

BIMclay Project

*IMPROVE TECHNIFICATION AND LCA QUALIFICATION OF WORKERS IN
CERAMIC SECTOR WITH THE SUPPORT OF BIM APPLICATIONS*

INTELLECTUAL OUTPUT 3

Technical conclusions of the Final Seminar in Coimbra

June 14th, 2019



CONTENT

INTRODUCTION	3
AGENDA	4
1. DESCRIPTION OF THE SEMINAR	6
2. NUMBER OF ATTENDEES	12
3. QUESTIONNAIRE	13
4. CONCLUSIONS	14

ANNEX I. Presentation of David Caparrós

ANNEX II. Presentation of Miguel Azenha

ANNEX III. Presentation of Hugo Tocha

ANNEX IV. Presentation of Cláudia Antunes

ANNEX V. Presentation of Nilza Paraíba

ANNEX VI. Attendees list (Because of Data Protection Law, this document is not available for public use)

ANNEX VIII. Survey compiled

ANNEX IX. Evaluation Report

INTRODUCTION

This Final Seminar, which has served as a final validation of the Project —that is, for final improvements in BIMclay Multimedia Cards and ORC—, and it has been the starting point for the Educational Platform and the Interactive BIM Tool that goes on beyond the Project. Experts' feedback will be used in order to develop an applicable methodology to future courses and contents, with special emphasis on the BIMclay Interactive Tool and the ORC Platform “Online Resource Centre (ORC) of BIMclay”, including the organisation of round tables on different issues.

The purpose of this seminar, in addition to being used as final validation of the project, is to collect information from the event attendees, who are experts in the different fields of ceramic sector. After the research in the project is performed, the different collecting placing systems was analysed and discussed, highlighting the strong and weak points of each of the systems used in every country, as well as their adaptation to the current situation and needs of the demand of clay products market.

Experts in BIM and ceramic sector have attended the event and have also participated in round tables, providing ideas and possible improvements to be implemented in the results of the Project, with the aim to ensure a useful and quality final product.

Surveys were used as a means of collecting information, to take advantage of the feedback from experts to be used as validation of the event and the project.

At the entrance to the event, each of the attendants was given a survey. The survey was conducted voluntarily, obtaining a great response from the attendants who showed a high percentage of participation.

The workshop had a total of 34 attendants of ceramic sector (attendants from consortium partner institutions not include). Apart from these, the participants of the meeting held the previous day attended this event.

The feedback from experts' will be used to make a methodology to be applied for coming courses and contents and technical improvements. A special focus will be done in the discussion of BIM and clay products synergies, with the organisation of round tables covering different topics.

At the end of the interventions scheduled in the agenda, Silvia Machado (APICER) moderated a round table discussion with the consortium members and the professionals who are experts in ceramic in the fields related to the project.

AGENDA

O BIM E A DIGITALIZAÇÃO DA CONSTRUÇÃO – IMPACTO NA INDÚSTRIA CERÂMICA 3.º Seminário do Projeto ERASMUS+ BIMCLAY

Local: CTCV – Rua Coronel Veiga Simão – Coimbra

Data: 14.06.19

PROGRAMA

09h30 – Receção

09h45 – Boas vindas – Sílvia Machado | APICER

10h00 – Apresentação do Projeto BIMCLAY - David Caparros | CTM

10h30 – O BIM no contexto nacional - Miguel Azenha – ISISE | DEC Univ. Minho

11h00 – Coffee-break

11h30 – A perspetiva das empresas de projeto e construção - Hugo Tocha | TUU

12h00 – Importância dos objetos BIM para empresas de pavimentos e revestimentos cerâmicos –
Nilza Paraíba | REVIGRÉS e Cláudia Antunes | STRATBOND

12h30 – Mesa redonda - Debate

13h00 – Encerramento

The Seminar was attended by professionals of recognised prestige who were part of a Table of Experts, where they first told about their experiences in relation to ceramic sector and BIM from a business point of view.

All the presentations of the Seminar will be uploaded to the BIMclay platform so that they are accessible and can serve as training and information materials related to the BIMclay project to all interested parties in the website of the project:

<http://www.bimclay.eu>

A brief description of all interventions carried out during the Seminar as well as significant conclusions of each presentation are explained below.

1. DESCRIPTION OF THE SEMINAR

1.1. Welcome. Silvia Machado (APICER)

Ms. Silvia Machado welcomed the attendees to the event and presented the program of the day, being this the third and last Multiplier Event of the BIMclay project. An International Workshop under the slogan "BIM as a means of digitalization of construction". Ms. Machado presented the structure of the day, by means of a small introduction of each one of the different blocks in which the day was divided, and to finish, she wished a productive day of work to all the assistants.

1.2. Presentation of the BIMclay project. David Caparrós (CTM)

Mr. David Caparrós made a presentation on the BIM clay project, presenting the Erasmus+ Programme to put the attendees in context, and then showed the main results of the project.

