

D7.9 – Workshop in Vitoria

Project Information

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Nature	Websites, patents fillings, etc.
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Dissemination Level

PU	Public	✓
PP	Restricted to other programme participants (incl. Commission Services)	
RE	Restricted to a group specified by the consortium (incl. Commission Services)	
CO	Confidential, only for the members of the consortium (incl. Commission Services)	



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1 INTRODUCTION

Proceeding with the progress of the Nano-Cathedral Project the next step to take for the Fundación Catedral Santa María and the Diputación Foral de Álava was to organize a public expository event, that is Vitoria's Workshop; held in Vitoria – Gasteiz (Spain) and open to the interested audience that not only has been taking attention towards this European Union initiative but also the outcome thereof and where to find further information.

After a first occasion in Oslo with several conferences about the project and stone conservation – restoration, Vienna's Workshop was the second platform for the public to acquire a second glimpse of the project, including in this instance some exposition of the devices, products and methods used within the action and expanding the journey to an in situ visit with the aim to observe the current status of the Cathedral applied surfaces with the new formulations. After Vienna, Ghent's Workshop showed an increase of interest from the public, expanding the number of attendees, the practical demonstration for the audience and the different questions about the new products, such important questions for the dissemination and exploitation of the final project outcomes that, along the way, aided with the setup of Vitoria's Seminary whose entire organization will be explained in the lines below.

Minor deviations from the deliverable D7.5 'Training Public Plan' have been executed, these will also be explained in the following document.

2 GENERAL INFORMATION

2.1 Title:

- Spanish: *4º Seminario Teórico Práctico del Proyecto Nanocathedral*
- English: *4th Nano-Cathedral Workshop*

2.2 Date¹:

- Thursday 25th January (Afternoon session)
- Friday 26th January (Complete day)

2.3 Location:

- Place: Vitoria – Gasteiz, Basque Country (Spain)
- Venue: Europa Palace (for conferences)
- Santa María de la Asunción Cathedral: for in situ visits
- Cathedral Visitors office room: for exposition, demonstration and practical lessons

2.4 Organizers and Contributors:

The organization of the event, all the details, arrangements and management, has been carried out for by the Technical Bureau from the Fundación Catedral Santa María (FCSM) in close collaboration with the Laboratory Service of the Diputación Foral de Álava (DFA), partners 11 and 12.

Concerning the involvement of further partners of the Consortium, it has been extremely valuable the participation of:

- Partner 2, Opera della Primaziale Pisana (OPAE)
- Partner 7, Metropolitan der Hohen Domkirche Köln Dombauverwaltung (HDK)
- Partner 8, Otto-Friedrich-Universitaet Bamberg (UBAM)
- Partner 13, Tecnología Navarra de Productos (TECNAN)
- Partner 16, Technische Universitaet Wien (BI-GEO)

Moreover the Restoration Service of the Diputación foral de Álava (DFA – Partner 12) and the Astrobiology Centre (CSIC – INTA) completed the series of presentations to the public during both days.

2.5 Language:

Since by Consortium agreement it was decided that every local workshop would be held in the location's original language, all the presentations were performed in Spanish. Nonetheless the Consortium lectures were accomplished in English.

2.6 Translation service foreseen (yes/no):

Yes, from English to Spanish and from Spanish to English, therefore the round table, at the end of each session, enclosed the Consortium partners for any arisen query or explanation needed.

¹ According to the Grant Agreement Amendment (Reference No: AMD-646178-8) Vitoria's Workshop date was changed from M24 (May 2017) to M32 (January 2018)

2.7 Target Audience:

As already mentioned in the deliverable D7.5 'Training Public Plan', the targeted audience was every other professional dedicated to the conservation or restoration of Heritage. For this aim, specifically restorers, historians and conservators were intended. Nevertheless the protection of this Heritage might be pursued by several other professionals from other fields such as architects, quantity surveyors, technical architects, engineers, artists, chemists, physics, geologists, biologists, journalists, researchers, academics, etc.

Institutional public and private bodies were targeted as well, universities, museums, state government, etc.

