplemented by TIMBUS research papers. A standard set of organisational and evaluation templates will also enable the effective organisation and evaluation of future events.



**Figure 6: Maintaining online viewer interest by alternating speaker presentations with narrated slide captures**



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## Training Materials

### 5.1.1 Audio-visual training materials

Audio-visual training materials developed by TIMBUS have made accessible online via YouTube. A complete video playlist is available on YouTube (in English):

[https://www.youtube.com/playlist?list=PL2fxQHETrFuebmSGO3rKQWnV\\_OK8qe20t](https://www.youtube.com/playlist?list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t)

**TIMBUS Training: Resilient Business Processes**  
by timbusproject  
18 videos 2:47:33 duration 108 views

Share Hangout

1 **Process Preservation Intro 1 - Introduction, Scope and Approach**  
by timbusproject 40 views 7:51

2 **Process Preservation Intro 2 - Motivation**  
by timbusproject 25 views 6:24

3 **Process Preservation Intro 3 - Approach and Example**  
by timbusproject 21 views 10:18

4 **Risk Management 1 - Frameworks and Standards**  
by timbusproject 25 views 8:29

5 **Risk Management 2 - Example and Relationship to Digital Preservation**  
by timbusproject 11 views 12:12

6 **Business Continuity Management 1 - Intro, Life Cycle, Planning, Scope**  
by timbusproject 23 views 13:09

7 **Business Continuity Management 2 - Impact Analyses**  
by timbusproject 5 views 9:00

8 **Business Continuity Management 3 - Business Continuity Planning**  
by timbusproject 9 views 3:51

9 **Business Continuity Management 4 - The Traditional and the TIMBUS Way**  
by timbusproject 7 views 8:22

10 **Business Continuity Management Demo 1 - Modelling**  
by timbusproject 17 views

Videos from a Training Day on Digital Preservation of Business Processes that took place on Tuesday, October 16, 2012 organised by the TIMBUS project.

This course is relevant if you answer "yes" to any of the following questions:

Are you integrating your digital preservation activities with business continuity and enterprise risk management approaches?

Do you need to preserve more than data?

Do you hold preserved information about computing environments, dependencies, policies, even process descriptions that are needed to understand your repository contents?

Remember to set the videos to HD for better readability!

Course Content:

- Introduction to Process Preservation
- Risk Management
- Business Continuity Management
- BCM Demo
- Infrastructure, Architecture and Storage
- Legal Aspect of Digital Preservation

The EU co-funded TIMBUS project (2011 - 2014, <http://timbusproject.net/>) addresses the challenge of business process preservation to ensure the long-term continued access to processes and services. TIMBUS builds on feasibility and cost-benefit analysis in order to analyse and recommend which aspects of a business process should be preserved and how to preserve them. It delivers methodologies and tools to capture and formalise business processes on both technical and organisational levels. This includes their underlying software and hardware infrastructures and dependencies on third-party services and information. TIMBUS aligns digital preservation with well-established methods for enterprise risk management (ERM) and business continuity management (BCM). This video demonstrates a tool prototype for BCM simulation that is being developed in the project.

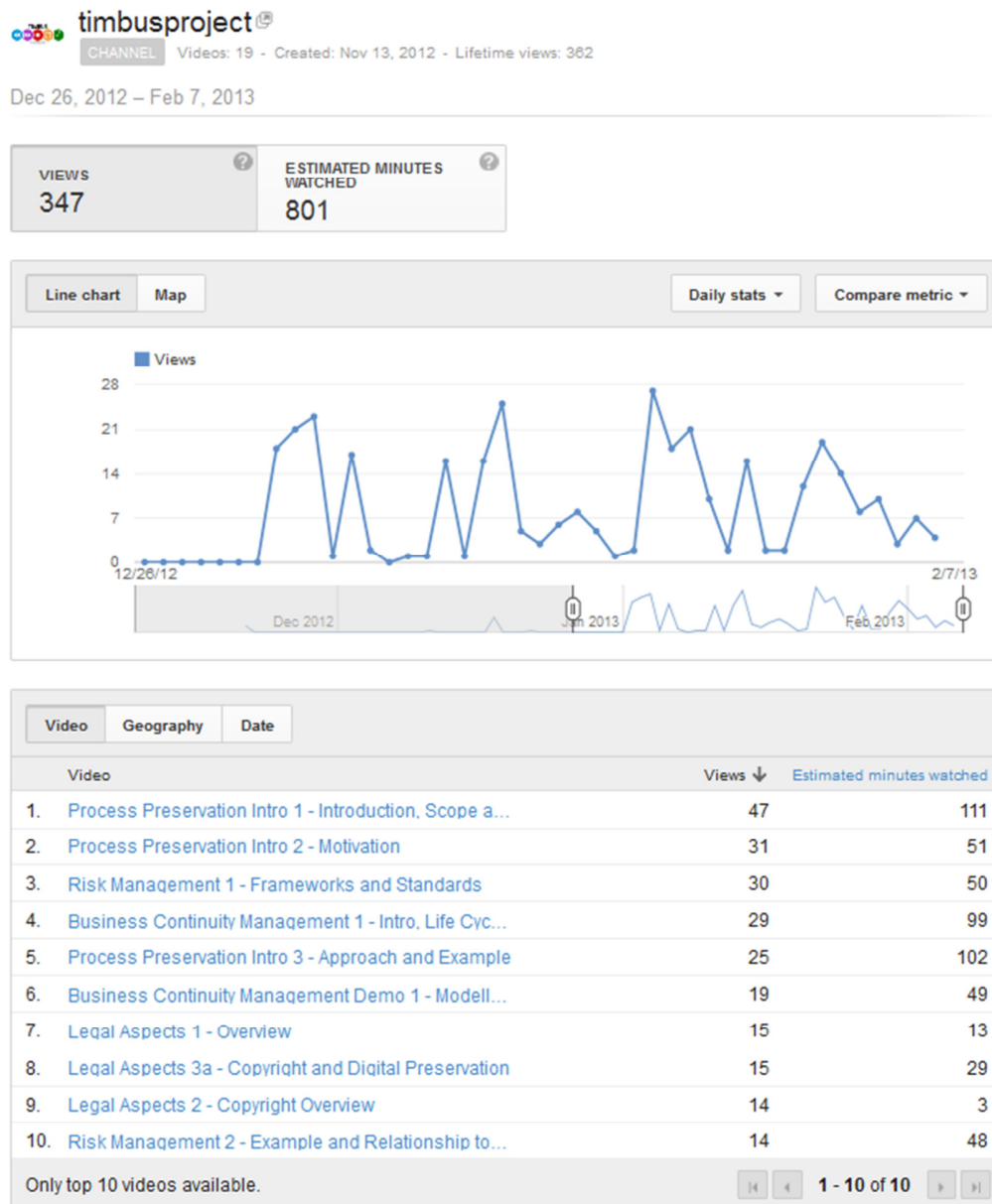
About timbusproject

1 playlists by timbusproject  
View all videos  
274 views

Figure 7: YouTube playlist of recorded TIMBUS training material

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The following, Figure 8, shows the numbers of views of these videos in the month following their release.



**Figure 8: YouTube analytics for the TIMBUS training videos in the month following their release**

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### 5.1.2 Training Materials on the TIMBUS Website

Slides, videos, worksheets, and training plans for presentations can be found on the TIMBUS website<sup>7</sup> and below. To find the materials in this document follow these subject links:

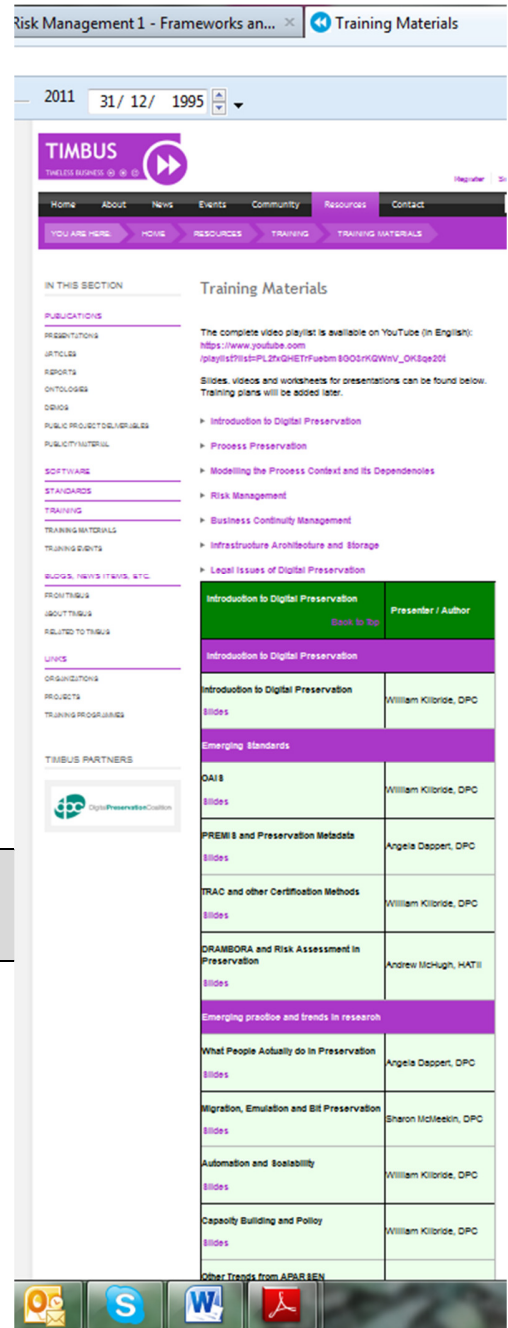
- **Introduction to Digital Preservation**
- **Introduction to Digital Process Preservation**
- **Modelling the Process Context and its Dependencies, Metadata and Reasoning**
- **Enterprise Risk Management and Digital Preservation**
- **Business Continuity Management and Digital Preservation**
- **A.4. Infrastructure, Architecture and Storage**
- **Legal Aspects of Digital Preservation**

#### Overview Training Plan

Trainings material deposited since October 2012 has been accessed on the TIMBUS website 714 times as of 6 March 2013.

<sup>7</sup>

<http://timbusproject.net/resources/training/training-material>



**Figure 9: Online access to slides, A/V recordings, auxiliary teaching materials, such as posters and worksheets, training plans, etc.**

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**Table 9: TIMBUS Training Materials Year 1 and Year 2**

<b>Introduction to Digital Preservation</b>	<b>Presenter/ Author</b>
<b>Introduction</b>	
<b>Introduction to Digital Preservation</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/94-crash-course-introduction-to-digital-preservation">http://timbusproject.net/component/docman/doc_download/94-crash-course-introduction-to-digital-preservation</a>	William Kilbride, DPC
<b>Emerging Standards</b>	
<b>OAIS (CCSDS, 2012)</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/98-crash-course-oais">http://timbusproject.net/component/docman/doc_download/98-crash-course-oais</a>	William Kilbride, DPC
<b>PREMIS<sup>8</sup> and Preservation Metadata</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/101-crash-course-preservation-metadata">http://timbusproject.net/component/docman/doc_download/101-crash-course-preservation-metadata</a>	Angela Dappert, DPC
<b>TRAC and other certification methods</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/93-crash-course-certification">http://timbusproject.net/component/docman/doc_download/93-crash-course-certification</a>	William Kilbride, DPC
<b>DRAMBORA and Risk Assessment in Preservation</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/95-crash-course-drambora">http://timbusproject.net/component/docman/doc_download/95-crash-course-drambora</a>	Andrew McHugh, HATII

<sup>8</sup> PREMIS (2012). PREMIS Data Dictionary for Preservation Metadata, Version 2.2. Retrieved from <http://www.loc.gov/standards/premis/v2/premis-2-2.pdf>, accessed on 7 March 2013

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<b>Emerging Practice and Trends in Research</b>	
<b>What people actually do in preservation</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/103-crash-course-preservation-services">http://timbusproject.net/component/docman/doc_download/103-crash-course-preservation-services</a>	Angela Dappert, DPC
<b>Migration, emulation and bit preservation</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/100-crash-course-preservation-methodologies">http://timbusproject.net/component/docman/doc_download/100-crash-course-preservation-methodologies</a>	Sharon McMeekin, DPC
<b>Automation and scalability</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/92-crash-course-automation">http://timbusproject.net/component/docman/doc_download/92-crash-course-automation</a>	William Kilbride, DPC
<b>Capacity building and policy</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/99-crash-course-policy">http://timbusproject.net/component/docman/doc_download/99-crash-course-policy</a>	William Kilbride, DPC
<b>Other trends from APARSEN</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/91-crash-course-aparsen-project-network-of-excellence">http://timbusproject.net/component/docman/doc_download/91-crash-course-aparsen-project-network-of-excellence</a>	Sharon McMeekin, DPC
<b>Main Players</b>	
<b>Memory institutions, data owners, vendors, developers and researchers, regulated institutions</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/97-crash-course-main-players">http://timbusproject.net/component/docman/doc_download/97-crash-course-main-players</a>	William Kilbride, DPC
<b>Other Projects</b>	
<b>Planets<sup>9</sup>, Open Preservation (Planets)Foundation<sup>10</sup> and SCAPE<sup>11</sup></b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/102-crash-course-projects-on-digital-preservation-research-">http://timbusproject.net/component/docman/doc_download/102-crash-course-projects-on-digital-preservation-research-</a>	Angela Dappert, DPC
<b>Other projects from FP7</b> <b>Slides</b> <a href="http://timbusproject.net/component/docman/doc_download/90-crash-course-more-projects-on-digital-preservation-research">http://timbusproject.net/component/docman/doc_download/90-crash-course-more-projects-on-digital-preservation-research</a>	

<sup>9</sup> Planets project; <http://www.planets-project.eu/>

<sup>10</sup> Open Preservation (Planets) Foundation; <http://www.openplanetsfoundation.org/>

<sup>11</sup> SCAPE, SCAPE Project; <http://www.scape-project.eu/>

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<b>Introduction to Digital Process Preservation</b>	<b>Presenter/ Author</b>
<p><b>Introduction to Digital Preservation of Business Processes</b> (in English)</p> <p><a href="#">Training Plan</a></p> <p><b>Slides</b> (6 MB) <a href="http://timbusproject.net/component/docman/doc_download/50-introduction-to-digital-preservation-of-business-processes">http://timbusproject.net/component/docman/doc_download/50-introduction-to-digital-preservation-of-business-processes</a></p> <p><b>Video Part 1 of 3:</b> Introduction to the TIMBUS project; overview over scope of and approach to process preservation. <a href="https://www.youtube.com/watch?v=cXnMfD5Hrlg&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=1&amp;hd=1">https://www.youtube.com/watch?v=cXnMfD5Hrlg&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=1&amp;hd=1</a></p> <p><b>Video Part 2 of 3:</b> Motivations for process preservation. <a href="https://www.youtube.com/watch?v=erYMWLs3B7k&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=2&amp;hd=1">https://www.youtube.com/watch?v=erYMWLs3B7k&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=2&amp;hd=1</a></p> <p><b>Video Part 3 of 3:</b> TIMBUS approach and example (music classification). <a href="https://www.youtube.com/watch?v=CqCkg8NHi1Y&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=3&amp;hd=1">https://www.youtube.com/watch?v=CqCkg8NHi1Y&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=3&amp;hd=1</a></p>	Angela Dappert, DPC
<p><b>Schutz vor digitaler Amnesie.</b> <b>Das TIMBUS Projekt - Langzeit Archivierung digitaler Prozesse (in German)</b></p> <p><b>Slides</b> (2MB) <a href="http://timbusproject.net/component/docman/doc_download/22-schutz-vor-digitaler-amnesie">http://timbusproject.net/component/docman/doc_download/22-schutz-vor-digitaler-amnesie</a></p>	Angela Dappert, DPC
<p><b>Business processes and preservation: TIMBUS</b></p> <p><b>Slides</b> (1.4 MB) <a href="http://timbusproject.net/component/docman/doc_download/39-business-processes-and-preservation-timbus">http://timbusproject.net/component/docman/doc_download/39-business-processes-and-preservation-timbus</a></p>	Mykola Galushka, SAP
<p><b>Business Process Preservation, How to capture, document &amp; evaluate</b></p> <p><b>Research Poster</b> (480 kB) <a href="http://timbusproject.net/component/docman/doc_download/63-business-process-preservation-how-to-capture-document-a-evaluate-poster">http://timbusproject.net/component/docman/doc_download/63-business-process-preservation-how-to-capture-document-a-evaluate-poster</a></p>	Stefan Strodl, SBA; Daniel Draws, SQS; Goncalo Antunes, INESC-ID; Andreas Rauber, SBA; Angela Dappert, DPC (diagrams)

<b>Modelling the Process Context and its Dependencies, Metadata and Reasoning</b>	<b>Presenter/ Author</b>
<p><b>On the Complexity of Process Preservation: A Case Study on an E-Science Experiment</b></p> <p><b>Poster</b> <a href="http://timbusproject.net/component/docman/doc_download/89-on-the-complexity-of-process-preservation-a-case-study-on-an-e-science-experiment">http://timbusproject.net/component/docman/doc_download/89-on-the-complexity-of-process-preservation-a-case-study-on-an-e-science-experiment</a></p>	Rudolf Mayer, Stefan Strodl, Andres Rauber, SBA;

