

NEWSLETTER 2

November 2013

ECVET Earthbuilding Europe

Provide Instructions and Resources for Assessment and Training in Earthbuilding

A whole year has passed since we started our project! The central concern of the first phase of PIRATE was an occupational analysis of the European earth builders : Which are the duties, the tasks, the work practices and the expectations of this occupation?

In the current newsletter, the 8 partner countries talk about their consultation process with earth building practitioners, as a first step of analysis and development for work groups MONO and BRICK. To reach the companies and workers, the partners have used their national and regional networks. As a result, about 100 specialists, representing the different earth building cultures and trends from all over Europe, helped us to define skills, knowledge and competence a skilled or professional in the construction sector needs today to build and repair earthen walls. We sincerely thank all the companies that participated in this process for their essential input.

First year's work group results

1. Collect national input by interviews and meetings

Most countries have organized a national meeting with earth building practitioners, describing their occupations and the related competence. Each country has written a proposal in their national language: lists of tasks, skills, work steps, specific details.

2. Share on a European level

The national results have been discussed during a European meeting (MONO 1 - February 2013, BRICK 1 - March 2013). The participants have agreed on a preliminary list of units of learning outcomes*. A redaction group has been set up, to make a first common English version of each unit, with a list of skills and knowledge. (*read more on back page)

3. Ask for national feedback

There has been partial translation of version 1 into national languages again, to allow revision by the practitioners. Remarks have been transmitted to the redaction group. A second English version of the units has been released in June for MONO, and will be ready for BRICK by the end of the year.

<http://pirate.earthbuilding.eu>

UK - National MONO meeting (cob)

PIRATE partners involved: P13, P1, P3

place: Dartington Hall, Devon UK

date: 31st January 2013

Method: National meeting and excursion.

EBUK invited practitioners of several UK regions, representative of different cob building techniques. The meeting took place on the day before our national conference, this year in Devon, an area with a vibrant earth tradition. This allowed us to visit new and old cob constructions and have on site discussions.

Participants: 8 persons (4 builders, 2 producers, 1 consultant, 1 academic) plus 2 observers from France.

Cob has the largest number of experienced builders in any technique in the UK of purely monolithic earth structures.

Builders came from both ends of the country, Scotland and Cornwall, and from other parts in between, a good spread of experience which brought really interesting input (about rain and everything else.)

There were 6 practitioners with a lot of experience in cob—2 have moved to production/sales in earthen materials, 1 has been building with cob for 30 years, others with an average of more than 10 years experience.

Initially the process met a lot of scepticism, –' they do it because they do it' and no amount of codification would change their view on how to do it. After a lot of explanation and discussion people got more interested and positive, and the process of understanding what is involved in a wide range of levels in realising a cob building began to emerge.

In the afternoon Lydie and François, our observers from France, showed a French document about tasks and skills of cob builders, which gave a lot of focus to the group.

By the end of the day 4 main topics were identified: Business, design, building and repair. Many aspects of the 4 topics were discussed, from running a business in the current financial and legislative climate to identifying soil mixes and working in the rain. Client relations, the degree of training which must be given to both site workers and design professionals was particularly interesting.

The final topic Repair covered new and existing work and a little bit of historic restoration. But historic repair and conservation was the least well discussed, it's the most complicated thing to do. There is an existing code for repairs to historic/heritage sites, but this is very light on detail.

There were no engineers, no architects but a high level of experience and knowledge which was very interesting to have in one room with training as the focus for discussion. The following day some of the results were fed back to the national conference.



France - National BRICK meeting

PIRATE partners involved: P3, P4, P5, P6, P14

Place: Colomiers

Date: 1st and 2nd March 2013

Method: National meeting.

AsTerre and Les Compagnons du Devoir invited practitioners of Midi -Pyrénées region who are producing and laying clay bricks, repairing clay brick masonry and supervising earth brick construction.

Participants: 19 persons (**10 bricklayers, 4 producers, 2 architects, 2 engineers, 2 training providers**) plus 1 observer from Spain.

Les Compagnons du Devoir welcomed us for 2 days in their training centre in Colomiers, near Toulouse. The professionals in the area already have good connections thanks to TERCRUSO, a project for characterization of extruded bricks.

The results are at:

www.areso.asso.fr/IMG/pdf/tercruso_rapport_final_LMDC-2013-04-r120.pdf

20 persons attended the first day and some of them participated on Saturday as well. 20 other people (who could not be present) wished to be informed of the proceedings. Maria Brown from ESTEPA (Spain, Partner 14) was also present, to improve both the Spanish own process, and the French one presenting practices from neighbouring regions.

Day 1: The discussions focused on earth as a material for brick production, manufacturing and laying of 3 different brick types: - moulded bricks (adobe), mostly hand made at the request of a building site

- extruded bricks, made in small factories which also produce fired bricks
- CEB (compressed earth blocks), usually stabilized, produced by small units, one of which is mobile.

Day 2: The outlined themes were: repair, maintenance and pathology. Replacing damaged bricks and plasters is an important part of the activity of some of the companies. There is significant need to use better and more beautiful bricks for visible masonry.

A small group remained in the afternoon to prepare relevant material that would be presented at the international BRICK 1 meeting held two weeks later.