Similarly different enterprises and firms implicated in the nano-technology regarding consolidation and protective formulations could complete this audience.

Finally this Workshop was addressed to every other interested people and stakeholders which could find any interest within the project.

2.8 Foreseen number of people:

The first day, 25th January, this event was public and the foreseen number of attendees should have been 100 persons approximately.

As for the second day, 26th January, the list of attendees was foreseen in 65 persons outside the Consortium and 22 from the project partners.

2.9 Actual number of participating people:

Given the fact of the public event for the 25th, the exact number of attendees was not write down, however it reached 95 - 100 approximately.

As for the 26th, the total number of attendees was 92 (including the Consortium members)

2.10 Used tools for invitation of participants

The invitation and attendance procedure comprised three channels:

- Mailing list:
 - o From Fundación Catedral Santa María (Partner 11)
 - o From the Restoration Service of the Diputación Foral de Álava (Partner 12)
 - o From the Spanish Cultural Heritage Institute (State government)
 - o Form the Madrid High Cultural Heritage Conservation and Restoration School
 - o From the Spanish Group for the IIC (International Institute for Conservation)
- Several invitations from Fundación Catedral Santa María to Vitoria's Municipality, different universities and enterprises.
- Project leaflets disseminated in the Basque Country and Madrid.

This was one of the best tools to reach the stakeholders, interested people and other restorers with large experience in the Heritage conservation, along with professionals of other fields.

The utilized leaflet was the original designed by Warrant Group (Partner 3) with different modifications as translation from English to Euskera and Spanish, and the addition of a new sheet to the booklet with information about the project and the application form for attending the event, as it is shown in the picture below.





Jornadas Teórico - Prácticas
(Vitoria-Gasteiz's Workshop, 25-26 enero de 2018)

La Fundación Catedral Santa María, en colaboración con el Servicio de Laboratorio de la Diputación Foral de Álava, prepara para enero de 2018 unas jornadas divulgativas acerca del Proyecto Nano-Cathedral.

Si está Ud. interesado/a en asistir, rellene la ficha con sus datos y entrégelos en el Centro de Visitantes de la catedral (Cantón de Santa María s/n) o envíelos por correo a: nanocathedral@catedralvitoria.eus

Las jornadas comenzarán en la tarde del día 25 mediante una serie de ponencias teóricas y acabarán el día 26 con actividades teórico prácticas durante todo el día.

Participantes




1. Information in the leaflet

2. Application form



Jornadas Teórico - Prácticas
(Vitoria-Gasteiz's Workshop, 25-26 enero de 2018)

Solicitud de inscripción

Nombre: _____

Apellidos: _____

Teléfono: _____

e-mail: _____

Motivo de inscripción: _____

Debido a la limitación de aforo la Fundación Catedral Santa María realizará una valoración de todas las solicitudes y les informará del resultado.

LOPD
Los datos personales solicitados serán objeto de tratamiento en un fichero con el objetivo descrito en este folleto. Se podrán ejercitar los derechos de acceso, rectificación, cancelación y oposición enviando escrito a Fundación Catedral Santa María, en Cuchillaría 93, 01001 Vitoria-Gasteiz.

Este proyecto ha recibido fondos del programa Horizonte 2020 de la Unión Europea para la investigación e innovación bajo el acuerdo de colaboración Horizon2020

All this information was printed and delivered in the following locations:

- Architects' Foundation in Vitoria
- Surveyors' Foundation in Vitoria
- Town Hall
- Tourism Office
- Diputación Foral de Álava. Heritage and Conservation Service
- Diputación Foral de Álava. Laboratory Service
- Cathedral Visitors office
- Artium Museum
- Cathedral Hostel
- Europa Palace
- Madrid High Cultural Heritage Conservation and Restoration School
- Complutense University of Madrid





3.Cathedral Visitors Office



4.Cathedral Hostel



5.Tourism Office



6.Complutense University of Madrid



7. Madrid High Cultural Heritage Conservation and Restoration School



8.Artium Museum



2.11 Used communication tools for workshop visibility/publicity:

In addition to the above mentioned leaflet, translated into two languages and completed with the application form, the Workshop was included in different media, such as:

- Website (Fundación Catedral Santa María, Government, Vitoria's Tourism office, Europa Palace and Nano-Cathedral's website)



9. Fundación Catedral Santa María

10. Vitoria's Tourism office

- Social Network (Facebook, Twitter)



11. Twitter



12. Facebook



- Press (Digital and Written)



13. Diario de Álava (Written)



14. Diario de Álava (Digital)



15. El Mundo (Digital)



16. eldiario.es (Digital)



17. El correo (Digital)

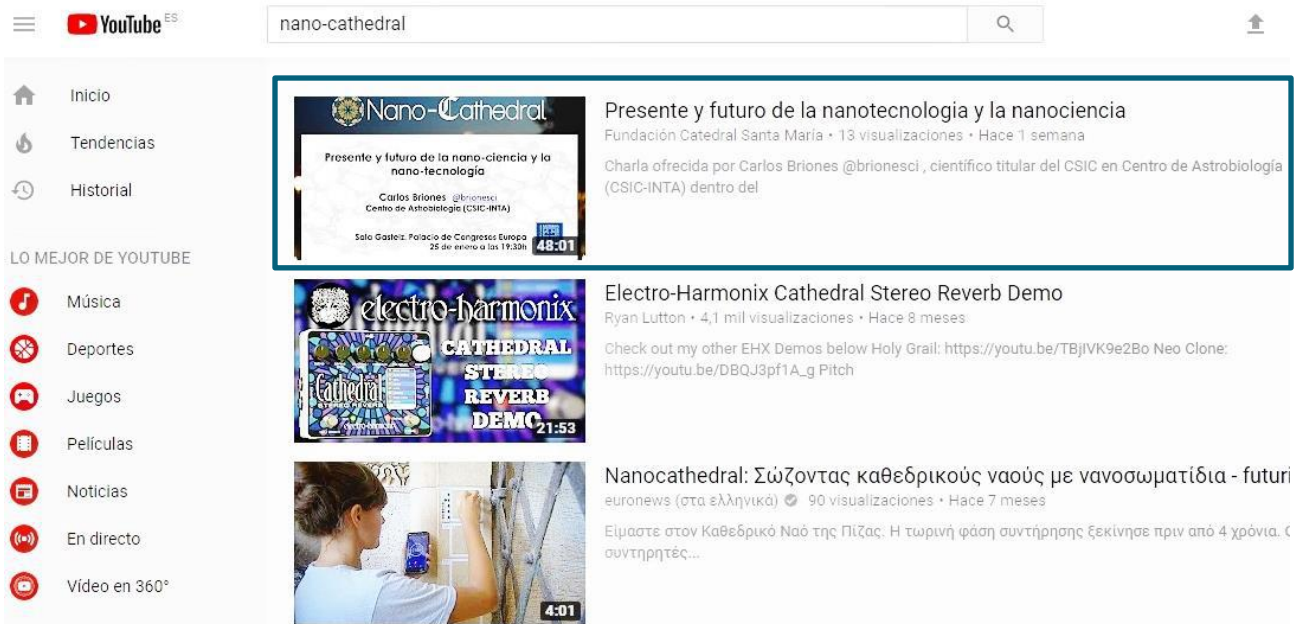


18. Noticias desde el Triforio (Written)



- Broadcasting (Youtube and TV)

All the presentations performed in the Workshop during the 25th afternoon session and the 26th morning session were recorded and in some particular cases broadcasted and uploaded to the internet so interested audience all over the world could be informed about the Nano-Cathedral project. That is the case of the conference ‘Nano science and nano technology, present and future’ held by Carlos Briones from the Astrobiology Centre (CSIC – INTA).