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<b>Enterprise Risk Management and Digital Preservation</b>	<b>Presenter/ Author</b>
<p><b>Enterprise Risk Management and Digital Preservation</b></p> <p><a href="#">Training Plan</a></p> <p><b>Slides</b> (615 kB)  <a href="http://timbusproject.net/component/docman/doc_download/51-risk-management-in-digital-preservation">http://timbusproject.net/component/docman/doc_download/51-risk-management-in-digital-preservation</a></p> <p><b>Video Part 1 of 2:</b> Risk management frameworks and standards.  <a href="https://www.youtube.com/watch?v=CMUJAivN2nl&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=4&amp;hd=1">https://www.youtube.com/watch?v=CMUJAivN2nl&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=4&amp;hd=1</a></p> <p><b>Video Part 2 of 2:</b> Risk management example; risk management in relationship to digital preservation.  <a href="https://www.youtube.com/watch?v=Mn853GMjfs0&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=5&amp;hd=1">https://www.youtube.com/watch?v=Mn853GMjfs0&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=5&amp;hd=1</a></p>	Wasif Gilani, SAP / Daniel Burda, SAP
<p><b>Risk Assessment of Digital Holdings</b></p> <p><b>Slides</b> (5.9 MB)  <a href="http://timbusproject.net/component/docman/doc_download/40-risk-assessment-of-digital-holdings">http://timbusproject.net/component/docman/doc_download/40-risk-assessment-of-digital-holdings</a></p>	Angela Dappert, DPC

<b>Business Continuity Management and Digital Preservation</b>	<b>Presenter/ Author</b>
<p><b>Business Continuity Management</b></p> <p><a href="#">Training Plan</a></p> <p><b>Slides</b> (6MB)  <a href="http://timbusproject.net/component/docman/doc_download/52-business-continuity-management">http://timbusproject.net/component/docman/doc_download/52-business-continuity-management</a></p> <p><b>Video Part 1 of 4:</b> Introduction to Business Continuity Management (BCM); BCM life cycle; BCM planning; alignment with the organization; BCM scope.  <a href="https://www.youtube.com/watch?v=25EhtuE3XkE&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=6&amp;hd=1">https://www.youtube.com/watch?v=25EhtuE3XkE&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=6&amp;hd=1</a></p> <p><b>Video Part 2 of 4:</b> Impact analyses.  <a href="https://www.youtube.com/watch?v=qY4Z42bmVNY&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=7&amp;hd=1">https://www.youtube.com/watch?v=qY4Z42bmVNY&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=7&amp;hd=1</a></p> <p><b>Video Part 3 of 4:</b> Business Continuity Planning.  <a href="https://www.youtube.com/watch?v=gBtNesRrk6s&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=8&amp;hd=1">https://www.youtube.com/watch?v=gBtNesRrk6s&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=8&amp;hd=1</a></p> <p><b>Video Part 4 of 4:</b> The traditional and the TIMBUS way of BCM.  <a href="https://www.youtube.com/watch?v=2yimlwFjEU&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=9&amp;hd=1">https://www.youtube.com/watch?v=2yimlwFjEU&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=9&amp;hd=1</a></p>	Wasif Gilani, SAP

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<p><b>Business Continuity Management Tool Demo</b></p> <p><b>Video Part 1 of 2:</b> Modelling.  <a href="https://www.youtube.com/watch?v=KgG745TlzUY&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=10&amp;hd=1">https://www.youtube.com/watch?v=KgG745TlzUY&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=10&amp;hd=1</a></p> <p><b>Video Part 2 of 2:</b> Simulation.  <a href="https://www.youtube.com/watch?v=DSnB71_c5QU&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=11&amp;hd=1">https://www.youtube.com/watch?v=DSnB71_c5QU&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=11&amp;hd=1</a></p>	Wasif Gilani, SAP
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<b>Infrastructure Architecture and Storage and Digital Preservation</b>	<b>Presenter/ Author</b>
<p><b>Infrastructure, Architecture and Storage</b></p> <p><a href="#">Training Plan</a></p> <p><b>Slides</b> (6MB)  <a href="http://timbusproject.net/component/docman/doc_download/53-infrastructure-architecture-and-storage">http://timbusproject.net/component/docman/doc_download/53-infrastructure-architecture-and-storage</a></p> <p><b>Video Part 1 of 3:</b> Infrastructure.  <a href="https://www.youtube.com/watch?v=3K8DMmYHUCK&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=12&amp;hd=1">https://www.youtube.com/watch?v=3K8DMmYHUCK&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=12&amp;hd=1</a></p> <p><b>Video Part 2 of 3:</b> Storage media today and tomorrow.  <a href="https://www.youtube.com/watch?v=QBT99hCbGDU&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=13&amp;hd=1">https://www.youtube.com/watch?v=QBT99hCbGDU&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=13&amp;hd=1</a></p> <p><b>Video Part 3 of 3:</b> Archival objectives and approaches.  <a href="https://www.youtube.com/watch?v=ulbmURmkv6w&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=14&amp;hd=1">https://www.youtube.com/watch?v=ulbmURmkv6w&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=14&amp;hd=1</a></p>	Mike Nolan, Intel

<b>Legal Aspects of Digital Preservation</b>	<b>Presenter/ Author</b>
<p><b>Overview Training Plan</b></p> <p><b>Digital Preservation and European Copyright Law</b></p> <p><a href="#">Training Plan</a></p> <p><b>Slides</b> (2 MB)  <a href="http://timbusproject.net/component/docman/doc_download/54-legal-issues-of-digital-preservation">http://timbusproject.net/component/docman/doc_download/54-legal-issues-of-digital-preservation</a></p> <p><b>Video Part 1 of 4:</b> Overview over the different legal aspects that affect digital preservation.  <a href="https://www.youtube.com/watch?v=rw4WuH_rdqM&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=15&amp;hd=1">https://www.youtube.com/watch?v=rw4WuH_rdqM&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=15&amp;hd=1</a></p> <p><b>Video Part 2 of 4:</b> Overview over the copyright aspects that affect digital preservation; Moral rights; Exploitation rights; Information Society Directive; Computer Program Directive; Reproduction; Alteration; Distribution.  <a href="https://www.youtube.com/watch?v=uP00u_f7JUM&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=16&amp;hd=1">https://www.youtube.com/watch?v=uP00u_f7JUM&amp;list=PL2fxQHETrFueb mSGO3rKQWnV_OK8qe20t&amp;index=16&amp;hd=1</a></p> <p><b>Video Part 3 of 4:</b> Copyright Holders, Exceptions and Limitations – Information Society Directive.</p>	Martin Hecheltjen, ITM / Barbara Kolany, ITM



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<a href="https://www.youtube.com/watch?v=Z6qEhIMd7Jg&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=17&amp;hd=1">https://www.youtube.com/watch?v=Z6qEhIMd7Jg&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=17&amp;hd=1</a> <b>Video Part 4 of 4:</b> Exceptions and Limitations – Computer Program Directive.	
<a href="https://www.youtube.com/watch?v=VQkq_jmNrao&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=18&amp;hd=1">https://www.youtube.com/watch?v=VQkq_jmNrao&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=18&amp;hd=1</a> <b>Holistic Escrow and Digital Preservation</b> <b>Training Plan</b> <b>Slides (1 MB) (in English) Escrow and Digital Preservation.</b> <a href="http://timbusproject.net/component/docman/doc_download/11-escrow-and-dp">http://timbusproject.net/component/docman/doc_download/11-escrow-and-dp</a> <b>Slides (1 MB) (in German) Holistic Software Escrow.</b> <a href="http://timbusproject.net/component/docman/doc_download/21-holistic-escrow">http://timbusproject.net/component/docman/doc_download/21-holistic-escrow</a>	Barbara Kolany, ITM; Daniel Draws, SQS
<b>In-depth study on legal issues</b> <b>Training Plan</b> <b>Worksheet (35 kB)</b> <a href="http://timbusproject.net/component/docman/doc_download/55-in-depth-study-on-legal-issues">http://timbusproject.net/component/docman/doc_download/55-in-depth-study-on-legal-issues</a> <b>Solution sheet</b>	Martin Hecheltjen, ITM / Barbara Kolany, ITM

### 5.1.3 Training Plan Templates

Training plans are very useful for trainers who want to reuse TIMBUS training materials for their own courses. They support the development of sustainable training materials. They specify what should be learned and how it should be taught. They have a two-fold purpose. They are a planning tool which ensures that the training content to be covered by the project is relevant and complete. They ensure that different modules are consistent with each other, make dependencies apparent and help to avoid gaps in the narrative. They also ensure that instructors have considered thoroughly how the material will be presented; and they are a tool for constructively critiquing each other's training material within the team. In addition to aiding planning they are also a teaching tool for the teacher. They can be used by third-party instructors to understand how to use the training material in their own courses. Training planning should be based on a training needs analysis and should include the training objectives that were discussed in section 3.

We have developed training plan templates so that our trainers can develop uniform and complete training plans.

For each topic covered a training module is defined. A training module consists of sub-modules that can be modularly combined and correspond to one training session of 30-60 minutes. The TIMBUS Training Plans on the module level contain the following information:

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**Table 10: Training plan template on the “module” level**

<b>Module title</b>	This should include the title of the training module that will be used in all communications. It corresponds to the high-level “topic” addressed in this learning module.
<b>Content description</b>	This should include the objectives and scope of the learning. It provides the information that enables potential training participants to judge how well the training fits their interests and their level of experience. It needs to contain at least a description of the background and problem, an explanation where the challenge lies, and a summary of the offered solution and issues addressed. It should also reference what training needs are addressed by this module and what skills the audience will acquire.
<b>Target audience</b>	This should specify whether the training targets specific sectors, job roles, levels of experience, people with certain backgrounds. It should be aligned with our stakeholder analysis.
<b>Responsible contact</b>	This should contain the full names and contact information.

For each sub-topic (corresponding to a teaching sub-module) the TIMBUS Training Plans contain the following information:

**Table 11: Training plan template on the “sub-module” level**

<b>Sub-Module title</b>	This should include the title of the training sub-module that will be used in all communications. It corresponds to one introductory sub-module, an in-depth study of a specific sub-topic or a session of hands-on exercises.
<b>Duration</b>	A realistic duration of time for covering the learning objectives. The scope of the learning objectives has to be balanced against available time and against the training participants’ ability to concentrate and absorb the material.
<b>Content description</b>	This should list in sequence the topics covered in the sub-module. There must be enough information to tell trainers in what depth each topic should be pursued.
<b>Learning objectives</b>	This should specify what a member of the audience will have learned, new skills that should be acquired.
<b>Previous required knowledge</b>	This should describe the actual knowledge needed for understanding the training content, rather than preparatory reading. What knowledge do training participants need to have in order to understand the material covered that one would not expect as given in the specified target audience? This information can also help the instructor to create training materials with low barriers to entry (for example, adjust the training so that a non-technical audience models concepts on post-it-notes on a board rather than implementing them with software).
<b>Dependencies to other sub-modules</b>	This should specify which other sub-modules must be scheduled ahead of this one to provide the necessary knowledge needed for tackling this sub-

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	module.
<b>Dependencies to external documents</b>	This should list any document that is needed in the training session, such as texts that will be read in class or hand-outs.
<b>Methodologies used for sub-module delivery</b>	This should list what methodologies are used for each section of the training sub-module. It may include PowerPoint slide presentations, hands-on computer programming, group discussion, work-sheets, hand-outs describing scenarios, data sets, prepared questions, etc.
<b>Technology required for sub-module delivery</b>	This should list anything that needs to be provided to the instructor so that the training sub-module can be executed. This may include, flip-chart or white board, overhead projector, laptops for group work, post-it-notes, paper and pencils, specific software, etc.
<b>Required reading</b>	Required reading should be specified with great care. Audience participants do not have much time and you do not want to end up teaching an audience where many participants did not manage to do the required reading. This should list truly required reading that is essential for understanding the course content and that cannot be wholly covered during the training session. Mind citation conventions for articles so that participants can find the articles.
<b>Recommended/optional reading</b>	This should list reading material for the eager course participants who would like to go beyond the set topic.
<b>URL for slides</b>	This should specify where the course slides can be found permanently.
<b>URL for demo software</b>	This should specify where the demo software can be found permanently.
<b>URL for data sets used</b>	This should specify where the data sets used can be found permanently.
<b>URL for hand-outs, quizzes and other learning material</b>	This should specify where the This should specify where the course slides can be found permanently.
<b>How can the success of training with this sub-module be assessed</b>	This should list concrete information about how one can determine whether the learning objectives have been accomplished. This can include 3-5 questions so that one can assess whether participants have understood the training content. It can also include 3-5 questions for the feedback form for how to improve the training material and teaching style.
<b>Sub-module prepared by</b>	This should contain the full names and contact information.

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## Organisational and Evaluation Materials

Several elements of the organisation of training events have been standardised through reusable templates which are included below. TIMBUS branding is use throughout to reinforce the association of process preservation with the project.

### 5.1.4 Event Check-List

The event checklist in Table 12 is used in order to avoid omissions in the organisation of training events and to provide consistency from one event to the next.

**Table 12: Event checklist**

<b><i>Three to twelve months before the event</i></b>	
<b>1</b>	Produce clear aims for event including target audience and size
<b>2</b>	Secure event date
<b>3</b>	Draft event programme
<b>4</b>	Secure event venue
	Check security requirements/issues
	Registration area/tables, room layouts
	Lunch/coffee breaks
<b>5</b>	Draft budget
<b>6</b>	Invite speakers
	Assign responsibility for speaker confirmation/queries
	Collect speaker biographies
	Invite to dinner
<b>7</b>	Secure hotel accommodation and negotiate price for speakers/delegates
<b>8</b>	Secure sponsorship (if relevant)
<b>9</b>	Secure online registration provision (in house or third party service provider):
	Agree registration arrangements & link for website
	Agree on collection and receipt of delegate fees
	Agree on receipt of remaining funds/payments from/to third party service
	Agree on weekly/monthly/daily delegate registration updates
<b>10</b>	Secure photographer
<b>11</b>	Secure audio recording
<b>12</b>	Marketing/Publicity (round one to lists):
	Directions to venue
	Programme
	Reading List
<b>13</b>	Critical time path plan
	Planning meetings
	Mail shots (marketing and PR)
	Deadline for early bird and final registration date
<b>14</b>	Secure venue for evening dinner/pre-dinner drinks function
<b>15</b>	Brief webmaster & agree on content and design
<b>16</b>	Appoint student volunteer
<b>17</b>	Decide and appoint owner for post event publication (journal/article)

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<b>One to two months before the event</b>	
<b>18</b>	Marketing/Publicity (round two reminder to lists): include Reading List
<b>19</b>	Check venue
	Seating arrangements/style and equipment
	Check catering arrangements/AV is in hand
<b>20</b>	PowerPoint slide holder for AV team
<b>21</b>	Signage at event venue
<b>22</b>	Design evaluation form
<b>23</b>	Assign and brief organising committee and tasks for event day (see 3 to 48)

<b>Two weeks before the event</b>	
<b>24</b>	Close registrations
<b>25</b>	Email delegates with reading list and any final notices/arrangements

<b>Week before the event</b>	
<b>26</b>	Final meeting with planning group
<b>27</b>	Email photographer list of photos required
<b>28</b>	Collate and email presentations and PowerPoint slide holder to AV team
<b>29</b>	Confirm catering numbers, special arrangements and final menu with event caterers
<b>30</b>	Confirm reception canapés/evening dinner numbers
<b>31</b>	Signage:
	Registration desk (e.g. A-L/M-Z, reserved seating)
<b>32</b>	Delegate pack printing and collation:
	Delegate List
	Speaker bios
	Programme + wifi code + Twitter hash tag + links for websites and Wikis used during the day
	Leaflets (project/partner organisation)
	Pen/Note paper
	Evaluation/feedback form
	Training Material
	Name badges (name, surname, organisation)
<b>33</b>	Find out housekeeping rules
<b>34</b>	Bring
	World adaptor plugs for incoming people
	Scotch tape for putting up notes and holding name labels inside holders
	pens
	paper
	email address for boarding passes
	spare USB sticks
	list to check off feedback forms received - give incentive gift in return
	promotion materials: leaflets, pens, buttons
	maps with station, airport, hotels
	spare laptop
	covers for floor cables or tape for taping them down
	roller banner

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	Camtasia disk / license number
<b>35</b>	Look up
	airport transport
	public transport
	list of hotels
	taxi phone numbers
	taxi phone numbers

<b>Day of Event</b>	
<b>36</b>	Obtain
	wireless passcode
	microphones
	extension cords
	water
	drinking glasses
	flipchart
	fans
<b>37</b>	Install Camtasia
<b>38</b>	Check layout of room(s)
<b>39</b>	Liaise with AV team; timings, presentations uploaded (carry spare copy set)
	Secure loose power cords
<b>40</b>	Reserve speakers and organisers seats
<b>41</b>	Water and glasses on podium (change throughout day)
<b>42</b>	Set up and man registration desk (<40 delegates 1 to attend desk, <100 minimum 2, >100 3 to 4):
	A-I/M-Z and cloakroom signage
	Remove delegates packs for 'no-shows' by end of morning break
<b>43</b>	Check cloakroom/security staff in place
<b>44</b>	Set up pop-up stands
<b>45</b>	Brief & run time check with hospitality team:
	Ensure refreshment queues during break are moving - improvise/encourage delegates if not.
	Ensure special dietary requirements are met/organised
<b>46</b>	Brief speaker/chair on housekeeping/fire/mobile phones etc. & timing & introductions to speakers
<b>47</b>	Microphones check
<b>48</b>	Meet and greet; Presenters, photographer, delegates
<b>49</b>	General timekeeping and ushering - especially at end of morning/lunch/afternoon breaks
<b>50</b>	Assist photographer for photos (identifying speakers etc)
<b>51</b>	Coordinate departure transport/taxis (white board for delegates to add names during morning break)
<b>52</b>	Stewarding, queries on the day
<b>53</b>	Transfer of presentations onto USB/Disk - end of day
<b>54</b>	Collect feedback forms
<b>55</b>	Distribute expenses claim forms to speakers


<b>Post event</b>	
<b>56</b>	Load presentations, event write up, photos & feedback form etc onto website
<b>57</b>	Email thank you to speakers
<b>58</b>	Email delegates URL for website

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	(once updated - no later than 5 days post-event)
<b>59</b>	Update budget with actuals
<b>60</b>	Collate feedback forms and distribute

### 5.1.5 Agenda and Participants List Template

The agenda template contains title, time and location. Wi-Fi information and a Twitter hashtag are provided ahead of the event. Content sessions are distinguished from networking opportunities through colour-coding. Audience-driven sessions are emphasised through nesting and are listed in light font.