Mr. Caparrós explained in detail each of the tasks carried out, presenting to the attendees the materials developed to make them available as tools for improvement and technification of current and future professionals in the ceramic sector through the implementation of BIM methodologies.

Mr. David explained to the assistants in detail each one of the tasks that compose the project, as well as the results developed after its execution.

Mr. Caparrós explained the functioning of the tool after the final decisions taken in the meeting.

Mr. Caparrós also explained how the tool works step by step to make it easier for the attendees to use in the future, as well as to obtain feedback from the attendees and thus implement the appropriate improvements in the tool, with the aim of developing a useful tool that satisfies the real needs of the ceramic sector.

Finally, David talked about the ORC developed and the documents that will be added in the different sections of the BIMclay website. This ORC is available in: <http://www.bimclay.eu/orc.html>



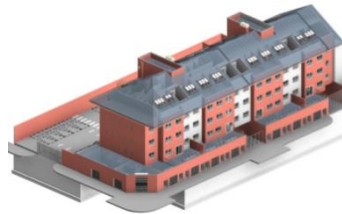
Presentation available in “ANNEX I. Presentation of David Caparrós”.

1.3. BIM in a national context. Miguel Azenha (U. Minho)

Mr. Azenha made an introduction on the BIM methodology and its inevitable incorporation in the construction sector and therefore, in the ceramic sector. Miguel valued BIM's collaborative capacity and, therefore, its great potential in the sector.



MR. Azenha highlighted the great opportunity that BIM offers both manufacturers and salespeople in the sector by using tools such as BIM objects as a means of potentially increasing sales and proposing BIM bookshops as a means of promoting and using product catalogues.



Mr. Azenha also made a presentation on BIM Objects, standards and recommendations and the existence of numerous existing information available to entrepreneurs and manufacturers to implement BIM in their workplaces.



Presentation available in “ANNEX II. Presentation of Miguel Azenha”.

1.4. The perspective of project and construction companies. Hugo Tocha (TUU)

Mr. Tocha began his presentation by talking about traditional construction methodologies and their limitations. Mr. Tocha highlighted the duplicity of past work in 2D designs versus work done in 3D.



Mr. Tocha spoke about the need to change the mentality and offer training in BIM to professionals in the sector as a short-term business investment, since the use of BIM methodologies in the construction sector is already a reality today. He also spoke about the need for team building.

Mr. Tocha spoke about interoperability and the need for organization of data flow and communication between all parties involved in the process of design and constructive execution.

Mr. Tocha ended his speech by highlighting the competitive advantages of using BIM. Incorporating this methodology means a lower financial effort, a more predictable construction and more economically efficient. The importance of BIM in the new revolution that is taking place in industry 4.0. Mr. Tocha ended his speech with a quote: "CAD helps to design, BIM helps to build".

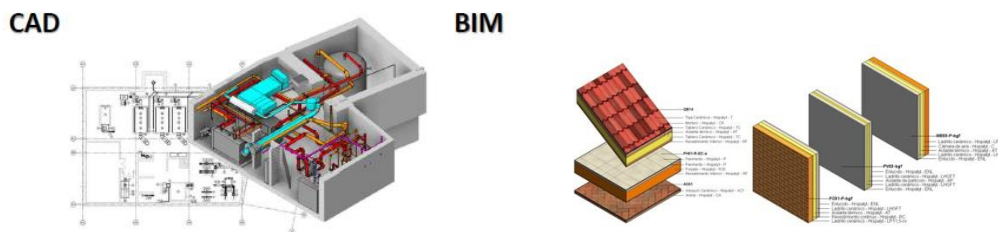


Presentation available in "ANNEX III. Presentation of Hugo Tocha".

1.5. Importance of BIM objects for flooring and cladding companies

- Cláudia Antunes (STRATBOND)

Ms. Antunes began his presentation by talking about the importance of the dissemination, training and implementation of BIM in the company as a working methodology both in the design process, as well as manufacturing and marketing. Ms. Antunes pointed out that the BIM Methodology is a present reality and advocated the need to implement it at the present time. Ms Antunes compared the advantages offered by BIM against CAD and the opportunity offered by the collaborative methodology to include BIM objects with a large amount of information, such as environmental information (LCA), which makes that specific product has a differentiating criterion that increases its commercial competitiveness.



Ms Antunes continued with his intervention talking about the modernization of the sector and the increase of the potential increase of the capacity of exportation that this methodology offers, and this way a maintenance and even increase of the competitiveness of the Portuguese companies in the panorama of the international market would take place.



Presentation available in “ANNEX IV. Presentation of Cláudia Antunes”.

- **Nilza Paraíba (REVIGRÉS)**

Ms Paraíba began her speech by talking about the competitive and commercial advantages that the collaborative methodology Building Information Modelling offers. She highlighted as one of the great advantages, the possibility of incorporating environmental cost information in their objects. To this end, he exemplified with EPDs carried out in his company.



Ms. Paraíba valued the invaluable commercial advantage offered by the possibility of having the entire catalogue of the company's products on a BIM platform where prescribers and designers can use your products in a direct and accessible way.