The screenshot shows a YouTube search for 'nano-cathedral'. The search results include:

- Presente y futuro de la nanotecnología y la nanociencia** by Fundación Catedral Santa María. Video duration: 48:01. Description: Charla ofrecida por Carlos Briones @brionesci, científico titular del CSIC en Centro de Astrobiología (CSIC-INTA) dentro del.
- Electro-Harmonix Cathedral Stereo Reverb Demo** by Ryan Lutton. Video duration: 21:53. Description: Check out my other EHX Demos below Holy Grail: <https://youtu.be/TBjIVK9e2Bo> Neo Clone: https://youtu.be/DBQJ3pf1A_g Pitch
- Nanocathedral: Σώζοντας καθεδρικούς ναούς με νανοσωματίδια - futuri** by euronews (στα ελληνικά). Video duration: 4:01. Description: Είμαστε στον Καθεδρικό Ναό της Πίζας. Η τωρινή φάση συντήρησης ξεκίνησε πριν από 4 χρόνια. (συντηρητές...

19. Youtube



The screenshot shows a news article from eitb.eus titled "La catedral de Santa María de Vitoria, restaurada con nanotecnología". The article is dated 30/01/2018 and includes the text: "Las nanopartículas fortalecen los edificios desde dentro y llegan a las grietas más pequeñas a las que los productos tradicionales no llegan." Below the text is a photograph of the Cathedral of Santa María de Vitoria under restoration, with a crane visible. The article also includes social media sharing options and a comment section.

20. eitb TV

Summarizing all the activity performed concerning dissemination and diffusion of the Workshop it was publicized by 5 different websites, regardless the 250 Spanish leaflets and 150 Euskera distributed for Vitoria and Madrid. Moreover the event was opened by Vitoria’s mayor as it could be seen in fig. 12.

During and after the event, 11 postings in *Twitter*, 5 more in *Facebook*, 9 digital press publications, 2 written press publications 1 broadcasted *youtube* conference and a TV coverage were released.



3 DESCRIPTION OF WORKSHOP



3.1 Objectives and description of the event:

The main objective is that the civil society and the Institutions know the work already developed within the action and in the field of restoration and conservation of historical monuments, together with other companies, enterprises, universities and European Institutions.

The introduction of the preliminary results of the Nano-Cathedral project with respect to the problems of stone conservation in Santa María Cathedral served as an example of the way investigation and development of new materials and technologies may contribute to achieve the best restoration works.

One of the essentials aims of this Workshop was to make a prompt but certain analysis of what this initiative is entailing within the Santa María cathedral. Several aspects were taken into account in order to explain properly all the important steps performed on laboratory and on site.

The first day of the Workshop, 25th January, was devoted to an audience introduction to a close approach on what the nano particles or the nano world is and furthermore its applications in the field of Heritage.

For this purpose the event started with Ms Ulrike Brinkmann from Cologne's cathedral, annotating about an interesting application of nano particles in solution for the conservation of stained glass within the CONSTGLASS project; the journey finished with Mr. Carlos Briones and its intrepid explanation of the nano world for the public.

Between these two presentations, the enterprise's approach of the new developed products, the first step to take when monitoring the applied areas and an overall presentation of the Nano-Cathedral project were performed by Mr. Luis Martínez de Morentín, Mr. Max Rahrig and Mr. Pablo García respectively.

For the second day session, in the morning of the 26th January, two sections were followed, starting with Mr. Santiago Tamayo on the processes accomplished in laboratories regarding the characterization of the lithotypes in the project. After this lecture, the comprehensive mapping of the four trial areas selected in the Santa María cathedral were shown to the public by Mr. Iñaki Koroso. Different patterns, hatches and problems were exposed and the followed guideline from the ICOMOS stone alteration was observed.

Following the mapping, Ms Blanca Narbona and Pablo García showed all the application processes accomplished in the Vitoria's lithotypes Lumaquela de Ajarte limestone and Elguea sandstone. They spoke about not only the applications in the *Play Ground* and *Pilot areas* but also about the in situ application in the four trial areas. Finally this first section finished with Ms Diana Pardo's paper, person in charge of the restoration works carried out in Santa María's Gantry.

In the second section of the morning the partners from the Consortium had their turn, starting with Ms Matea Ban, from partner 16 – Bi.GEO, on the lab trials and Microscopy that completed Tamayo's paper on the first

section and clarifying the advantages and good results of the nano products over the lithotypes in the project. Once all the lab issues were focused, the validation methods on site were outlined by Mr. Jasper Völkert and Ms Mira Wurth, from partner 7 – HDK, which described all the measurements performed by the professionals during the action.