**Open Wifi**  
Twitter: #TIMBUSDublin

## Resilient Digital Business Processes

Tuesday, 16 October 2012  
Gresham Hotel, Dublin, Ireland

### Agenda

From	To	Topic	Presenter
8:30	9:00	Registration	
9:00	9:10	Welcome and logistics	William Kilbride, DPC
9:10	9:55	<b>Introduction to Digital Preservation of Business Processes</b>	Angela Dappert, DPC
9:55	10:05	Investigate participants' areas of interest and questions, identify use cases	William Kilbride, DPC
10:05	10:35	<b>Risk Management in Digital Preservation</b>	Wasif Gilani, SAP
10:35	10:45	Investigate participants' contexts	William Kilbride, DPC
10:45	10:55	Q&A	William Kilbride, DPC
10:55	11:10	Coffee break	
11:10	12:10	<b>Business Continuity Management</b>	Wasif Gilani, SAP
12:10	12:40	<b>Interactive Demo on BCM</b>	Wasif Gilani, SAP
12:40	12:50	Q&A	William Kilbride, DPC
12:50	14:00	Lunch	
14:00	14:30	<b>Infrastructure, Architecture and Storage</b>	Mike Nolan, Intel
14:30	15:30	<b>Legal issues of Digital Preservation</b>	Martin Hecheltjen, ITM
15:30	16:00	<b>In-depth study on legal issues</b>	Martin Hecheltjen, ITM
16:00	16:15	Coffee break	
16:15	16:45	Panel	William Kilbride, DPC

### Participants

First	Last	Institution	First	Last	Institution
T					
A					
J					
A					
D					
S					
F					
T					
G					
A					
N					
Y					
V					
N					
J					
B					
D					

The TIMBUS Project - is co-funded by the European Union under FP7 ICT-2009-6 (Grant Agreement no. 269940)

**Figure 10: Agenda and participants list example**

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### 5.1.6 Name Badges

Name Badges feature large print for the names, in order to improve attendants' networking experience, and the TIMBUS branding.



**Figure 11: Name badge template**



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**5.1.7 Feedback Form**

Process Preservation is a relatively new topic. Because of this it is harder to manage audience expectations. There is no standard set of expectations brought to the event. We paid particular attention to this when writing event announcements, so that participants would have very clear expectations of what will be offered at the event. It is perhaps, therefore, even more important in comparison with established topics to evaluate the success of the event. We devised a very lengthy feedback form depicted in Figure 12, Figure 13, Figure 14, and Figure 15 in order to understand audience needs and satisfaction. The importance of feedback for us was pointed out to participants at the beginning of the events, plenty of time was allotted for filling in the questionnaires and forms were collected at the end. Some feedback was sent in by email, if audience members had to leave early.

In addition to this our metrics included

- Duration of delivery (estimated versus actual)
- Number of attendees (estimated versus actual)

Page 1 (Figure 12) gathers information about the participant. It helps to understand what sectors have been attracted to the event. Sectors that have not attended need to be analysed for future events in order to determine whether they don't have perceived process preservation needs or whether we may not have reached them when advertising the event. It also helps to understand the process preservation needs of various sectors.


Page 2 (Figure 13) gathers information about the relevance of the training content to the participants and in how far the event has met the participant's expectations. It also investigates whether the event has prompted realisations of new use cases in the participant's field and how the learned material can be applied in their organisation.

Information from the first 2 pages helps us to improve our stakeholder analysis in section 4.

Page 3 (Figure 14) inquires about the relevance, gaps and sequencing of training content. It also gathers information that helps with future event planning, such as what venues to choose, whether to have offer online content, what teaching methodologies to use and how much to charge for an event.

Finally, on Page 4 (Figure 15) we inquire about the best communication channels for reaching our audiences: How should we advertise our events and who is interested in staying informed?

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## Resilient Digital Business Processes

Tuesday, 16 October 2012  
Gresham Hotel, Dublin, Ireland

### Evaluation Form

Name (optional):

Organisation (optional):

*What sector do you work in?*

<ul style="list-style-type: none"> <li>• Financial and Public Services: <ul style="list-style-type: none"> <li>○ Banking and Finance</li> <li>○ Defence &amp; Security</li> <li>○ Education</li> <li>○ Research</li> <li>○ Government</li> <li>○ Healthcare</li> <li>○ Insurance</li> <li>○ Libraries</li> <li>○ Museums</li> <li>○ Archives</li> <li>○ Public Sector</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Manufacturing: <ul style="list-style-type: none"> <li>○ Aerospace &amp; Defence</li> <li>○ Automotive</li> <li>○ Chemicals</li> <li>○ Construction &amp; Operations</li> <li>○ Consumer Products</li> <li>○ Engineering</li> <li>○ Fashion and Retail</li> <li>○ High Tech</li> <li>○ Industrial Machinery &amp; Components</li> <li>○ Life Sciences</li> <li>○ Mining</li> <li>○ Oil &amp; Gas</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Service: <ul style="list-style-type: none"> <li>○ Business Consultancy</li> <li>○ Document Management</li> <li>○ Insurance</li> <li>○ IT Services/Software</li> <li>○ Legal Services</li> <li>○ Media, Press and Publishing</li> <li>○ Professional Services</li> <li>○ Telecommunications</li> <li>○ Transportation &amp; Logistics</li> <li>○ Utilities</li> </ul> </li> </ul>
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• Other(please describe):

*Do you consider yourself to be an:*  
archivist / conservator / curator / librarian / IT manager / IT Officer  
other (please describe):

What are your reasons for attending this event?

Figure 12: Feedback form page 1

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On a scale from 1-5 how would you rate today's event on the following aspects:

Relevance to you now	irrelevant	1	2	3	4	5	very relevant
Relevance to you in the future	irrelevant	1	2	3	4	5	very relevant
Presenter(s)	poor	1	2	3	4	5	excellent
Level of information	too low/high	1	2	3	4	5	perfect
Venue and facilities	poor	1	2	3	4	5	excellent
Value for money	poor	1	2	3	4	5	excellent
Overall satisfaction	not satisfied	1	2	3	4	5	very satisfied

Which session did you find most useful?

	Tick one
Introduction to Digital Preservation of Business Processes (Angela Dappert, DPC)	<input type="checkbox"/>
Risk Management in Digital Preservation (Wasif Gilani, SAP)	<input type="checkbox"/>
Business Continuity Management (Wasif Gilani, SAP)	<input type="checkbox"/>
Interactive Demo on BCM (Wasif Gilani, SAP)	<input type="checkbox"/>
Infrastructure, Architecture and Storage (Mike Nolan, Intel)	<input type="checkbox"/>
Legal issues of Digital Preservation (Martin Hecheltjen, ITM)	<input type="checkbox"/>
In-depth study on legal issues (Martin Hecheltjen, ITM)	<input type="checkbox"/>
Panel Discussion (William Kilbride, DPC)	<input type="checkbox"/>


Given what you've heard today, what do you think are the main challenges of preserving digital business processes?

We're interested in innovative use cases other than the ones we have already developed. Is there a particular use case that you can see which is distinctive to your sector or discipline?

Which part of your organisation do you think should be responsible for ensuring that processes are preserved? To whom do you think we should target our training?

Figure 13: Feedback form page 2

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**TIMBUS**  
TIMELESS BUSINESS PROCESSES AND SERVICES

What did you learn? Specifically we'd like to know if there is anything you will do (differently) as a result of attending this event or hearing about the tools and technologies described?

Was there anything else that you would have liked us to have included?

What did we do well?


We ran this workshop at a conference to maximise possible attendance. If we were to run it again independently of the conference would you still consider attending?

Our training made various assumptions about existing knowledge in order to progress to more advanced topics. Do you think we got this right? Is there anything we should have introduced first?

We intend to put some of the training materials online? If we did so, would you use them again? Is there anything in particular that you would like to see?

**Figure 14: Feedback form page 3**

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We are keen to know about our approach to teaching and learning. Do you have any recommendations about how we might change the presentation of material?

This one day event was free because it was a trial supported by the European Commission. If we were to charge in the future, would you be willing to pay? If so how much: 0-25euros, 25-50Euros, 50-100Euros; 100-150Euros; more than 150Euros?

Where did you hear about this event?

TIMBUS website <input type="checkbox"/>	Digital Preservation mailing list <input type="checkbox"/>	Twitter <input type="checkbox"/>
PASIG website <input type="checkbox"/>	DPC discussion mailing list <input type="checkbox"/>	Direct contact <input type="checkbox"/>
DPC website <input type="checkbox"/>	Other (please state) <input style="width: 100%;" type="text"/>	

All feedback is useful to us. Please note any further comments:

Please tick the boxes below and provide your name and email address if you are interested in staying in touch with the DPC:

<b>I'd like to stay in touch with DPC</b>	<b>I'd like to stay in touch with TIMBUS</b>
Name	Email address

---

Thank you for completing this form. Please hand it in on your way out.

**Figure 15: Feedback form page 4**

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## 6 TIMBUS Training Events

The TIMBUS events held so far were highly successful, attracted good attendance and achieved very positive feedback. We sought a variety of audiences with the events. Some TIMBUS training material was used internally to the project in order to assure that project participants were brought up to speed in all relevant areas. This and additional material coming out of the project research has also been made available for external use. Several events catered to the traditional Digital Preservation community in memory organisations and universities and familiarized them with topics in digital resilience and disaster recovery and with legal issues. We also organised events for the business continuity community and the storage infrastructure industry introducing them to digital preservation issues and the potential of integrating digital preservation aspects into their domains. For training delivery we chose a mix of TIMBUS run and co-organised events. We either taught the events completely from TIMBUS developed materials or supplemented them with guest speakers. Additionally we targeted Ireland and Northern Ireland as a region inviting a broad array of industries local to the area, where we hosted the first full-day TIMBUS-only training day.

Our planning collaboration with other EU projects, such as APARSEN and SCAPE<sup>12</sup>, will be translated into the co-ordinated development of training suites and into larger-scale co-organised events.

### Training Approaches

TIMBUS has employed a number of different training approaches including:

- Project internal/external training - Phase 0 material was developed in order to be delivered internal to the project. Some of the introduction to digital preservation material was the reused at an external event, the PASIG<sup>13</sup> 2012 Digital Preservation Boot Camp.
- Online/in-person training - All core introductory sub-modules have been delivered at face-to-face events and have also been made available online.
- Collaborative - We have used a mix of collaborative and TIMBUS-only events which have included the following formats:
  - TIMBUS speakers only
  - Organised by TIMBUS with guest speakers
  - Organised by partner with TIMBUS guest speakers

<sup>12</sup> APARSEN Project; <http://www.alliancepermanentaccess.org/index.php/aparsen/>; SCAPE Project; <http://www.scape-project.eu/>

<sup>13</sup> Preservation and Archiving Special Interest Group (PASIG) <http://sun-pasig.ning.com/>, accessed on 7 March 2013

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Table 13 below provides an overview of events held in April 2011 to March 2013.

**Table 13: Organisational training approaches in Year 1 and Year 2. (Light Grey: Material available online)**

	<b>TIMBUS speakers only</b>	<b>Organised by TIMBUS with guest speakers</b>	<b>Organised by partner with TIMBUS guest speakers</b>
<b>Internal</b>	Digital Preservation crash courses (Lisbon); The Redmine repository and wiki (webinar);	Digital Preservation crash courses (Glasgow);	
<b>External</b>	Training Day on Resilient Business Processes (Dublin);	Briefing Day on Digital Resilience (London);	SAP Industry Workshop (Walldorf);  PASIG <sup>14</sup> Bootcamp on Digital Preservation (Dublin) in collaboration with the PASIG;
		Briefing Day on Intellectual Property Rights and Digital Preservation (Bristol) co-organised by DPC and JISC Media;	

<sup>14</sup> Preservation and Archiving Special Interest Group (PASIG) <http://sun-pasig.ning.com/>, accessed on 7 March 2013

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## Training Events Delivered

The subsequent sections give details of the individual training events TIMBUS has delivered to date.

### 6.1.1 Digital Preservation Crash Course (1)

**Date:** 19 July 2011

**Place:** Glasgow

**Event name:** Digital Preservation Crash Course

**Organiser:** Wholly organised by TIMBUS and co-presented with guest speakers

**Target audience:** TIMBUS partners

**Size of audience:** Phil Taylor, Daniel Simon, Finian Rogers, Andrew McHugh, Sharon McMeekin (APARSEN), William Kilbride, Angela Dappert

**Countries addressed:** UK, Ireland

**Comments:** These one day crash courses for the TIMBUS Project have been developed for staff with no or only limited previous experience in digital preservation to ensure they understand the key concepts and vocabulary. The 'crash course' introduces four key elements of digital preservation – the main players, current and emerging trends in research, current and emerging standards, and other related projects. It encourages dialogue between partners in the project and helps to provide clarity to staff engaged in specific work packages. The associated events were not open to the public but materials presented there were made available and can be incorporated into any training events.

**Presenters/Partners:** William Kilbride, DPC; Andrew McHugh, HATII; Sharon McMeekin, DPC (APARSEN); Angela Dappert, DPC

**Table 14: TIMBUS training modules delivered at the Digital Preservation Crash Course, 19 July 2011, Glasgow**

Module	Presenter(s)
<b>Emerging Standards</b>	
- OAIS (CCSDS, 2012)	William Kilbride
- PREMIS <sup>15</sup>	Angela Dappert
- TRAC and other certification methods	William Kilbride
- DRAMBORA and Risk Assessment in Preservation	Andrew McHugh

<sup>15</sup> PREMIS (2012). PREMIS Data Dictionary for Preservation Metadata, Version 2.2. Retrieved from <http://www.loc.gov/standards/premis/v2/premis-2-2.pdf>, accessed on 7 March 2013



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<b>Module</b>	<b>Presenter(s)</b>
<b>Emerging practice and trends in research</b>	
- What people actually do in preservation	Angela Dappert
- Migration, emulation and bit preservation	Sharon McMeekin
- Automation and scalability	William Kilbride
- Capacity building and policy	William Kilbride
- Other trends from APARSEN DoW	Sharon McMeekin
<b>Main players in preservation</b>	
- Memory institutions (who preserve because they have to)	William Kilbride
- Data owners (those who want to exploit data for some purpose)	William Kilbride
- Vendors, developers and researchers (who make tools and promote them)	William Kilbride
- Regulated institutions (Banks, public institutions, pharmaceuticals etc.)	William Kilbride
<b>Other projects</b>	
- PLANETS <sup>16</sup>	Angela Dappert
- SCAPE <sup>17</sup> and OPF <sup>18</sup>	Angela Dappert
- Other projects from FP7	William Kilbride
- Other projects of note	all

**Evaluation:** Due to the small size of the event the evaluation was done through personal discussion with all of the participants. From this discussion the training plan for the second Crash Course to be held at the face-to-face meeting in Lisbon in September 2011 was derived.

### 6.1.2 Digital Preservation Crash Course (2)

**Date:** 14 September 2011

**Place:** Lisbon, Portugal

**Event name:** Digital Preservation Crash Course

**Organiser:** Wholly organised and presented by TIMBUS

<sup>16</sup> Planets project; <http://www.planets-project.eu/>

<sup>17</sup> SCAPE Project; <http://www.scape-project.eu/>

<sup>18</sup> Open Preservation (Planets) Foundation; <http://www.openplanetsfoundation.org/>

<b>TIMBUS</b>	WP3-Dissemination & Training
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**Target audience:** TIMBUS partners and students at the University of Lisbon

**Size of audience:** 21 attendees, 2 presenters

**Countries addressed:** Europe

**Comments:** These one day crash courses for the TIMBUS Project have been developed for staff with no or only limited previous experience in digital preservation to ensure they understand the key concepts and vocabulary. The ‘crash course’ introduces four key elements of digital preservation – the main players, current and emerging trends in research, current and emerging standards, and other related projects. It encourages dialogue between partners in the project and helps to provide clarity to staff engaged in specific work packages. The associated events were not open to the public but materials presented there were made available and can be incorporated into any training events.