Ms. Paraíba ended her speech by highlighting the need to change the traditional manufacturing mentality, the need to adapt to the new digital era, starting with the BIM training of professionals in order to implement BIM in companies as the main design and sales tool, and the need to join forces so that there is a common regulation for BIM design in construction.



Presentation available in “ANNEX V. Presentation of Nilza Paraíba”.

Ms. Silvia Machado moderated the round table, where great and influential professionals of the ceramic sector took part and some large companies related to ceramic and clay exchanged impressions and provided solutions to meet the current needs of the sector. All this feedback will serve as a basis to all the products and results of the project.



2. NUMBER OF ATTENDEES

The total attendance to the BIMclay Seminar were 34, in addition to participants of the BIMclay project:

Associação Portuguesa da Indústria de Cerâmica (APICER).

- Sílvia Machado

Centro Tecnológico da Ceramica e do Vidro (CTCV).

- Victor Francisco
- Sandra Chambel

Asociación Empresarial de Investigación Centro Tecnológico del Mármol, Piedra y Materiales (CTM).

- David Caparrós Pérez
- Juana María Torrecilla Abril

In conclusion, the total number of attendants, who they are not linked to the organisations of the project, were 34.

For further information, please go to *“APENDIX VI. Attendees list (Because of Data Protection Law, this document is not available for public use)”*.

3. QUESTIONNAIRE

During the seminar, a survey was distributed to consider the opinion of the attendants about the event and the BIMclay project, where the total number of surveys compiled were 31.

Next, it can be checked an example of the questionnaire provided.

For further information, please go to *“APENDIX VII_Survey compiled”*.

1. Overall, how satisfied were you with the event?

Please tick a box in the respective line.

Very satisfied	Rather satisfied	Neither satisfied nor unsatisfied	Rather unsatisfied	Not satisfied at all

2. To what extent do you agree or disagree with the below statements?

Please tick a box in each line.

	Fully agree	Rather agree	Neither agree nor disagree	Rather disagree	Fully disagree
Event contents were of my interest					
I feel now better informed on various aspects related to the ceramic sector					
I now better understand the benefits of the BIMclay approach					
The event supports me in strengthening my knowledge, competences and skills regarding BIM technologies					

3. To what extent did the event show the following attributes?

Please tick a box in each line.

	Fully agree	Rather agree	Neither agree nor disagree	Rather disagree	Fully disagree
Contents were clearly understandable					
Contents were interesting and motivating					
Event was well-organized and well-structured					
Overall atmosphere was pleasant					

4. Do you have any further comments and recommendations on the event? What could have been done better?

Please answer in the flip side.

4. CONCLUSIONS

The results collected through the questions reflected in the 31 questionnaires, which have been replied by attendees, are summarised below.

The answers collected for the questions are reflected as follow:

Question 1: Overall, how satisfied were you with the event?

Very satisfied: 15

Rather satisfied: 16

Neither satisfied nor unsatisfied:

Rather unsatisfied:

Very unsatisfied:

Question 2: To what extend do you agree or disagree with the below statements?

* Highlighted the most widely accepted responses.

Event contents were of my interest: **Rather agree**

I feel now better informed on various aspects related to the ceramic sector:
Rather agree

I now better understand the benefits of the BIMclay approach: **Rather agree**

The event supports me in strengthening my knowledge, competences and skills
regarding BIM technologies: **Fully agree**

Question 3: To what extend did the event show the following attributes?

* Highlighted the most widely accepted responses.

Contents were clearly understandable: **Rather agree**

Contents were interesting and motivating: **Fully agree**

Event was well-organized and well-structures: **Fully agree**

Overall atmosphere was pleasant: **Fully agree**

For further information, please go to *“APENDIX VIII_Evaluation Report”*.

The BIMclay project was very well received by the participants of the Final Seminar. During the event, the need to incorporate the BIM methodology at all levels of design, manufacture and marketing of ceramic products were discussed.

This Seminar on BIM technologies, Life Cycle Assessment and relative Regulations in the ceramic sector, allowed the presentation of the project to the Portuguese ceramic industria, as well as to the different representatives related to ceramic and technologies, to disseminate the project and involve the companies in it, through their opinion on the intellectual products developed and in the development phase.

The presentation of the combination of BIM technologies, ceramic sector and LCA, received high praise from the attendees, who felt that BIMclay could respond to a real need in the sector.

The external expert who attended the workshop gave a very positive assessment of the progress of the project and the involvement of the consortium.

The feedback gathered through the surveys and round table, will greatly help to achieve the proposed objectives and results, as all the improvements considered will be studied to be implemented in all phases of project development.

The proposals compiled by the attendees, related to how to implement improvements in all of the intellectual result developed in the project. More specifically, all those suggestions that help to improve the tasks carried out and presented in the Seminar; IO2 BIMclay Multimedia Materials. New Interactive BIM-learning methods; IO3 Online Resource Centre (ORC) of BIMclay project. It is remarkable the great acceptance by the participants of the results of the project: Interactive BIM Tool and Multimedia Cards.