As the finish paper of the theoretical seminary, Mr. Leandro Cámara accounted for the current status of the rehabilitation works in the cathedral, highlighting the last modifications and restorations of its structure.

For the next two sections of the Workshop, described in the lines below, the place switched from the Europa Palace to the Santa María de Vitoria cathedral, where a technical in situ visit and a practical demonstration of the methods took place.

3.2 Practical lessons on site:

The performed activity on site during the second day of the Workshop was divided in two parts: technical in situ visit and practical demonstration.

Technical in situ visit

For the purpose of this tour, the public was divided in three groups, guided with different members of the Fundación Catedral Santa María and the Laboratory Service from the Diputación Foral de Álava. The languages used in these were English for one group and Spanish for the other two. The objective was for the people to really know and observe the effect on the walls of the building after the already performed processes and under the view of the professionals who accomplished them. These groups took a technical tour in three different parts of the cathedral:

- Santa María Square, where the bench trials and the trial area 3 were explained.
- Christ Chapel, where trial area 4 was explained.
- Tower, where trial areas 1 and 2 were explained.

Due to the rain these tour were quicker than expected but, precisely because of the water, the audience saw by themselves how the products changed some features in the stones and they were able to make questions about the new formulations.



20.Santa María Square Visit



21.Tower visit



22.Christ Chapel visit

Practical demonstration

After the technical tour all the groups were taken to the Cathedral Visitors Office room, where they were shown all the devices used by the professionals in order to test the products on the walls of the construction. Different equipment were displayed, such as *Dino – Lite* usb Microscope, contact sponge, *Karsten* tubes, *DRMS* drilling resistance, ultrasound pulse velocity, Colorimetry and peeling test.

All the products from the project were shown with the encrypted names, excluding the commercial solutions that were followed by their technical sheets. Similarly all the different lithotypes from the Consortium were exhibited so the audience could see what the differences are among them.

As for the demonstration in itself, several procedures as drilling procedure and water uptake by sponge were shown to the interested users over the trial bench sample stones from Work Packages 3 and 5.



23.Table I



24.Table II



25.Demonstration room



26. Table III



27. Consortium lithotypes



28. Contact sponge demonstration



29. DRMS demonstration

After the practical demonstration, the attendance certificates were given to the public and for the final section of the Workshop a *Nave-Crypt* guided tour was offered to the audience, one of them in English, which most of them joined, leading after this to the ending the 4th Nano-Cathedral's Workshop in Vitoria.

3.3 Assessment of results:



The global progress of the Workshop developed with no particular issues despite the rain in the on site visits, although it brought other advantages in contrast. The results in terms of reception from the public were a great deal considerable.

Firstly, the event caused more expectations than the foreseen, regarding the number of people requesting a place in the Workshop, for both days. Moreover, as above mentioned, people from very different fields attended it, we calculated on restorers, students, conservators, biologists, physics, chemists, architects, quantity surveyors, technical architects, historians, geologists, topographers, scientists, researchers, lecturers, teachers, professors, artists, masons, engineers, glassmakers, lawyers, entrepreneurs, business men, producers, administrators, political scientists and Heritage managers.

Many institutions in Spain attended the event, such as High Cultural Heritage Conservation and Restoration School from Madrid, San Telmo Museum from Donosti – San Sebastian, Fine Arts Museum from Bilbao, Principe de Viana Institution from the Heritage Service of Navarra.

The interested audience came not only from Europe but also from America (Uruguay and Mexico), such as, among others, members of the Conservation, Restoration and Museography National School from the City of Mexico.

The Spanish universities were present as well, in some cases with several members, we had the opportunity of count on the Basque country University, the Polytechnic University from Valencia and the Complutense University from Madrid.