**Presenters/Partners:** William Kilbride, DPC; Angela Dappert, DPC;

**Table 15: TIMBUS training modules delivered at the Digital Preservation Crash Course, 14 September 2011, Lisbon**

<b>Module</b>	<b>Presenter(s)</b>
Introduction to Digital Preservation	William Kilbride
What people actually do in preservation	Angela Dappert
OAIS (CCSDS, 2012)	William Kilbride
PREMIS <sup>19</sup>	Angela Dappert
TRAC and other certification methods	William Kilbride
DRAMBORA and Risk Assessment in Preservation	Angela Dappert
Migration, emulation and bit preservation;	William Kilbride
Automation and scalability;	William Kilbride
Capacity building and policy	William Kilbride

**Evaluation:** No formal evaluation was performed.

### 6.1.3 The Redmine Repository and Wiki

**Date:** 4 November 2011, 21 February 2012

**Place:** Online

**Event name:** The Redmine Repository and Wiki

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<sup>19</sup> PREMIS (2012). PREMIS Data Dictionary for Preservation Metadata, Version 2.2. Retrieved from <http://www.loc.gov/standards/premis/v2/premis-2-2.pdf>, accessed on 7 March 2013

<b>TIMBUS</b>	WP3-Dissemination & Training
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**Organiser:** Wholly organised and presented by TIMBUS

**Target audience:** TIMBUS participants

**Countries addressed:** UK, Portugal, Austria, Germany

**Comments:** Online training to familiarize TIMBUS partners with features offered by our project-internal wiki and SVN

**Presenters/Partners:** Martin Alexander Neumann, KIT

**Evaluation:** No formal evaluation was performed.

#### **6.1.4 Using the Protégé Ontology tool**

**Date:** 4 November 2011, 21 February 2012

**Place:** At Task Meeting in Frankfurt, Germany

**Event name:** Using the Protégé Ontology tool

**Organiser:** Wholly organised and fully presented by TIMBUS

**Target audience:** TIMBUS participants

**Countries addressed:** UK, Portugal, Austria, Germany

**Comments:** Training to familiarize TIMBUS partners with the features offered by our project-internal tools.

**Presenters/Partners:** Martin Alexander Neumann, KIT;

**Evaluation:** No formal evaluation was performed.

#### **6.1.5 Workshop – Business Process Criticality and Recovery of Complex Landscapes**

**Date:** 23 November 2011

**Place:** Walldorf, Germany

**Event name:** Workshop – Business Process Criticality and Recovery of Complex Landscapes

**Organiser:** Wholly organised and presented by TIMBUS

**Target audience:** SAP process owners

**Size of audience:** 20

**Countries addressed:** Germany

**Comments:** Presentation of prototype – BIA tool and dynamic business process mapping. A platform for internal dissemination of the TIMBUS Business Continuity research work

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**Presenters/Partners:** Wasif Gilani, SAP;

**Evaluation:** The evaluation by SAP has not been made accessible to the TIMBUS project.

## 6.1.6 DPC Briefing Day on Intellectual Property Rights and Digital Preservation

**Date:** 21 November 2011

**Place:** Bristol, UK

**Event name:** DPC Briefing Day on Intellectual Property Rights and Digital Preservation

**Event link:** The complete programme and slides can be found at

<http://www.dpconline.org/events/previous-events/841-intellectual-property-rights-and-digital-preservation>

**Organiser:** Co-organised by TIMBUS and the DPC with JISC Digital Media at Bristol University and co-presented with guest speakers

**Target audience:** Digital Preservation experts, operational staff responsible for digital assets in business and memory institutions

**Size of audience:** 40

**Countries addressed:** Europe, with a focus on the United Kingdom, and Ireland

**Presenters /Partners:** Barbara Kolany, ITM

**Table 16: TIMBUS training modules delivered at the DPC Briefing Day on Intellectual Property Rights and Digital Preservation, 21 November 2011, Bristol, UK**

Module	Presenter(s)
The Nature of the Problem presentation, <a href="http://bit.ly/TevAG5">http://bit.ly/TevAG5</a>	Andrew Charles-worth, Bristol University
Case Study 1: Issues of Ownership: Case Studies in Depositing and Licensing from the Wellcome Library presentation, <a href="http://bit.ly/XiKLOB">http://bit.ly/XiKLOB</a>	Chris Hilton, The Wellcome Library
Case Study 2: Legalities, Migration and Emulation presentation, <a href="http://bit.ly/VDGMej">http://bit.ly/VDGMej</a>	David Anderson, KEEP Project, University of Portsmouth
Case Study 3: Group Discussion and Practical Exercise	JISC Media
Escrow Services for Long Term Access: Emerging Trends and Issues presentation, <a href="http://bit.ly/LHXxFY">http://bit.ly/LHXxFY</a>	TIMBUS presentation: Barbara Kolany, ITM, Múnster University

**Evaluation:** The evaluation performed by JISC Digital Media has not been made accessible to the TIMBUS project.

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### 6.1.7 DPC Briefing Day on Digital Resilience, 21 May 2012, London, UK

**Date:** 21 May 2012

**Place:** Wellcome Centre, London, UK

**Event name:** DPC Briefing Day on Digital Resilience

**Event link:**

<http://timbus.teco.edu/projects/timbus/repository/show/WP3/T3.2Dissemination/Documents/Presentations%20Library/2012%2005%2021%20Digital%20Resilience%20London;>

The complete programme and slides can be found at <http://www.dpconline.org/events/previous-events/924-digital-resilience-and-preservation>

**Organiser:** Co-organised by TIMBUS and the DPC and co-presented with guest speakers

**Target audience:** Digital Preservation experts, IT managers, operational staff, risk managers, professionals responsible for digital assets in business and memory institutions. With disaster response, business continuity, risk management and digital preservation focus.

Digital preservation experts, business and memory institutions disaster response, business continuity, risk management and digital preservation.

**Size of audience:** 40

**Countries addressed:** Europe, with a focus on the United Kingdom and Ireland

**Presenters/Partners:** William Kilbride, DPC; Angela Dappert, DPC; Mykola Galushka, SAP

**Presentations:** 2 TIMBUS presentations relevant to digital resilience and 3 guest presentations.

**Table 17: TIMBUS training modules delivered at the DPC Briefing Day on Digital Resilience, 21 May 2012, London, UK**

Module	Presenter(s)
Community-Wide Disasters: Community-Wide Response presentation, <a href="http://bit.ly/XiKUKz">http://bit.ly/XiKUKz</a>	Tom Clareson, Lyrasis
Business Continuity Planning and Digital Preservation presentation, <a href="http://bit.ly/12o79u8">http://bit.ly/12o79u8</a>	John Lindstrom, Lulea Technical University
Risk Management and Digital Preservation presentation, <a href="http://bit.ly/12bJ0b8">http://bit.ly/12bJ0b8</a>	TIMBUS presentation: Angela Dappert, DPC
Business Processes and Preservation: TIMBUS presentation, <a href="http://bit.ly/12o7dds">http://bit.ly/12o7dds</a>	TIMBUS presentation: Mykola Galushka, SAP
Digital Continuity – How Breakfast Cereals are Saving Digital Information presentation, <a href="http://bit.ly/VDGZhD">http://bit.ly/VDGZhD</a>	Tim Callister and Rob Johnson, The National Archives

<b>TIMBUS</b>	WP3-Dissemination & Training
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**Evaluation:**

The event was evaluated using an earlier version of the feedback form presented in section 5.5.4. The feedback was compiled into a summary report by an independent attendee. This section further summarises the results.

38 attendees booked for the day and there were 0 cancellations. There were 0 no shows on the day. 23 people completed the evaluation form amounting to a 60.5% response rate.

The types of organisations were: libraries (1), archives (6), museums (1) research (4,) banks (4), IT (1), unspecified (6).

The roles that attendees had within their organisations were: Librarian (1), Archivist (7), Conservator (1), other roles (12), or gave no response (2).

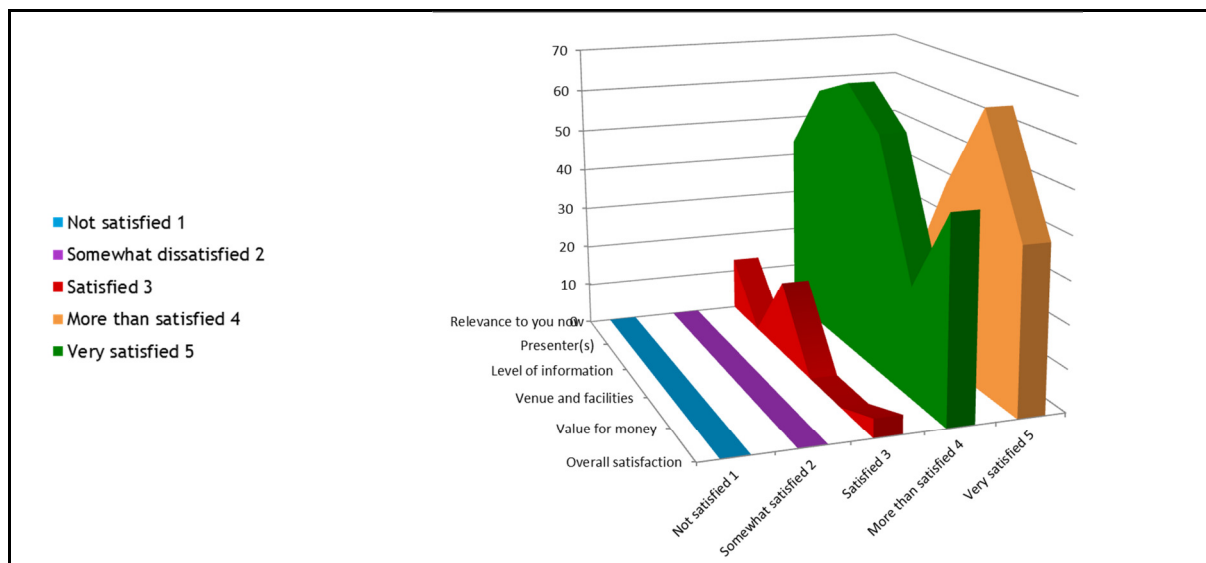
The day ran to time.

Table 18 shows the responses regarding attendee satisfaction in key areas. 92.5% of respondents or more were highly satisfied (rating 4 or 5) in all categories.

**Table 18: Feedback from the DPC Briefing Day on Digital Resilience, 21 May 2012.  
On a scale from 1-5 how would you rate today's event (%)?**

	Not satisfied				Very satisfied	No answer
	1	2	3	4	5	
Relevance to you now	0	0	13	43.5	43.5	
Presenter(s)	0	0		60	40	
Level of information	0	0	17.5	65	17.5	
Venue and facilities	0	0		56.5	43.5	
Value for money	0	0		26	65	9
Overall satisfaction	0	0	4.5	47.5	39	9

<b>TIMBUS</b>	WP3-Dissemination & Training
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The usefulness of the sessions to the attendees was rated as follows (highest to lowest):

- Risk management and digital preservation;
- Community-Wide Disasters: Community-Wide Response and Panel session (equally rated);
- Business continuity planning and digital preservation, Business processes and preservation (equally rated); and
- TIMBUS, Digital Continuity - how breakfast cereals are saving digital information.

The attendees' main reason for attending was that they had responsibility for risk management, business continuity and security in their organisations, they wanted to view these topics through the lens of digital preservation; and they wanted to assess how their own practice compares to the industry's view. Some attendees had, however, a digital preservation background and wanted to assess the relevance of industry approaches to digital preservation.

The attendees' take-away message was to make digital resilience part of the organisation's overall politics. They indicated that most organisations have partial resilience solutions. The day helped attendees see how organisational approaches can be joined up and that there are standard, practical solutions in place to improve digital resilience.

The audience would have liked for us to also discuss digital security, solutions tailored for SMEs, more real-life case studies, UK specific disaster planning approaches, and integration of digital and non-digital approaches.

We were praised for our time management, the panel format that including the audience, our excellent range of speakers, the breadth and joined-up coverage of content, the mix of industries and expertise of presenters, excellent organisation and a very pleasant venue.

<b>TIMBUS</b>	WP3-Dissemination & Training
Deliverable	D3.4:Training Material & Programme, Iteration 1

### 6.1.8 TIMBUS Training Day: Resilient Business Processes

**Date:** 16 October 2012

**Place:** Dublin, Ireland

**Event name:** TIMBUS Training Day: Resilient Business Processes

**Event link:** <http://timbusproject.net/resources/publications/presentations/134-1st-timbus-training-day>

**Organiser:** Wholly organised and presented by TIMBUS

**Target audience:** Digital preservation community; storage infrastructure community; practitioners and industry. PASIG target audience<sup>20</sup>: “The PASIG is a vendor independent community open to any institutions and commercial organizations interested in learning and sharing practical experiences in the following:

- Comparison of high-level OAIS architectures (CCSDS, 2012), services-oriented architecture work, and use cases
- Sharing of best practices and software code
- Cooperation on standard, open, 'in-a-box' solutions around repository technologies
- Review of storage architectures and trends and their relation to preservation and archiving architectures and eResearch data set management
- Discussion of the uses of commercial third party and community-developed solutions

The community is focused on sharing open computing solutions and best practices. But while sharing information about the state-of-the-art developments in standards and open source is important, this is not a standards-setting organization. It is a place to share practical experiences, successes, pain points, and potential topics for more collaboration.”

**Size of audience:** 28

**Countries addressed:** World, with an emphasis on Europe

**Comments:** Introductory material on key topics of business process preservation. This event was held in association with PASIG<sup>21</sup> 2012 (the Preservation and Archiving Special Interest Group) autumn 2012. Organisational support was received from University College Dublin.

**Presenters/Partners:** Angela Dappert, DPC; William Kilbride, DPC; Wasif Gilani, SAP; Daniel Burda, SAP; Mike Nolan, Intel; Barbara Kolany, ITM; Martin Hecheltjen, ITM;

<sup>20</sup> <http://sun-pasig.ning.com/>, accessed on 24 January 2013

<sup>21</sup> Preservation and Archiving Special Interest Group (PASIG) <http://sun-pasig.ning.com/>, accessed on 7 March 2013



<b>TIMBUS</b>	WP3-Dissemination & Training
Deliverable	D3.4:Training Material & Programme, Iteration 1

**Table 19: TIMBUS training modules delivered at the Resilient Business Processes Training Day, 16 October 2012, Dublin, Ireland**

<b>Module</b>	<b>Presenter</b>
Introduction to Digital Preservation of Business Processes	Angela Dappert, DPC
Risk Management in Digital Preservation	Wasif Gilani, SAP
Business Continuity Management	Wasif Gilani, SAP
Interactive Demo on BCM	Wasif Gilani, SAP
Infrastructure, Architecture and Storage	Mike Nolan, Intel
Legal issues of Digital Preservation	Martin Hecheltjen, ITM
In-depth study on legal issues work sheet	Martin Hecheltjen, ITM

#### **Evaluation:**

The event was evaluated using the feedback form presented in section 5.5.4. The feedback was compiled into a summary report by an independent attendee. This section summarises the results. 28 attendees and 5 presenters booked for the day and there were 0 cancellations. There were 0 no shows on the day. 14 people completed an evaluation form amounting to a 50% response rate.

The types of organisations represented were Financial & Public Services (8), Service Industry (5), and unemployed status (1).

The types of institutions represented were from the fields of archaeology, pharmaceuticals, university, revenue government agency, digital storage manufacturer, AV companies, Business Continuity services companies, genealogical services, universities, and an IT consulting firm.

The roles that attendees had within their organisations were as follows: Librarian (4), Archivist (3), Digital Preservation Consultant, IT Architect, IT Manager (2), Media Producer, IT Consultant, and Data Miner/Intelligent Data Analyst.

The day ran to time.

**Table 20: Feedback from the TIMBUS Training Day: Resilient Business Processes, 16 October 2012.**

**On a scale from 1-5 how would you rate today's event (%)? The grey fields indicate high satisfaction (4 or 5) by more than 85% of respondents.**

	Not satisfied				Very satisfied	No answer
	1	2	3	4	5	
Relevance to you now	0	7	29	29	35	0
Relevance to you in future	0	0	14	29	57	0
Presenter(s)	0	0	7	72	21	0
Level of information	0	0	14	72	14	0
Venue and facilities	0	0	14	50	36	0
Value for money	0	0	7	14	72	7
Overall satisfaction	0	0	7	50	43	0

<b>TIMBUS</b>	WP3-Dissemination & Training
Deliverable	D3.4:Training Material & Programme, Iteration 1

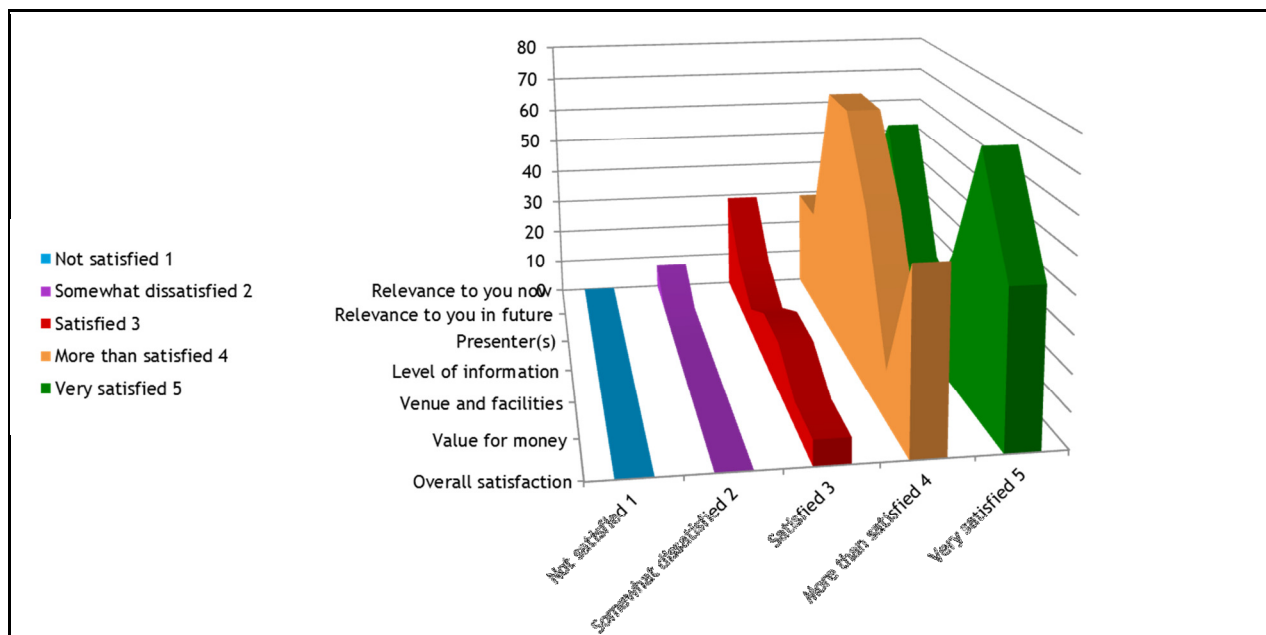


Table 20 shows the responses regarding attendee satisfaction in key areas. Of the 14 respondents 12 or more were highly satisfied (rating 4 or 5) in 7 of the 8 categories. Only with respect to relevance of the topic in the attendee's current position 36 % felt that the topic was currently not highly relevant for them.

The usefulness of the sessions to the attendees was rated as follows (highest to lowest):

- Introduction to Digital Preservation of Business Processes,
- Business Continuity Management,
- Infrastructure Architecture and Storage and Legal issues of Digital Preservation,
- Risk Management in Digital Preservation,

with the great majority appreciating the general introduction to process preservation.

Audience members mentioned that they would like to see more detailed research on the preservation of business processes in the legislative context, the preservation of software-based artwork, the preservation of tools and processes involved in research in academic institutions (especially web-based journals etc.), and management of research data and associated workflow tools.

There was praise for our ability to provide excellent organisation and content coverage, explain complex ideas, for including charts and visual demonstration of ideas, ensuring good timing and breaks to allow for optimal interest levels throughout the day, creating a nice atmosphere, including the audience, and accommodating possible attendants by combining the event with a major conference. Two thirds of attendees said they preferred attending a training event that is associated with a conference. 100% of respondents felt that we made the correct assumptions about existing knowledge in order to progress to more advanced topics. 100% of respondents said that they will reuse slides and recordings of the event if they are made available online for reviewing and for sharing with colleagues.

<b>TIMBUS</b>	WP3-Dissemination & Training
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Suggestions for improvements of teaching approaches suggested the use of training methodologies like grouping, role playing, workflow development, writing on a board and using slides minimally for key messages. It was suggested that it would be useful to run events that focus on just one of the topics offered. One person felt that the connection between the introduced approaches was not yet clearly enough developed. One person suggested distributing the information over 2 days.

Participants' willingness to pay for such an event is distributed as depicted in Figure 16 This averages at a day rate of 68.75 Euros

0 -25 Euros	25 -50 Euros	50 - 75 Euros	75 - 100 Euros	100-125 Euros	125-150 Euros

**Figure 16: Attendants' willingness to pay for a day-long training event.**

### 6.1.9 PASIG<sup>22</sup> 2012 Digital Preservation Bootcamp

**Date:** 17 October 2012

**Place:** Dublin, Ireland

**Event name:** PASIG 2012 Digital Preservation Bootcamp

**Event link:** <https://lib.stanford.edu/node/12754>

**Organiser:** Organised by PASIG; TIMBUS co-presented as guest speakers

**Target audience:** Digital preservation community; storage infrastructure community; practitioners and industry. PASIG target audience<sup>23</sup>: "The PASIG is a vendor independent community open to any institutions and commercial organizations interested in learning and sharing practical experiences in the following:

- Comparison of high-level OAIS (CCSDS, 2012) architectures, services-oriented architecture work, and use cases
- Sharing of best practices and software code
- Cooperation on standard, open, 'in-a-box' solutions around repository technologies
- Review of storage architectures and trends and their relation to preservation and archiving architectures and eResearch data set management

<sup>22</sup> Preservation and Archiving Special Interest Group (PASIG) <http://sun-pasig.ning.com/>, accessed on 7 March 2013

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- Discussion of the uses of commercial third party and community-developed solutions

The community is focused on sharing open computing solutions and best practices. But while sharing information about the state-of-the-art developments in standards and open source is important, this is not a standards-setting organization. It is a place to share practical experiences, successes, pain points, and potential topics for more collaboration.”

**Size of audience:** 150

**Countries addressed:** World, with an emphasis on Europe

**Comments:** This event was held in collaboration with PASIG 2012 (the Preservation and Archiving Special Interest Group) autumn 2012. Training in concepts, issues, tools, strategies & approaches for Digital Preservation and Archiving was offered. This half day block of training sessions focused on an introduction to the field and needs in digital preservation, and gave attendees a foundation of concepts, terminology, standards and tools used broadly in the field. This half day of "Digital Preservation 101" was open to practitioners of all levels, but was targeted specifically for those looking to gain exposure to the field.

**Presenters/Partners:** William Kilbride, DPC; Angela Dappert, DPC;

**Table 21: TIMBUS training modules delivered at the PASIG 2012 Digital Preservation Bootcamp, 17 October 2012, Dublin**

Modules	Presenter
Digital Preservation in Theory and in Practice. <a href="https://lib.stanford.edu/files/pasig-oct2012/03-Cramer_PASIG_Dublin_2012_DP_Theory.pdf">https://lib.stanford.edu/files/pasig-oct2012/03-Cramer_PASIG_Dublin_2012_DP_Theory.pdf</a>	<b>Tom Cramer,</b> Stanford University Libraries
Digital Preservation: What I Wish Someone Had Told Me Before I Started. <a href="https://lib.stanford.edu/files/pasig-oct2012/04a-Kilbride_WGK_PASIG_WIWIK_October2012.pdf">https://lib.stanford.edu/files/pasig-oct2012/04a-Kilbride_WGK_PASIG_WIWIK_October2012.pdf</a>	<b>William Kilbride,</b> DPC
How To Get Started in Digital Preservation: Assessing "Institutional Readiness". <a href="https://lib.stanford.edu/files/pasig-oct2012/04b-Kilbride_WGK_InstitutionalReadiness_Oct2012.pdf">https://lib.stanford.edu/files/pasig-oct2012/04b-Kilbride_WGK_InstitutionalReadiness_Oct2012.pdf</a>	<b>William Kilbride,</b> DPC
Digital Preservation Metadata and the PREMIS <sup>24</sup> Data Dictionary. <a href="https://lib.stanford.edu/files/pasig-oct2012/05-Dappert_Pasig_Dappert_Preservation_Metadata.pdf">https://lib.stanford.edu/files/pasig-oct2012/05-Dappert_Pasig_Dappert_Preservation_Metadata.pdf</a>	<b>Angela Dappert,</b> DPC
Understanding Requirements and Implementation from a Vendor Perspective. <a href="https://lib.stanford.edu/files/pasig-oct2012/06-Sinclair_PASIGBootCampRequirements.pdf">https://lib.stanford.edu/files/pasig-oct2012/06-Sinclair_PASIGBootCampRequirements.pdf</a>	<b>Pauline Sinclair,</b> Tessella

<sup>24</sup> PREMIS (2012). PREMIS Data Dictionary for Preservation Metadata, Version 2.2.

Retrieved from <http://www.loc.gov/standards/premis/v2/premis-2-2.pdf>, accessed on 7 March 2013

<b>TIMBUS</b>	WP3-Dissemination & Training
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## Promotion of Training Events

Event announcements were widely disseminated. They were announced on the host organisations' websites (DPC, PASIG, JISC, SAP) and on the TIMBUS website. They were distributed in the What's On section of the DPC's "What's New" newsletter and on a multitude of mailing lists:

- LinkedIn "TIMBUS Timeless Business Processes and Services" group
- LinkedIn "Digital Preservation" group
- The Google Long-Term Digital Preservation Reference Model group:  
<https://groups.google.com/forum/?fromgroups#!forum/ltdprm>
- APARSEN Project: [aparsen@jiscmail.ac.uk](mailto:aparsen@jiscmail.ac.uk)
- TIMBUS project: [timbus@listserv.sap.com](mailto:timbus@listserv.sap.com)
- SCAPE project: [all@list.scape-project.eu](mailto:all@list.scape-project.eu)
- Twitter [timbus\\_project](#)
- [archives-nra@jiscmail.ac.uk](mailto:archives-nra@jiscmail.ac.uk)
- [dcc-associates@lists.ed.ac.uk](mailto:dcc-associates@lists.ed.ac.uk)
- [digital-preservation@jiscmail.ac.uk](mailto:digital-preservation@jiscmail.ac.uk)
- [dpc-discussion@jiscmail.ac.uk](mailto:dpc-discussion@jiscmail.ac.uk)
- [ifla.listserv@infoserv.inist.fr](mailto:ifla.listserv@infoserv.inist.fr)
- [records-management-uk@JISCMail.AC.UK](mailto:records-management-uk@JISCMail.AC.UK)
- [research-dataman@jiscmail.ac.uk](mailto:research-dataman@jiscmail.ac.uk)
- [pig@listserv.loc.gov](mailto:pig@listserv.loc.gov)
- [codata\\_international@kbx7.de](mailto:codata_international@kbx7.de)

Additionally we targeted the regions of Ireland and Northern Ireland and the wider UK by contacting personal contacts at EMC Cloud Computing; GAA (with Boston University collating a digital/media archive of the GAA's history); RTÉ Ireland's National Television and Radio Broadcaster; local authorities: Dublin City Council and city manager, Fingal, Kildare and Wicklow County Councils (with enterprise boards linked to SME's all over their respective catchment areas); Enterprise Ireland (with links to businesses in the Republic of Ireland); Taoiseach's office; the Irish National Archives; certifying officers in the National Archives Report (<http://www.nationalarchives.ie/wp-content/uploads/2012/04/Directors-Report-2010.pdf>); Ordnance Survey Ireland; Business Continuity Management Services for Emergency Planning Solutions Ltd; Pfizer Pharmaceuticals; Aero Bombardier; utilities and telephony companies in Ireland for infrastructure and cabling management records: ESB (electricity), Bord Gais (Gas); Cisco; The Health Service Executive; the Irish Revenue Service; Intel Ireland Newsroom; Intel Legal and Finance; IVI Innovation Value Institute; local

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universities: Trinity College Dublin, Dublin City University; National University of Ireland, Maynooth; IT Blanchardstown; Hewlett-Packard; the media and a host of personal contacts in the digital preservation, digital repository, software, and open source communities.

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## 7 Planned Training

Our goal is to provide a training programme that ensures the successful take-up of TIMBUS project outputs. For the remainder of the project duration TIMBUS training will continue on the same trajectory. We will build on top of the existing base modules to tie all aspects of TIMBUS together into one holistic picture of the process preservation approach. It will also increasingly integrate TIMBUS products into the demonstrations of basic principles. We will also target further audience groups, such as civil engineers and legal experts. Our planned collaboration with other EU projects, such as APARSEN and SCAPE<sup>25</sup>, will be translated into the co-ordinated development of training suites and into larger-scale co-organised events.

### Planned Content

The concrete content to be developed for 2013 is as follows. Toward the end of 2013 there will be a further planning iteration where the training content for 2014 will be set.

#### eScience Process Preservation

SBA will develop a training module to illustrate the benefits of process preservation for eScience settings. This will be illustrated using the workflow for music classification used earlier in the project, as well as the workpackage 7 use case on Engineering Services and Systems for Digital Preservation. Responsible contacts are Rudolf Mayer and Stefan Pröll.

#### Dependency Analysis Demonstrator

Under the leadership of CMS a tool for analysing software dependencies is being developed that functions not at the code-level but rather on the level of the execution environment which is closer to the actual business process. It proposes a set of possible relations between the technological, business and organizational components that are part of the business process. These relations map the constraints that the platform should satisfy in order to be available in the future. An industry specific list of service dependency types will be proposed describing the possible relations among components and the corresponding attributes of the relations. Responsible contact is Carlos Coutinho.

#### Legalities Lifecycle Decision Support

Under the leadership of ITM a decision support system is being developed that helps process owners to determine which legal or regulatory issues may prevent them from successfully preserving or redeploying their processes. The tool is currently being developed and tested within the eHealth use case in work package 9. Responsible contact is Barbara Kolany.

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<sup>25</sup> APARSEN Project; <http://www.alliancepermanentaccess.org/index.php/aparsen/>; SCAPE Project; <http://www.scape-project.eu/>

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### **Technical Aspects of Ensuring High-Quality Software Escrow Deposit**

SBA is investigating how far technical aspects of processes and systems influence how successfully they can be preserved and redeployed. Responsible contact is Elisabeth Weigl and Stephan Strodl.

### **End-to-End TIMBUS Tool Demonstration**

Under the leadership of CMS a demonstrator is being developed that illustrates the interaction of all TIMBUS tools and the underlying architecture by simulating a mini use case consisting of a few typical but elementary transactions. Responsible contact is Carlos Coutinho.

### **Context and Archimate**

Under the leadership of INESC-ID the TIMBUS project is investigating how the Archimate conceptual model for processes can be customised for process preservation purposes. TIMBUS is developing domain independent and domain specific models that will support process preservation. Responsible contact is Artur Caetano.

### **Context and Reasoning**

KIT alongside CMS is developing context capturing and extracting tools for populating the Context Model. These are important, in addition to reasoning and solving tools, for risk assessment and also preservation planning tasks, since they are based on properties of the process and its contexts, and are ruled by constraints over which the system can reason. Responsible contact is Hossein Miri.

### **Intelligent Enterprise Risk Management**

Intelligent enterprise risk management methods analyse how digital process preservation can be linked into standard Enterprise Risk Management frameworks and how appropriate methods can be utilized or adopted in the TIMBUS context. Responsible contact is Roxana Belecheanu.



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## Planned Events

For 2013 TIMBUS is planning to run the following training events.

### Digital Process Preservation for Civil Engineering

Two events are planned on digital process preservation for civil engineering. The first one will be an event targeted at civil engineers and physicists in the Portugal area. It will take place in late spring/early summer 2013 in Lisbon and include an introduction to Digital Preservation and an introduction to business process preservation using the work package 8 monitoring use case as an example. Responsible contact is Jose Barateiro, LNEC

The second event will be a tutorial or workshop at a civil engineering scientific conference. Two possible venues are

- ICOLD European Symposium (April 2014), or
- International Conference on Civil, Structural and Environmental Engineering Computing (3-6 September 2013 ) (<http://www.civil-comp.com/conf/cc13.htm>) (same time as iPres 2013)

Responsible contact is Jose Barateiro, LNEC

### APARSEN Advanced Practitioner Course

A Digital Preservation week is to be held in collaboration with APARSEN, SCAPE<sup>26</sup> and possibly other EU projects in summer 2013 in Glasgow. TIMBUS will contribute to introductory Digital Preservation sessions and will provide one whole day of training on Process Preservation topics, comprising introductory modules as well as tool demonstrations and hands-on sessions. Responsible contact is Angela Dappert.

### iPres Resilient Processes

During iPres 2013, 2 September 2013 in Lisbon, (<http://ipres2013.ist.utl.pt/>) TIMBUS is hoping to run another whole day training day on process preservation. Responsible contact is Angela Dappert.

### iPres Briefing Day on Legal Issues in Digital Preservation

During iPres 2013, 2 September 2013 in Lisbon (<http://ipres2013.ist.utl.pt/>), TIMBUS would hope to hold a full-day workshop on legal issues relating to the digital preservation of processes. It will

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<sup>26</sup> APARSEN Project; <http://www.alliancepermanentaccess.org/index.php/aparsen/>; SCAPE Project; <http://www.scape-project.eu/>

<b>TIMBUS</b>	WP3-Dissemination & Training
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include an introduction of the various legal branches affecting digital preservation (such as data protection, licensing, copyright), show a demonstration of the TIMBUS legalities life-cycle management decision support system on eHealth, give an introduction to software escrow, and offer an opportunity for a discussion on technical aspects of ensuring high-quality SW escrow deposit. In addition, there will be guest speakers. Responsible contacts are Angela Dappert, Barbara Kolany, Stephan Strodl, and Elisabeth Weigl.

### **Theory and Practice of Digital Libraries**

For TPD, September 22-26, 2013, Valletta, Malta, (<http://www.tpd2013.info/>) TIMBUS plan to propose a full-day training event on process preservation with a special emphasis on eSciences and problem diagnosis in file migration processes. Responsible contacts are Rudolf Mayer and Angela Dappert.

### **Business Continuity Management Conference**

At the Business Continuity Management conference in November 2013 (for 2012: <http://www.bcm2012.com/>) TIMBUS hope to hold a full-day training event emphasizing topics relating to digital preservation and tool demonstrations. Responsible contact is Wasif Gilani.

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### Further Potential Venues, Partners and Consumers

The following table lists further potential training venues.