The first day session in the afternoon and the two first section of the morning session on Friday 26th were finished with two round tables after which all the people form the public asked the speakers several questions. Among others, Ms Ulrike Brinkmann from Cologne answered some queries about the nano-products used in the CONSTLGASS project, as well as Mr. Carlos Briones and Mr. Luís Martínez de Morentín about toxicity in the new developed nano particles. Ms Giulia Severini from Pisa and Ms Matea Ban from Vienna also joined the discussion answering some queries about the application-distribution complementing the arguments from Ms. Diana Pardo, Pablo García and Leandro Cámara from Vitoria.

The questions kept coming during the in situ tours and intensified during the practical demonstrations, moreover different criteria were exchanged among professionals, thus making the feedback from the public the observations, and the conversations very fruitful.

3.4 Results and Expected Impacts:



Finally the outcome of the Workshop probed the Nano-Cathedral project as a very interesting initiative for the audience. Not only the interesting questions completed both journeys but also the possibility of addressing professionals from the different sites, cathedrals and universities in Europe was an occasion exploited gratifyingly. The information provided by the Consortium and the invited speakers sounded to be easy to understand and user-friendly for the professionals in the public, an aspect to take into consideration in views of a future use of the developments achieved within the action.

It was only after three days that the broadcasting of the conferences and the press extracts began to permeate in the rest of the public. A week after the Workshop the Fundación received some request for more information about the project and the outcomes. This calls proceeded from many places in Spain but, most important, from America as well. Marcello Fontanetto from the National Commission of Monuments from Argentina contacted Fundación Catedral Santa María for many more information about the project and its application on Santa María Cathedral, as well as different other sources from Buenos Aires and Rio de Janeiro in Brazil.

From our national territory the Fundación and the Diputación Foral de Álava received several requests for making presentations about the project, the new developed materials and its effects; one of them from the High Cultural Heritage Conservation and Restoration School from Aragón (Spain), showed particular interest in knowing the project outcomes so far since they could not attend the Workshop.

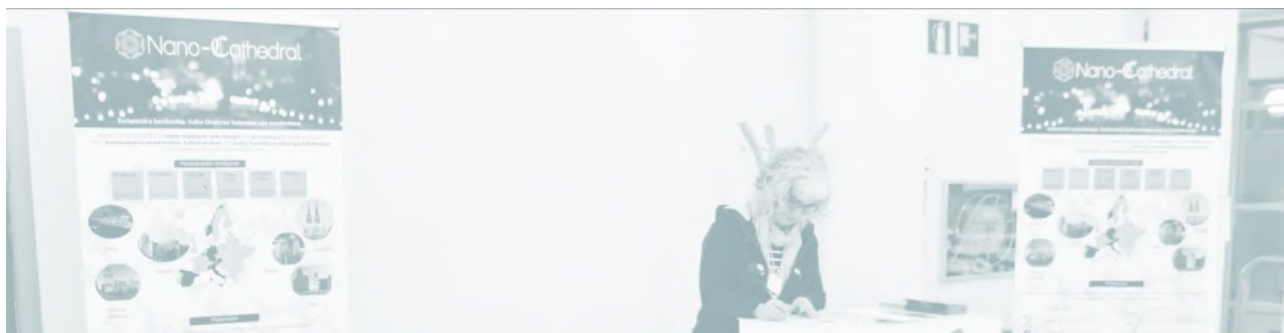
Finally a public new Workshop was highly requested from most of the public attending the event; the interest in the final outcome and the results for the end of the project in all the building seemed to be of strongly importance for all the professionals.

3.5 Modifications from what had been planned in Deliverable D7.5 “Training public plan”:

Concerning the modifications in the Workshop from the original Training Public Plan, very few detail were changes due to several issues:

- Title: it was simplified to a better match with the rest of the Project’s Workshop
- Visit to the laboratory: due to the action process all the bench trials for the Work Package 3 test were allocated in the Cathedral, thus the foreseen visit to the laboratory of Partner 12 was not necessary.
- Venue: it was changed from Montehermoso Palace to the Europa Palace due to the number of attendees and the convenience of the Consortium members participating in the event, which also participated in the Extraordinary Steering Committee Meeting, held in the same place the 25th in the morning.
- Collaboration with DFA: all the demonstrations, in-situ visits and organization were accomplished in close collaboration with the members of Partner 12, the Laboratory Service from Diputación Foral de Álava.