**Table 22: Potential venues for Year 3 training**

Venue	Link to Venue	Comment
<b>eChallenges 2013</b>	<a href="http://www.echallenges.org/e2013/default.asp">http://www.echallenges.org/e2013/default.asp</a>	9-11 October 2013, Dublin, Ireland
<b>ERIC –European Conference on Research &amp; Innovation</b>	<a href="http://www.intel.com/corporate/education/emea/event/irc/">http://www.intel.com/corporate/education/emea/event/irc/</a>	Intel event with varying technology focus themes
<b>SAP TechEd and Tech Tour</b>	<a href="http://www.sap.com/communities/sap-communities/sap-teched-and-techtour.epx">http://www.sap.com/communities/sap-communities/sap-teched-and-techtour.epx</a>	SAP's technical education conference
<b>Preservation and Archiving Special Interest Group (PASIG).</b>	<a href="http://sun-pasig.ning.com/">http://sun-pasig.ning.com/</a>	A vendor independent community open to any institutions and commercial organisations interested in learning and sharing practical experiences in * Comparison of high-level OAIS (CCSDS, 2012) architectures, services-oriented architecture work, and use cases, * Sharing of best practices and software code, Cooperation on standard, open, 'in-a-box' solutions around repository technologies, * Review of storage architectures and trends and their relation to preservation and archiving architectures and eResearch data set management, Discussion of the uses of commercial third party and community-developed solutions

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Venue	Link to Venue	Comment
<b>SNIA</b>	<a href="http://www.snia.org">http://www.snia.org</a> for US <a href="http://www.snia.org/news_events/calendar">http://www.snia.org/news_events/calendar</a> for EU: <a href="http://www.snia-europe.org/en/events/index.cfm">http://www.snia-europe.org/en/events/index.cfm</a>	Plugfest, Storage Expo; Annual conference in September in Santa Clara
<b>Business Continuity Awareness Week</b>	<a href="http://www.bcaw2013.com/">http://www.bcaw2013.com/</a>	March 2014
<b>Gartner Business Process Management Summit</b>	<a href="http://www.clocate.com/conference/Gartner-Business-Process-Management-Summit-2013/20421/">http://www.clocate.com/conference/Gartner-Business-Process-Management-Summit-2013/20421/</a>	March 2014 , London, United Kingdom

**Table 23: Potential venues for external civil engineering training in Year 3:**

Venue	Link to Venue	Comment
<b>ICOLD (International Commission on Large Dams) congress</b>	<a href="http://www.icold-cigb.org/">http://www.icold-cigb.org/.</a>	This is the international key conference in dam engineering. 81th ICOLD Annual Meeting Held in Seattle, USA from 12th to 16th August 2013.
<b>EUROCK (Rock Engineering and Technology)</b>	<a href="http://www.eurock2013.pwr.wroc.pl/index.php?id=21">http://www.eurock2013.pwr.wroc.pl/index.php?id=21</a>	21-26 September 2013in Wroclaw, Poland.
<b>CHAOS (Cahotic Modeling and Simulation)</b>	<a href="http://www.cmsim.org/">http://www.cmsim.org/</a>	11-14 June, Istanbul, Turkey
<b>International Conference on Dam Engineering</b>	<a href="http://dam11.lnec.pt">http://dam11.lnec.pt</a>	Next conference TBD

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**Table 24: Potential venues for TIMBUS tools training in Year 3**

Venue	Link to Venue	Comment
<b>FOSDEM</b>	<a href="http://fosdem.org">fosdem.org</a>	FOSDEM is an event organised by and for the community to provide Free and Open Source developers a place to meet.
<b>Evento Linux</b>	<a href="http://eventolinux.org/">http://eventolinux.org/</a>	The Portuguese Meeting on Open Technology is an event that aims to spread an alternative of technological development supported through the use of free software

**Table 25: Related Training Programmes**

Institutions that might use TIMBUS training material even after the duration of the project are:

Group	URL	Description
<b>DPC</b>	<a href="http://www.dpconline.org/training">http://www.dpconline.org/training</a>	A coalition of organisations invested in digital preservation. Facilitating training and support activities and creating practitioner-focused material and events to empower and develop the DPC members' workforces, so that staff remain informed of, trained in and confident with the new developments and tools which are released and made available.
<b>DPTP</b>	<a href="http://www.dptp.org/">http://www.dptp.org/</a>	The Digital Preservation Training Programme (DPTP) provides the skills and knowledge necessary for those working in institutional information management to combine organisational and technological perspectives, and devise an appropriate response to the challenges that digital preservation needs present.
<b>SNIA</b>	<a href="http://www.snia.org/education">http://www.snia.org/education</a> <a href="http://www.snia-europe.org/en/training-and-certification/index.cfm">http://www.snia-europe.org/en/training-and-certification/index.cfm</a>	SNIA educates the market on the evolution and application of storage infrastructure solutions for the data centre through education, knowledge exchange and industry thought leadership - advancing IT technologies, standards, and education programs for all IT professionals

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<b>Group</b>	<b>URL</b>	<b>Description</b>
<b>The Library of Congress Digital Preservation Outreach and Education Program (DPOE)</b>	<a href="http://www.digitalpreservation.gov/education/courses/">http://www.digitalpreservation.gov/education/courses/</a>	Foster national outreach and education to encourage individuals and organisations to actively preserve their digital content, building on a collaborative network of instructors, contributors, and institutional partners.
<b>Aparsen</b>	<a href="http://www.alliancepermanentaccess.org/index.php/current-projects/aparsen/">http://www.alliancepermanentaccess.org/index.php/current-projects/aparsen/</a>	Training work package within the Aparsen Digital Preservation Network of Excellence, e.g industry specific training, a Common Vision

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## 8 Conclusion and Outlook

The TIMBUS training efforts in Year 1 and Year 2 have been varied and proved to be very successful. Attendance figures were healthy and feedback was positive. A large variety of training material have also been made available publicly online and events targeted at various stakeholder groups have been organised.

In the second half of the project we will continue on the same trajectory but develop materials increasingly specific to the outputs of the TIMBUS project. We will also target further audience groups, such as civil engineers and legal experts. Our planned collaboration with other EU projects, such as APARSEN and SCAPE<sup>27</sup>, will be translated into the co-ordinated development of training suites and into larger-scale co-organised events. We will provide a training programme that ensures the successful take-up of TIMBUS project outputs.

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<sup>27</sup> APARSEN Project; <http://www.alliancepermanentaccess.org/index.php/aparsen/>; SCAPE Project; <http://www.scape-project.eu/>

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## A. Annex: TIMBUS Training Plans for Training Material Developed in Year 1 and 2

The following sections provide examples training plans from the TIMBUS project. They follow the templates that were introduced in section 5.1.3.

### A.1. Digital Process Preservation

<b>Module title</b>	<b>Digital Process Preservation</b>
<b>Content description</b>	This module discusses process preservation at a high level. It explains why process preservation is important and gives an overview of the approach, tools and architecture without going into too much detail. It illustrates process preservation on simple examples.
<b>Target audience</b>	Anyone responsible for continued access to processes
<b>Responsible contact</b>	Angela Dappert, DPC

<b>Sub-Module title</b>	<b>Introduction to Digital Process Preservation</b>
<b>Duration</b>	45 minutes
<b>Content description</b>	<p>This sub-module introduces the TIMBUS project's goals, partners, and their interest in process preservation.</p> <p>It contrasts process preservation with the more traditional preservation of files, data, and system emulations or porting.</p> <p>It emphasises the importance of metadata (the context model) and distinction between preserving objects vs. preserving object descriptions from which to redeploy.</p> <p>It explains the motivations for process preservation.</p> <p>It illustrates the TIMBUS planning – preservation – redeployment approach using a simple use case.</p> <p>It introduces basic system components and architecture.</p>
<b>Learning objectives</b>	<p>Understand motivations for process preservation.</p> <p>Understand the digital preservation context and how process preservation fits in.</p> <p>Understand the TIMBUS approach.</p> <p>Understand key system components.</p>
<b>Previous required knowledge</b>	A basic understanding of digital concepts, web services and third-part service provision.
<b>Dependencies to other sub-modules</b>	<p>This sub-module does not depend on other sub-modules.</p> <p>If it is co-taught at an event with introductory modules to digital preservation, then it should be taught after those. They are, however, not necessary.</p>
<b>Dependencies to</b>	No dependencies to external documents.



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<b>external documents</b>	
<b>Methodologies used for sub-module delivery</b>	<p>PowerPoint presentations of the slides.</p> <p>Audience-involved exercise for identifying audience processes that would benefit from preservation.</p> <p>Display posters illustrating the TIMBUS approach and a context modeexample in order to reinforce the taught material.</p>
<b>Technology required for sub-module delivery</b>	<p>PowerPoint presentation system;</p> <p>Flipcharts and markers;</p> <p>Posters <a href="http://timbusproject.net/component/docman/doc_download/89-on-the-complexity-ofprocess-preservation-a-case-study-on-an-e-science-experiment">http://timbusproject.net/component/docman/doc_download/89-on-the-complexity-ofprocess-preservation-a-case-study-on-an-e-science-experiment</a></p> <p>and</p> <p><a href="http://timbusproject.net/component/docman/doc_download/63-business-process-preservation-how-to-capture-document-a-evaluate-poster">http://timbusproject.net/component/docman/doc_download/63-business-process-preservation-how-to-capture-document-a-evaluate-poster</a></p>
<b>Required reading</b>	There is no required reading
<b>Recommended/optional reading</b>	<p>TIMBUS iPres 2012 publications</p> <p><a href="http://timbusproject.net/resources/publications/articles/139-ipres-2012">http://timbusproject.net/resources/publications/articles/139-ipres-2012</a></p> <p>Particularly:</p> <p><b>Digital Preservation of Business Processes with TIMBUS Architecture</b></p> <p><a href="http://timbusproject.net/component/docman/doc_download/61-digital-preservation-of-business-processes-with-timbus-architecture-presentation">http://timbusproject.net/component/docman/doc_download/61-digital-preservation-of-business-processes-with-timbus-architecture-presentation</a> (5.22 MB)</p> <p><a href="http://timbusproject.net/component/docman/doc_download/68-digital-preservation-of-business-processes-with-timbus-architecture-presentation">http://timbusproject.net/component/docman/doc_download/68-digital-preservation-of-business-processes-with-timbus-architecture-presentation</a></p>
<b>URL for slides</b>	<p><a href="http://timbusproject.net/component/docman/doc_download/50-introduction-to-digital-preservation-of-business-processes">Slides</a> (6MB) <a href="http://timbusproject.net/component/docman/doc_download/50-introduction-to-digital-preservation-of-business-processes">http://timbusproject.net/component/docman/doc_download/50-introduction-to-digital-preservation-of-business-processes</a></p> <p><a href="https://www.youtube.com/watch?v=cXnMfD5Hrlg&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=1&amp;hd=1">Video</a> Part 1 of 3: Introduction to the TIMBUS project; overview over scope of and approach to process preservation;</p> <p><a href="https://www.youtube.com/watch?v=erYMWLs3B7k&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=2&amp;hd=1">https://www.youtube.com/watch?v=cXnMfD5Hrlg&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=1&amp;hd=1</a></p> <p><a href="https://www.youtube.com/watch?v=erYMWLs3B7k&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=2&amp;hd=1">Video</a> Part 2 of 3: Motivations for process preservation;</p> <p><a href="https://www.youtube.com/watch?v=CqCkg8NHi1Y&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=3&amp;hd=1">Video</a> Part 3 of 3: TIMBUS approach and example (music classification);</p> <p><a href="https://www.youtube.com/watch?v=CqCkg8NHi1Y&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=3&amp;hd=1">https://www.youtube.com/watch?v=CqCkg8NHi1Y&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=3&amp;hd=1</a></p>
<b>URL for demo software</b>	This sub-module does not use demo software.
<b>URL for data sets used</b>	This sub-module does not use data sets.
<b>URL for hand-outs, quizzes and other learning material</b>	Posters <a href="http://timbusproject.net/component/docman/doc_download/89-on-the-complexity-ofprocess-preservation-a-case-study-on-an-e-science-experiment">http://timbusproject.net/component/docman/doc_download/89-on-the-complexity-ofprocess-preservation-a-case-study-on-an-e-science-experiment</a>

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	and <a href="http://timbusproject.net/component/docman/doc_download/63-business-process-preservation-how-to-capture-document-a-evaluate-poster">http://timbusproject.net/component/docman/doc_download/63-business-process-preservation-how-to-capture-document-a-evaluate-poster</a>
<b>How can the success of training with this sub-module be assessed</b>	<ul style="list-style-type: none"> <li>• What motivations are there for process preservation?</li> <li>• What are the 3 steps in the TIMBUS approach?</li> <li>• What approaches common in business are integrated into the TIMBUS approach?</li> <li>• Chose a process to be preserved. Discuss what context component must be preserved in order to be able to redeploy / diagnose the process.</li> <li>• What aspects of the TIMBUS approach should be discussed in more detail?</li> </ul>
<b>Sub-module prepared by</b>	Angela Dappert, DPC

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## A.2. Enterprise Risk Management and Digital Preservation

<b>Module title</b>	<b>Enterprise Risk Management and Digital Preservation</b>
<b>Content description</b>	<p>This training module provides an introduction to the area of enterprise risk management and the adoption of its concepts to the domain of digital preservation of business processes. The module is structured into the following two sub modules:</p> <ol style="list-style-type: none"> <li>1. Introduction to Enterprise Risk Management</li> <li>2. Adoption of Enterprise Risk Management in TIMBUS to Leverage Digital Preservation of Business Processes.</li> </ol>
<b>Target audience</b>	Professionals in science, industry and memory institutions that are concerned with archiving and preservation within their organization. We assume no previous knowledge of ERM.
<b>Responsible contact</b>	Daniel Burda

<b>Sub-Module title</b>	<b>Introduction to Enterprise Risk Management</b>
<b>Duration</b>	Approximately 45-60 min.
<b>Content description</b>	This module gives a first introduction into the area of risk management. It will provide a basic understanding of the main concepts in risk management, present common risk management frameworks and processes as well as various methods for risk analysis. Finally, it will provide an assessment of different risk management frameworks and describe adoption of ISO31000 in the context of TIMBUS.
<b>Learning objectives (what will a member of the audience have learned)</b>	<ul style="list-style-type: none"> <li>• Gain an understanding of basic risk management concepts</li> <li>• Have knowledge of common risk management frameworks</li> </ul>
<b>Previous required knowledge</b>	n/a
<b>Dependencies to other sub-modules</b>	No dependencies on other sub-modules. Provides basis for " <b>Adoption of Enterprise Risk Management in TIMBUS to Leverage Digital Preservation of Business Processes</b> "
<b>Dependencies to external documents</b>	ISO31000 Standard (2009). ISO 31000. Risk management -- Principles and guidelines. International Organization for Standardization. Can be purchased from <a href="http://www.iso.org/iso/catalogue_detail.htm?csnumber=43170">http://www.iso.org/iso/catalogue_detail.htm?csnumber=43170</a>
<b>Methodologies used for sub-module delivery</b>	PowerPoint presentation
<b>Technology required for sub-module delivery</b>	PowerPoint/Beamer
<b>Required Reading</b>	n/a
<b>Recommended Reading</b>	Barateiro, J., Antunes, G., Freitas, F., and Borbinha, J. 2010. "Designing Digital Preservation Solutions: A Risk Management-Based Approach," International Journal of Digital Curation (5:1), pp. 4-17.

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	<p><a href="http://www.google.co.uk/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=1&amp;ved=OCDCQFjAA&amp;url=http%3A%2F%2Fijdc.net%2Findex.php%2Fijdc%2Farticle%2Fdownload%2F143%2F205&amp;ei= T8iUcCxM42q0AXrp4HYBA&amp;usg=AFQjCNE8UCsi gjFtJgedeLxSe8QaNNBgXA&amp;bvm=bv.42553238,d.d2k&amp;cad=rja">http://www.google.co.uk/url?sa=t&amp;rct=j&amp;q=&amp;esrc=s&amp;source=web&amp;cd=1&amp;ved=OCDCQFjAA&amp;url=http%3A%2F%2Fijdc.net%2Findex.php%2Fijdc%2Farticle%2Fdownload%2F143%2F205&amp;ei= T8iUcCxM42q0AXrp4HYBA&amp;usg=AFQjCNE8UCsi gjFtJgedeLxSe8QaNNBgXA&amp;bvm=bv.42553238,d.d2k&amp;cad=rja</a></p> <p>Canteiro, S. and Barateiro, J. (2011) Risk Assessment in Digital Preservation of e-Science Data and Processes, Proceedings of International Conference on Preservation of Digital Objects (iPRES2011), Nov 1-4, Singapore.</p> <p><a href="http://timbusproject.net/component/docman/doc_download/13-risk-assessment-in-digital-preservation-of-e-science-data-and-processes">http://timbusproject.net/component/docman/doc_download/13-risk-assessment-in-digital-preservation-of-e-science-data-and-processes</a></p>
<b>URL for slides</b>	<p><a href="#">Slides</a> (615 kB)</p> <p><a href="http://timbusproject.net/component/docman/doc_download/51-risk-management-in-digital-preservation">http://timbusproject.net/component/docman/doc_download/51-risk-management-in-digital-preservation</a></p> <p><a href="#">Video</a> Part 1 of 2: Risk management frameworks and standards;  <a href="https://www.youtube.com/watch?v=CMUJAivN2nl&amp;list=PL2fxQHETrFuebmsG03rKQWnV_OK8qe20t&amp;index=4&amp;hd=1">https://www.youtube.com/watch?v=CMUJAivN2nl&amp;list=PL2fxQHETrFuebmsG03rKQWnV_OK8qe20t&amp;index=4&amp;hd=1</a></p> <p><a href="#">Video</a> Part 2 of 2: Risk management example; risk management in relationship to digital preservation;  <a href="https://www.youtube.com/watch?v=Mn853GMjfs0&amp;list=PL2fxQHETrFuebmsG03rKQWnV_OK8qe20t&amp;index=5&amp;hd=1">https://www.youtube.com/watch?v=Mn853GMjfs0&amp;list=PL2fxQHETrFuebmsG03rKQWnV_OK8qe20t&amp;index=5&amp;hd=1</a></p>
<b>URL for demo software</b>	n/a
<b>URL for data sets used</b>	n/a
<b>URL for hand-outs, quizzes and other learning material</b>	n/a
<b>How can the success of training with this sub-module be assessed</b>	<ul style="list-style-type: none"> <li>• What is the aim of enterprise risk management?</li> <li>• How can a risk be defined?</li> <li>• What are common risk management frameworks</li> <li>• What are important phases in a risk management process and what are the outcomes of each phase?</li> <li>• Name at least 3 techniques that can be used to identify risks</li> <li>• What data mining concepts can be exploited for the sake of risk analysis?</li> </ul>
<b>Sub-module prepared by</b>	Daniel Burda, SAP

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<b>Sub-Module title</b>	<b>Adoption of Enterprise Risk Management in TIMBUS to Leverage Digital Preservation of Business Processes</b>
<b>Duration</b>	45-60 minutes
<b>Content description</b>	This sub module presents the enterprise risk management approach defined in the TIMBUS project. It starts by describing the overall risk management process in TIMBUS and how it is linked with the business processes of an organization. It provides a detailed understanding of each phase in the process based on theoretical considerations and a hands-on example to illustrate the approach.
<b>Learning objectives (what will a member of the audience have learned)</b>	<ul style="list-style-type: none"> <li>• Know the risk management approach adopted in TIMBUS</li> <li>• Understand the inputs and outputs of each risk management phase</li> <li>• Understand how the risk management concepts are linked to the business processes in an organization.</li> </ul>
<b>Previous required knowledge</b>	A basic understanding of risk management principles and frameworks.
<b>Dependencies to other sub-modules</b>	Dependency on “ <b>Introduction to Enterprise Risk Management</b> ”
<b>Dependencies to external documents</b>	<ul style="list-style-type: none"> <li>• ISO31000 Standard (2009). ISO 31000. Risk management -- Principles and guidelines. International Organization for Standardization. Can be purchased from <a href="http://www.iso.org/iso/catalogue_detail.htm?csnumber=43170">http://www.iso.org/iso/catalogue_detail.htm?csnumber=43170</a>, )</li> <li>• TIMBUS Deliverable D4.1 (Publication expected)</li> </ul>
<b>Methodologies used for sub-module delivery</b>	PowerPoint presentation
<b>Technology required for sub-module delivery</b>	PowerPoint/Beamer
<b>Required Reading</b>	n/a
<b>Recommended Reading</b>	In development
<b>URL for slides</b>	In development
<b>URL for demo software</b>	n/a
<b>URL for data sets used</b>	n/a
<b>URL for hand-outs, quizzes and other learning material</b>	n/a
<b>How can the success of training with this sub-module be assessed</b>	<ul style="list-style-type: none"> <li>• Describe the risk management approach adopted in TIMBUS including the outcomes of each risk management process phase</li> <li>• Describe how enterprise risk management and business processes are linked within the TIMBUS approach</li> <li>• Describe the risk impact categories used in TIMBUS</li> <li>• Describe how digital preservation is linked into the enterprise risk management approach in TIMBUS</li> </ul>
<b>Sub-module prepared by</b>	Daniel Burda, SAP

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### A.3. Business Continuity Management

<b>Module title</b>	<b>Business Continuity Management</b>
<b>Content description</b>	<p>This training module consists of two parts. The first part is a foundation course and provides an introduction to the Business Continuity Management area. The second part is particularly focussed on the research work carried out in the TIMBUS project for the development of a novel process-oriented Business Continuity Management solution tool. The module is structured into the following three sub modules:</p> <ol style="list-style-type: none"> <li>1. Introduction to Business Continuity Management;</li> <li>2. Business Continuity Management in TIMBUS;</li> <li>3. Demonstration of BCM solution developed within the TIMBUS project in the context of a business process use-case.</li> </ol>
<b>Target audience</b>	Professionals in industry and government institutes who are concerned with achieving continuity and operational excellence in their business processes. No prior knowledge of BCM is needed.
<b>Responsible contact</b>	Wasif Gilani

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### A.3.1. Introduction to Business Continuity Management

<b>Sub-Module title</b>	<b>Introduction to Business Continuity Management</b>
<b>Duration</b>	Approximately 45-60 min.
<b>Content description</b>	This module gives an introduction into the area of Business Continuity Management (BCM). It will further provide a basic understanding of the various activities performed in Business Continuity Management.
<b>Learning objectives (what will a member of the audience have learned)</b>	<ul style="list-style-type: none"> <li>• Gain an understanding of the BCM concepts and principles</li> <li>• Understanding business impact analysis</li> <li>• Understanding resource requirements, their dependencies and associated risks</li> <li>• Determining Business Continuity Strategies</li> </ul>
<b>Previous required knowledge</b>	n/a
<b>Dependencies to other sub-modules</b>	No dependencies on other sub-modules. Provides basis for “ <b>A Business Process Centric Business Continuity Management Workbench</b> ”
<b>Dependencies to external documents</b>	n/a
<b>Methodologies used for sub-module delivery</b>	PowerPoint presentation
<b>Technology required for sub-module delivery</b>	PowerPoint/Beamer
<b>Required Reading</b>	n/a
<b>Recommended Reading</b>	<p>SAP, Accenture (2009). BPM Technology Taxonomy: A Guided Tour to the Application of BPM. Download from <a href="http://www.techrepublic.com/whitepapers/bpm-technology-taxonomy-a-guided-tour-to-the-application-of-bpm/1200459">http://www.techrepublic.com/whitepapers/bpm-technology-taxonomy-a-guided-tour-to-the-application-of-bpm/1200459</a>;</p> <p>This paper provides a survey of the practices and technology related to business process management (BPM). Basic concepts are explained, the transformational effect on the enterprise is examined, and the value that BPM can create is analysed. The paper then presents a survey of the vast array of technology that is related to BPM and sorts out how and when such technology is used. BPM_Technology_Taxonomy_A_Guided_Tour_to_the_Application_of_BPM.pdf</p> <p>Ulrich Winkler, Wasif Gilani, Alex Guitman, Alan Marshall, “Models and Methodology for Automated Business Continuity Analysis,” iceccs, pp.57-64; in Isabelle Perseil, Karin Breitman, Marc Pouzet (Eds.): 17<sup>th</sup> IEEE International Conference on Engineering of Complex Computer Systems, ICECCS 2012, Paris, France, July 18-20, 2012. IEEE Computer Society 2012, ISBN 978-1-4673-2156-3;</p>

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	<a href="http://www.informatik.uni-trier.de/~ley/db/conf/iceccs/iceccs2012.html#WinklerGGM12">http://www.informatik.uni-trier.de/~ley/db/conf/iceccs/iceccs2012.html#WinklerGGM12</a>
<b>URL for slides</b>	<p><a href="http://timbusproject.net/component/docman/doc_download/52-business-continuity-management">Slides</a> (6MB); <a href="http://timbusproject.net/component/docman/doc_download/52-business-continuity-management">http://timbusproject.net/component/docman/doc_download/52-business-continuity-management</a></p> <p><a href="#">Video</a> Part 1 of 4: Introduction to Business Continuity Management (BCM) ; BCM life cycle; BCM planning; alignment with the organization; BCM scope; <a href="https://www.youtube.com/watch?v=25EhtuE3XkE&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=6&amp;hd=1">https://www.youtube.com/watch?v=25EhtuE3XkE&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=6&amp;hd=1</a></p> <p><a href="#">Video</a> Part 2 of 4: Impact analysis; <a href="https://www.youtube.com/watch?v=gY4Z42bmVNY&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=7&amp;hd=1">https://www.youtube.com/watch?v=gY4Z42bmVNY&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=7&amp;hd=1</a></p> <p><a href="#">Video</a> Part 3 of 4: Business Continuity Planning; <a href="https://www.youtube.com/watch?v=gBtNesRxx6s&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=8&amp;hd=1">https://www.youtube.com/watch?v=gBtNesRxx6s&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=8&amp;hd=1</a></p> <p><a href="#">Video</a> Part 4 of 4: The traditional and the TIMBUS way of BCM; <a href="https://www.youtube.com/watch?v=2yimlwfEjU&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=9&amp;hd=1">https://www.youtube.com/watch?v=2yimlwfEjU&amp;list=PL2fxQHETrFuebmSGO3rKQWnV_OK8qe20t&amp;index=9&amp;hd=1</a></p>
<b>URL for demo software</b>	n/a
<b>URL for data sets used</b>	n/a
<b>URL for hand-outs, quizzes and other learning material</b>	n/a
<b>How can the success of training with this sub-module be assessed</b>	<ul style="list-style-type: none"> <li>• What is BCM?</li> <li>• What are the different phases in the BCM Lifecycle?</li> <li>• Can you please explain what is scoping in the BCM project?</li> <li>• What is RTO and MTPD in BCM, and how do these relate to each other?</li> <li>• Can you please name some of the recovery strategies?</li> <li>• Can you please name some of the existing standards for BCM?</li> </ul>
<b>Sub-module prepared by</b>	Wasif Gilani, SAP



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### A.3.2. A Business Process Centric Business Continuity Management Workbench

<b>Sub-Module title</b>	<b>A Business Process Centric Business Continuity Management Workbench</b>
<b>Duration</b>	45-60minutes
<b>Content description</b>	Currently, the BCM process is manual. Interviews are carried out with the business process owners and participants in the process to collect data / information about their roles and the needed resources. Visio diagrams are used to capture the business processes as well as the resource dependencies. This manual process is error-prone, time-consuming, and cumbersome, and not really applicable for enterprise wide business processes. This sub module presents the Business Continuity Management (BCM) workbench being developed within the TIMBUS project. The workbench offers a tool supported BCM solution with an integrated and coherent view of the involved business processes and IT and facility level resources, together with an extensive analytics support. The proposed solution aims to consume the readily available data sources such as transactional data, process logs, IT logs, etc., together with the business process models, available from any deployed BPM suite (NetWeaver BPM, ARIS, etc.), to provide a Process-centric Business Continuity Management support.
<b>Learning objectives (what will a member of the audience have learned)</b>	<ul style="list-style-type: none"> <li>• Know the process centric business continuity management approach being developed in TIMBUS</li> <li>• Understand the data sources that are utilized for BCM.</li> <li>• Understand the basics of risk analysis.</li> <li>• Understand how resource failures are linked to business processes.</li> </ul>
<b>Previous required knowledge</b>	Basic understanding of business continuity management
<b>Dependencies to other sub-modules</b>	Dependency on <b>“Introduction Business Continuity Management”</b>
<b>Dependencies to external documents</b>	n/a
<b>Methodologies used for sub-module delivery</b>	The sub-module will include a PowerPoint Presentation along with a walk through the BCM solution being developed within TIMBUS. We will provide a use case example which would explain how stakeholders would use our Integrated Business Continuity Management Support System. The focus will be on user interactions and user interfaces. The example business process would be simplified, yet detailed and realistic to convey a comprehensive reference use case.
<b>Technology required for sub-module delivery</b>	PowerPoint/Beamer
<b>Required Reading</b>	n/a
<b>Recommended Reading</b>	n/a

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<b>URL for slides</b>	<a href="https://www.youtube.com/watch?v=KgG745TlzUY&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=10&amp;hd=1">Video</a> Part 1 of 2: Modelling; <a href="https://www.youtube.com/watch?v=DSnB71_c5QU&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=11&amp;hd=1">Video</a> Part 2 of 2: Simulation;
<b>URL for demo software</b>	proprietary
<b>URL for data sets used</b>	n/a
<b>URL for hand-outs, quizzes and other learning material</b>	n/a
<b>How can the success of training with this sub-module be assessed</b>	<ul style="list-style-type: none"> <li>• Understanding of the BCM in general</li> <li>• Doing BCM from the business process perspective.</li> <li>• Understanding of how the proposed solution could be used.</li> </ul>
<b>Sub-module prepared by</b>	Wasif Gilani, SAP

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#### **A.4. Infrastructure, Architecture and Storage**

Overview over the topic:

<b>Module title</b>	<b>Technical Infrastructures for Digital Preservation</b>
<b>Content description</b>	Technologies and technical infrastructure incorporates the software and hardware that enable digital preservation. This module explores the challenge of digital preservation in a an infrastructure context explaining the roots of the problem, what can be done today to address some of these and what is needed in the future to enable true process preservation.
<b>Target audience</b>	Professionals dealing with general preservation issues in industry government or memory institutions who want to learn more about why the preservation of IT systems is such a difficult, but important topic for their organisation. We assume no previous knowledge of IT or IT infrastructures, Digital Preservation, Business Continuity Management or Enterprise Risk Management.
<b>Responsible contact</b>	Mike Nolan

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### A.4.1. Storage and Archival Infrastructures

<b>Sub-Module title</b>	<b>Storage and Archival Infrastructures</b>
<b>Duration</b>	45 minutes
<b>Content description</b>	High level introduction/overview which touches on all the main contents which will be developed for the subsequent sub-modules.
<b>Learning objectives (what will a member of the audience have learned)</b>	To provide an infrastructure perspective on the digital preservation challenge and inform attendees about best practice and what can be done today.
<b>Previous required knowledge</b>	Familiarity with basic IT concepts is desirable but not essential as this material will be at a high level and aimed at non-infrastructure, and even non-IT people.
<b>Dependencies to other sub-modules</b>	None.
<b>Dependencies to external documents</b>	No dependencies. Links to any sources of information quoted have been included in the training material.
<b>Methodologies used for sub-module delivery</b>	Power point slides which are posted on the TIMBUS website.  Face-to-face training sessions as performed at the TIMBUS training day in Dublin in October 2012.  Off-line video recordings of training events are on YouTube and linked off the TIMBUS website.
<b>Technology required for sub-module delivery</b>	For PowerPoint or video presentation a laptop/PC is needed if an individual wishes to review the material.  For face-to-face training sessions, a projector is the only additional requirement.
<b>Required Reading</b>	None. All knowledge needed is provided in the material.
<b>Recommended Reading</b>	NASA 1960s Lunar Orbit Photos: <a href="http://news.nationalgeographic.com/news/2009/07/photogalleries/moon-pictures-anniversary">http://news.nationalgeographic.com/news/2009/07/photogalleries/moon-pictures-anniversary</a>  Costly outsourcing: <a href="http://www.theregister.co.uk/2012/08/17/data_migration_110000_tapes">http://www.theregister.co.uk/2012/08/17/data_migration_110000_tapes</a>  Data Saved In Quartz Glass Might Last 300 Million Years: <a href="http://www.scientificamerican.com/article.cfm?id=data-saved-quartz-">http://www.scientificamerican.com/article.cfm?id=data-saved-quartz-</a>

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	<p><a href="#">glass-might-last-300-million-years</a></p> <p>Fujifilm Sees 1TB Optical Disc in 2015, 15TB in Future:  <a href="http://techon.nikkeibp.co.jp/english/NEWS_EN/20121113/250732/">http://techon.nikkeibp.co.jp/english/NEWS_EN/20121113/250732/</a></p> <p>Western Digital subsidiary HGST today announced that after 10 years of development it is preparing to release 3.5-in data center-class HDDs that are hermetically sealed with helium inside:  <a href="http://hardware.slashdot.org/story/12/09/13/2113244/wd-builds-high-capacity-helium-filled-hdds?utm_source=rss1.0moreanon&amp;utm_medium=feed">http://hardware.slashdot.org/story/12/09/13/2113244/wd-builds-high-capacity-helium-filled-hdds?utm_source=rss1.0moreanon&amp;utm_medium=feed</a></p> <p>DNA: The Ultimate Hard Drive:  <a href="http://news.sciencemag.org/sciencenow/2012/08/written-in-dna-code.html?ref=hp">http://news.sciencemag.org/sciencenow/2012/08/written-in-dna-code.html?ref=hp</a></p> <p>Storage Media life from Imation's 2008 tape specifications:  (original source is no longer available:  <a href="http://www.imation.com/support/pdfs/Usage-life-of-Imation-media_2008.pdf">http://www.imation.com/support/pdfs/Usage-life-of-Imation-media_2008.pdf</a> but is referenced on Wikipedia:  <a href="http://en.wikipedia.org/wiki/Linear_Tape-Open">http://en.wikipedia.org/wiki/Linear_Tape-Open</a>)</p> <p>Library of Congress storage tiers:  <a href="http://www.digitalpreservation.gov/meetings/documents/storage12/3-Watts-TieredStorageDefined-v7_20120917_final-1.pdf">http://www.digitalpreservation.gov/meetings/documents/storage12/3-Watts-TieredStorageDefined-v7_20120917_final-1.pdf</a></p> <p>Cloud Archiving:  <a href="http://searchstorage.techtarget.co.uk/feature/Cloud-archive-The-most-matureof-the-cloud-storage-services">http://searchstorage.techtarget.co.uk/feature/Cloud-archive-The-most-matureof-the-cloud-storage-services</a></p>
<b>URL for slides</b>	<a href="http://timbusproject.net/component/docman/doc_download/53-infrastructure-architecture-and-storage">http://timbusproject.net/component/docman/doc_download/53-infrastructure-architecture-and-storage</a>
<b>URL for demo software</b>	n/a
<b>URL for data sets used</b>	n/a
<b>URL for hand-outs, quizzes and other learning material</b>	n/a
<b>How can the success of training with this sub-module be assessed</b>	<ol style="list-style-type: none"> <li>1. Was the course material useful and informative to you?</li> <li>2. Did the presenter have a good knowledge of the material?</li> <li>3. Was the level of the content: too technical, just right, too high level/abstract?</li> </ol>

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	<p>4. Was the pace of the material delivered or the length of the module: too fast, just right, too slow?</p> <p>5. Would you recommend this module to others, if so: why. If not, why?</p>
<b>Sub-module prepared by</b>	Mike Nolan, Finian Rogers, Phil Mondor, Rodger Mooney, Iain Hanson.