4 AGENDA



4th Workshop Agenda
January 25th – 26th – Vitoria-Gasteiz, Spain

DAY 1 (Theory) – January 25th

Hour	Theme and Speaker/s
17:00 – 17:10	Workshop Opening. Introduction. Leandro Cámara, Fundación Catedral Santa María
17:10 – 17:55	CONSTGLASS Project, Conservation materials for stained glass windows. Ulrike Brinkmann, Metropolitankapitel der Hohen Domkirche Köln – Dombauhütte. Cologne Cathedral
17:55 – 18:10	Nano – Cathedral Project introduction. Pablo García, Fundación Catedral Santa María
18:10 – 18:30	Coffee pause
18:30 – 19:00	Nano – Cathedral Project developed products and state of play. Luis Martínez, Tecnan – Nanomat S. L.
19:00 – 19:30	Nano – Cathedral Project trial areas monitoring. Max Rahrig, Universidad Otto Friedrich from Bamberg
19:30 – 20:15	Nano science and Nano technology, present and future. Carlos Briones, Astrobiology Centre (CSIC – INTA)
20:15 – 20:30	Round table. Queries and questions. Leandro Cámara, Carlos Briones, Ulrike Brinkmann, Pablo García, Luis Martínez & Max Rahrig.

End of the 1st journey



Hour	Theme and speaker/s
<u>1st Section</u>	
08:30 – 09:00	Paper collections and Crypt/Church visit registration
09:00 – 09:15	Workshop opening. Agenda. Leandro Cámara, Fundación Catedral Santa María
09:15 – 09:45	Santa María lithotypes characterisation. Santiago Tamayo, Servicio de laboratorio, Diputación Foral de Álava
09:45 – 10:15	Trial areas mapping within the Nano-Cathedral project. Iñaki Koroso, Fundación Catedral Santa María
10:15 – 10:45	In situ application of formulations. Blanca Narbona & Pablo García, Laboratory Service. Diputación Foral de Álava & Fundación Catedral Santa María
10:45 – 11:15	Stone restoration experiences at the Santa María Cathedral. Diana Pardo, Restoration Service, Diputación Foral de Álava
11:15 – 11:45	Coffee pause
<u>2nd Section</u>	
11:45 – 12:15	Lab-Scale results for the Nano – Cathedral project. Matea Ban, Technische Universität Wien, Bi – GEO
12:15 – 12:45	Results on the Nano – Cathedral project validation. Jasper Völkert, Mira Wurth, Metropolitankapitel der Hohen Domkirche Köln – Dombauhütte. Cologne Cathedral
12:45 – 13:15	The Nano-Cathedral project over the Santa Maria Assunta Cathedral marbles. Anton Sutter & Giulia Severini, Opera della Primaziale Pisana
13:15 – 13:45	Current state of the Santa María’s conservation works. Leandro Cámara, Fundación Catedral Santa María
13:45 – 14:00	Round table. Queries and questions. Leandro Cámara, Santiago Tamayo, Iñaki Koroso, Blanca Narbona, Pablo García, Diana Pardo, Matea Ban, Jasper Völkert, Tanja Pinkale, Mira Wurth, Anton Sutter, Giulia Severini.
14:00 – 15:00	Lunch



3rd Section

- 15:00 – 15:55 *The in situ Nano – Cathedral project, site visit*
- 15:55 – 16:30 *Practical demonstration: validation methods and application issues*
- 16:30 – 17:00 Coffee pause/Collection of certificates

4th Section

- 17:00 – 18:00 **Guided tour to the Crypt and Church** (optional)

End of the Workshop



5 LINKED ACTIVITIES

A survey compiled for the Spanish public was accomplished by Partner 8 – UBAM. The easy questionnaire was already translated from a comprehensive version already translated for the whole Spanish public but, in this instance adapted to the Workshop and its needs.

The collection of them was made in the second day during the complete journey, obtaining feedback from the great majority of the attendances.

The results of the survey will be soon available for the rest of the Consortium and the European Commission.