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## A.5. Legal Issues of Digital Preservation

Overview over the topic:

<b>Module title</b>	<b>Legal Issues in Digital Preservation</b>
<b>Content description</b>	<p>The module on legal issues in digital preservation is structured in 3 sub-models in which a broad overview over different legal issues regarding the storage of digital objects and their redeployment in the future.</p> <ol style="list-style-type: none"> <li>1. This first sub-module gives an overview of legal issues in <u>Digital Preservation and European Copyright</u>. Therefore all relevant European Copyright regulations are listed and Aspects of copyright and related rights of the Information Society Directive (Directive 2001/29/EC) as well as the Computer Program Directive (Directive 2009/24/EC) are explained in detail. Hence we give an overview of the object of protection as well as the for Digital Preservation relevant exclusive rights of reproduction and alteration. It is examined if the exceptions and limitations established in the above mentioned Directives are applicable for the relevant processes of Digital Preservation.</li> <li>2. The sub-module on <u>legal case studies</u> provides two small case studies in the digital preservation domain in which different legal issues regarding possible IP-Rights infringement are addressed.</li> <li>3. An <u>Escrow Agreement</u> is an arrangement made under contractual provisions between transacting parties, whereby an independent trusted third party receives and disburses material. This material may, for example be software that is provided as a service. The third party disburses the materials on the fulfilment of contractually-agreed conditions, such as the insolvency of the software service provider. This in depth study explains what an escrow agreement is, the reasons why someone should contractually agree on it and provides information on different types of escrow agreements. Risks involving escrow agreements regarding the content of the deposited material are described and strategies to minimize or avoid these risks will be given. Insolvency as reason for contracting an escrow agreement will be analysed.</li> </ol>
<b>Target audience</b>	Professionals of all business and decision-makers in industry and science.
<b>Responsible contact</b>	Barbara Kolany, ITM

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### A.5.1. Digital Preservation and European Copyright Law

<b>Sub-Module title (1)</b>	<b>Digital Preservation and European Copyright Law</b>
<b>Duration</b>	Approximately 45 minutes
<b>Content description</b>	This first sub-module gives an overview of legal issues in Digital Preservation and European Copyright. Therefore all relevant European Copyright regulations are listed and Aspects of copyright and related rights of the Information Society Directive (Directive 2001/29/EC) as well as the Computer Program Directive (Directive 2009/24/EC) are explained in detail. Hence we give an overview of the object of protection as well as the for Digital Preservation relevant exclusive rights of reproduction and alteration. This sub-module explains who is the author of a computer program and who gains the exploitation rights in case a computer program is developed by employees in order to fulfil their labour contracts. The exemptions and limitations to the exclusive rights established in the Information Society Directive and the Computer Program Directive are explained in detail and an examination is made to find out whether the this exceptions and limitations apply to the relevant processes for Digital Preservation.
<b>Learning objectives (what will a member of the audience have learned)</b>	<ul style="list-style-type: none"> <li>• What are the relevant processes of digital preservation and how may they infringe on IP-Rights.</li> <li>• Explanation of the content of software protection and its exceptions and limitations.</li> <li>• Who is the author of a computer program, who the copyright holder and what happen if the computer program is developed by various employees in fulfilment of their contract of employment?</li> <li>• What is the difference between Data Migration and Software Migration?</li> </ul>
<b>Previous required knowledge</b>	-
<b>Dependencies to other sub-modules</b>	Introduction to digital preservation
<b>Dependencies to external documents</b>	-
<b>Methodologies used for sub-module delivery</b>	I am going to give a printed out copy of the Power Point slides to the course participations so that they are able to take notes during my presentation. I am going to give a lecture on “Digital Preservation and European Copyright Law” and I will use the Power Point slides to give the lecture structure and to help the course participants to follow what I am presenting. After the lecture I want to give the course participants the possibility to ask questions.
<b>Technology required for sub-module delivery</b>	PowerPoint
<b>Required Reading</b>	-
<b>Recommended Reading</b>	TIMBUS Deliverable 4.4: Digital Preservation & Legal Issues Technology Watch Report 12-02: Intellectual Property Rights and Preservation by



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	Andrew Charlesworth 2012 <a href="http://www.dpconline.org/publications/technology-watch-reports">http://www.dpconline.org/publications/technology-watch-reports</a>
<b>URL for slides</b>	<p><a href="http://timbusproject.net/resources/publications/presentations/134-1st-timbus-training-day">http://timbusproject.net/resources/publications/presentations/134-1st-timbus-training-day</a></p> <p><a href="#">Slides</a> (2 MB); <a href="http://timbusproject.net/component/docman/doc_download/54-legal-issues-of-digital-preservation">http://timbusproject.net/component/docman/doc_download/54-legal-issues-of-digital-preservation</a></p> <p><a href="#">Video</a> Part 1 of 4: Overview over the different legal aspects that affect digital preservation;  <a href="https://www.youtube.com/watch?v=rw4WuH_rdqM&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=15&amp;hd=1">https://www.youtube.com/watch?v=rw4WuH_rdqM&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=15&amp;hd=1</a></p> <p><a href="#">Video</a> Part 2 of 4: Overview over the copyright aspects that affect digital preservation; Moral rights; Exploitation rights; Information Society Directive; Computer Program Directive; Reproduction; Alteration; Distribution;  <a href="https://www.youtube.com/watch?v=uP00u_f7JUM&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=16&amp;hd=1">https://www.youtube.com/watch?v=uP00u_f7JUM&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=16&amp;hd=1</a></p> <p><a href="#">Video</a> Part 3 of 4: Copyright Holders, Exceptions and Limitations – Information Society Directive;  <a href="https://www.youtube.com/watch?v=Z6qEhIMd7Jg&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=17&amp;hd=1">https://www.youtube.com/watch?v=Z6qEhIMd7Jg&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=17&amp;hd=1</a></p> <p><a href="#">Video</a> Part 4 of 4: Exceptions and Limitations – Computer Program Directive;  <a href="https://www.youtube.com/watch?v=VQkq_jmNrao&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=18&amp;hd=1">https://www.youtube.com/watch?v=VQkq_jmNrao&amp;list=PL2fxQHETrFuebmsGO3rKQWnV_OK8qe20t&amp;index=18&amp;hd=1</a></p>
<b>URL for demo software</b>	-
<b>URL for data sets used</b>	-
<b>URL for hand-outs, quizzes and other learning material</b>	-
<b>How can the success of training with this sub-module be assessed</b>	<p>Questions Sub-Module 1 (PowerPoint content)</p> <ol style="list-style-type: none"> <li>How is the author of a computer program?</li> <li>What are the relevant exclusive rights of Digital Preservation?</li> <li>Do the exceptions and Limitations to the exclusive rights of the author or copyright holder cover all relevant processes of Digital Preservation, or do we need the consent of the copyright holder to digitally preserve our business process?</li> </ol> <p>Questions concerning the trainer (sub-module 1)</p> <ol style="list-style-type: none"> <li>How do you rate the content of the presentation?</li> <li>Was the presentation easy to follow?</li> <li>Did the materials delivered support your learning process?</li> <li>Are you comfortable with the way the trainer answered questions?</li> <li>Did the trainer seem well informed of the topics presented?</li> </ol>

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	6. Are there other materials that should be used in the future? 7. Which other topics should be presented in the future?
<b>Sub-module prepared by</b>	Martin Hecheltjen,ITM

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### A.5.2. Legal Case Studies

<b>Sub-Module title(2)</b>	Legal Case Studies
<b>Duration</b>	Approximately 45
<b>Content description</b>	The sub-module on legal case studies provides two small case studies in the digital preservation domain in which different legal issues regarding possible IP-Rights infringement are addressed. Both use cases require the identification of the rights holder and the determining whether or not the performed acts infringe IP rights. Therefore, an analysis of the existence of an exception to the exclusive rights, such as private use, lawful acquirer, back up copy or decompiling, should be made.
<b>Learning objectives (what will a member of the audience have learned)</b>	<ul style="list-style-type: none"> <li>• Identify the copyright holder in the two use cases.</li> <li>• Identify whether acts like reproduction or alteration are covered by the exceptions and limitations of the Information Society Directive (Directive 2001/29/EC) or the Computer Program Directive (Directive 2009/24/EC).</li> <li>• Identify whether a backup copy is allowed and whether this exception covers the relevant processes of Digital Preservation.</li> <li>• Identify whether decompiling is allowed and performed by the licensee. In case decompiling is performed by a third person, identify which criteria this third person must fulfil to decompile without infringing IP rights.</li> </ul>
<b>Previous required knowledge</b>	Sub-Module (1): Digital Preservation and European Copyright Law
<b>Dependencies to other sub-modules</b>	Sub-Module (1): Digital Preservation and European Copyright Law
<b>Dependencies to external documents</b>	-
<b>Methodologies used for sub-module delivery</b>	<ul style="list-style-type: none"> <li>• Distribute printed hand-outs of the legal case studies to the course participants.</li> <li>• Dived course participants into groups.</li> <li>• Explain activity: Read case study. Derive solution by working through the question/answer steps.</li> <li>• Each group presents their solutions to the forum and the forum discusses them.</li> </ul>
<b>Technology required for sub-module delivery</b>	-
<b>Required Reading</b>	-
<b>Recommended Reading</b>	<ul style="list-style-type: none"> <li>• TIMBUS Deliverable 4.4: Digital Preservation &amp; Legal Issues;</li> <li>• Technology Watch Report 12-02: Intellectual Property Rights and Preservation by Andrew Charlesworth 2012. <a href="http://www.dpconline.org/publications/technology-watch-reports">http://www.dpconline.org/publications/technology-watch-reports</a></li> </ul>
<b>URL for slides</b>	-

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<b>URL for demo software</b>	-
<b>URL for data sets used</b>	-
<b>URL for hand-outs, quizzes and other learning material</b>	<a href="http://timbusproject.net/component/docman/doc_download/55-in-depth-study-on-legal-issues">http://timbusproject.net/component/docman/doc_download/55-in-depth-study-on-legal-issues</a>
<b>How can the success of training with this sub-module be assessed</b>	<p>Questions sub-module 2 (Cases studies)</p> <ol style="list-style-type: none"> <li>1. Is a computer Program protected by IP-Rights?</li> <li>2. Who is the rights holder in case 1 and in case 2?</li> <li>3. Which exceptions or limitations may apply in case 1 or case 2?</li> <li>4. Is A in case A allowed to make a backup copy?</li> <li>5. When is decompiling allowed?</li> </ol> <p>Questions concerning the trainer (Sub-module 2)</p> <ol style="list-style-type: none"> <li>1. How do you judge the difficulty of the cases delivered?</li> <li>2. Was the information given in the presentation (sub-module 1) enough to solve the cases?</li> <li>3. Did the trainer participate too much or too little in solving the cases?</li> <li>4. Was the trainer able to answer difficult questions in an understandable way?</li> </ol>
<b>Sub-module prepared by</b>	Barbara Kolany, Silviya Yankova, Martin Hecheltjen

## Solutions of Sub-Module (2) Legal Case Studies

### Case 1

#### Copyright Infringement?

1. Is the computer program copyright protected?
  - a. Yes! => Art. 1: Object of Protection Computer Program
2. Who is the rights holder?
  - a. Software Development Company Digi-Test; regarding exploitation rights, because the software was developed by its employees P1 and P2 in fulfilment of their duties (According to Art. 2 (3) Computer Program Directive).
3. Do the described acts infringe the Exclusive Right of Digi-Test?
  - a. Yes! Reproduction: Art. 4 (1) a) Computer Program Directive
4. Does any Exception or Limitation to the exclusive rights apply?
 

Maybe the exception of a back-up copy?

  - a. NO! A is NOT „A person having a right to use the computer program” which would be necessary ; Article 5 (2) - Computer Program Directive – Backup Copy

Is it enough, that S says it's ok?

- a. NO! A is preserving for himself, not on behalf of S!

**SOLUTION:** Copyright infringement? YES!

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## Case 2

### Copyright Infringement?

1. Is the computer program copyright protected?
  - a. Yes! => Art. 1: Object of Protection Computer Program
2. Who is the rights holder?
  - a. Software Development Company Digi-Test; regarding exploitation rights, because the software was developed by its employees P1 and P2 in fulfilment of their duties (According to Art. 2 (3) Computer Program Directive).
3. Do the described acts infringe the Exclusive Right of Digi-Test?
  - a. Decompiling is the translation of the object code of the computer program. The “re-translation” of the object code is an restricted act according to Art. 4 (1) (b) Computer Program Directive.
4. Does any Exception or Limitation to the exclusive rights apply?
 

Maybe decompiling according to Art. 6 Computer Program Directive?

  - Indispensable = Decompilation is “ultimo ratio”?
    - But D said, they will deliver the Information
    - Yes, but you do not need to wait forever. If they do not deliver, you are allowed to decompile. Depends on how national courts interpreted the deadline to deliver...
  - Decompiling is performed by the licensee?
    - YES, S is the licensee; but S will not do it on their own...
    - **BUT** an employee of S “only knows a guy”
      - Problem? NO => if those acts are performed by the licensee or by another person having a right to use a copy of a program, or on their behalf by a person authorized to do so;
      - **To create Interoperability with an independently created computer program?**

YES! = the ability to exchange information and to mutually use the information which has been exchanged

SOLUTION: Infringement by decompiling? NO

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### A.5.3. Holistic Escrow

<b>Sub-Module title</b>	Holistic Escrow
<b>Duration</b>	45 min
<b>Content description</b>	<p>An Escrow Agreement is an arrangement made under contractual provisions between transacting parties, whereby an independent trusted third party receives and disburses material. This material may, for example be software that is provided as a service. The third party disburses the materials on the fulfilment of contractually-agreed conditions, such as the insolvency of the software service provider.</p> <p>This in depth study explains what an escrow agreement is, the reasons why someone should contractually agree on it and provides information on different types of escrow agreements. Risks involving escrow agreements regarding the content of the deposited material are described and strategies to minimize or avoid these risks will be given. Insolvency as reason for contracting an escrow agreement will be analysed.</p>
<b>Learning objectives (what will a member of the audience have learned)</b>	<ul style="list-style-type: none"> <li>• What is an Escrow Agreement?</li> <li>• Reasons for contractually agreeing on an Escrow Agreement.</li> <li>• Escrow Agreements as risk management strategy.</li> <li>• Which documents should be deposited?</li> <li>• How to assure the quality of the deposited material.</li> <li>• Which risks should be covered?</li> </ul>
<b>Previous required knowledge</b>	-
<b>Dependencies to other sub-modules</b>	-
<b>Dependencies to external documents</b>	-
<b>Methodologies used for sub-module delivery</b>	<p>Distribute printed hand-outs of the PowerPoint slides to the course participants so that they are able to take notes during the presentation.</p> <p>Give lecture on “Holistic Escrow” using PowerPoint presentations in order to give the lecture structure and to help the course participants to follow the presentation. As the lecture contains legal as well as technical information the lecture should be given by a lecturer with some technical knowledge. Because of the interdisciplinary nature of the course participants must be given the opportunity of a Q&amp;A session after the lecture.</p>
<b>Technology required for sub-module delivery</b>	-
<b>Required Reading</b>	-
<b>Recommended</b>	Chapter Escrow in TIMBUS Deliverable 4.4: Digital Preservation & Legal

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<b>Reading</b>	<p>Issues. Also in</p> <p><b>Legal Aspects Of Digital Preservation.</b> Thomas Hören, Barbara Kolany, Silviya Yankova, Martin Hecheltjen, Institute for Information, Telecommunication and Media Law, Germany and Konstantin Hobel, Secure Business Austria, Austria. Edward Elgar Publishing, 2013. September 2013, 208 pp., Hardback ISBN 978 1 78254 665 8, ebook ISBN 978 1 78254 666 5; <a href="http://www.elgar.com/bookentry_main.lasso?currency=US&amp;id=15401">http://www.elgar.com/bookentry_main.lasso?currency=US&amp;id=15401</a></p>
<b>URL for slides</b>	<p><b>Escrow and Digital Preservation</b> (in English) <a href="#">Slides</a> (1 MB) <a href="http://timbusproject.net/component/docman/doc_download/11-escrow-and-dp">http://timbusproject.net/component/docman/doc_download/11-escrow-and-dp</a></p> <p><b>Holistic Software Escrow</b> (in German) <a href="#">Slides</a> (1 MB); <a href="http://timbusproject.net/component/docman/doc_download/21-holistic-escrow">http://timbusproject.net/component/docman/doc_download/21-holistic-escrow</a></p>
<b>URL for demo software</b>	-
<b>URL for data sets used</b>	-
<b>URL for hand-outs, quizzes and other learning material</b>	-
<b>How can the success of training with this sub-module be assessed</b>	<p>Questions Module 1 (PowerPoint content)</p> <ol style="list-style-type: none"> <li>1. What is an Escrow Agreement?</li> <li>2. Who can be the contracting parties?</li> <li>3. What risks should be covered?</li> <li>4. How can the quality of the deposit material be ensured?</li> </ol> <p>Questions concerning the trainer (Module 3)</p> <ol style="list-style-type: none"> <li>1. How do you rate the content of the presentation?</li> <li>2. Was the presentation easy to follow?</li> <li>3. Did the materials delivered support your learning process?</li> <li>4. Are you comfortable with the way the trainer answered questions?</li> <li>5. Did the trainer seem well informed of the topics presented?</li> <li>6. Are there other materials that should be used in the future?</li> <li>7. Which other topics should be presented in the future?</li> </ol>
<b>Sub-module prepared by</b>	Barbara Kolany

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