The participants comprising mainly company owners and supervisors made statements relating to a high level of qualification.

These data were transmitted to the SUPERV work group through J.E. Aubert from LMDC Toulouse university (P6) who, as a neighbour, had the opportunity to attend this meeting.

France - National MONO meeting (rammed earth)

PIRATE partners involved: P1, P2, P3, P4

Place: Villefontaine, Les Grands Ateliers

Date: 28th January 2013

Method: National meeting.

AsTerre and CRAterre invited practitioners from the whole of France who are building and designing rammed earth walls, repairing traditional rammed earth constructions and supervising rammed earth building sites.

Participants: 17 persons (**8 builders, 6 architects, 1 engineer, 2 trainers**)

The meeting took place in Isère, a region where rammed earth buildings are numerous and require maintenance and renovation. First we explained the goals of the Pirate project, which is the continuation of 10 years work on vocational training and the transfer of know-how related to earth construction.

Then we asked professionals to describe all the steps of building a rammed earth wall.

An open and fruitful discussion resulted in a list of activities, following the chronology of a building site. We began with the site conditions and raw materials followed by the construction of the wall, from the foundations to the wall base and finally to the completion of the building including joinery and fixings.

We also discussed, at some length, the operations necessary for maintenance and repair of existing buildings. This is a significant part of the business activity. For repair the builders often use earth from demolition or source earth locally.

Each step and activity was written on a card and these cards were then placed in order on a board.

From this material we developed the first units that would feed into the work with other partners during the international meeting two weeks later.

During the day, M. Auzet, researcher at AE & CC School of Architecture of Grenoble (P2) presented the current state of CRAterre's work producing an ATEX for rammed earth, an approach that also relies on the expertise of professionals (a kind of code of practice, equivalent to an Experimental European Technical Agreement).

The professionals have shown great interest in these steps towards valorisation of the rammed earth technique and recognition of their practice. The report of the meeting has been distributed to the participants and to those who had expressed interest (16 other persons). They will be informed of the progress at different stages.



Germany - Second regional MONO meeting

PIRATE partners involved: P10 and P19

Place: Behrungen, Thüringen

Date: 26th -27th April 2013

Method: Regional meeting and visit of the Lehmprojekt company and one of its projects.

Participants: 5 earthbuilders (3 specialised in rammed earth, 2 architects, all also trainers and one also a producer of earthen materials)

The estimated number of companies regularly building rammed earth in Germany is 10, and another 16 do some rammed earth from time to time. Six companies have been invited to the second national meeting, but only one could manage to come. The meeting was hosted by Uwe Wirthwein (BSZ-LL), in his company "Lehmprojekt", 20 years old, specialised in rammed earth. Besides his activities of consultancy for building with earth and sales in earthen materials, U. Wirthwein plans to extend his rammed earth activity to prefabrication of rammed earth elements. The meeting began with a presentation of aims and structures of the PIRATE project. Then there was a short explanation and basic definitions of the main concepts (units; knowledge, skills, competence; different levels esp. level 3+4; certification). Results of the first regional mono meeting and of the first international Mono meeting in UK were recalled. The drafts for the units 'Raw Material Preparation', 'Formwork' and 'Wall Building' have been discussed and questions and important points have been stressed: skills necessary to specific tests for rammed earth, knowledge necessary for dimensioning of formwork, knowledge about factors influencing the final rammed wall surface quality.

The technical discussion was completed by - the visit of the Lehmprojekt workshop (www.lehmprojekt.de) where the major modern German earth building techniques are exposed (earthen mass heater, clay floor with heating pipes, separation wall with clay bricks laid without mortar and clay plaster, prefabricated rammed earth wall, clay plaster samples) - an excursion to the rammed earth project: "Room of silence" in Suhl/Thüringen(Germany), built by Thilo Schneider (Erfurt).

In Germany, most companies use ready-to-use and certified earth for ramming. Nevertheless, a unit of learning outcomes about material preparation seems useful because
(a) In other European partner countries, for example Portugal, craftsmen work with regional materials, there is still the know-how, regional earth is very suitable for rammed earth technique.
(b) Fundamental knowledge about earth as a building material is necessary.

Perspectives for rammed earth construction in Germany
The current demands for rammed earth walls concern single objects of high aesthetic value. To spread load-bearing rammed earth walls in homeconstruction, there are two conditions: they must be much cheaper and multi-layered wall structures with sufficient thermal insulation must be designed.
Dachverband Lehm (P8) and U Wirthwein are planning a training project in rammed earth, complementary to the "Fachkraft Lehm" course.

Germany - First national BRICK meeting: DACUM

PIRATE partners involved: P9, P7 and P1

Place: Böhlen, Leipzig

Date: 10th -11th June 2013

Method: National meeting : DACUM workshop, led by Annett Hilpert, INBAS

Companies coming from all over Germany were invited by project partners (preparative German workgroup on February 28th), especially through FAL (P7) and DVL (P8) networks. 12 bricklayers and 10 brick producers were informed. Initially 12 firms and craftspeople agreed, but only 7 could participate at the fixed date.

Participants: 7 experienced earthbuilders

(1 of them specialised in moulded brick production, 1 of them also in sales of earthen materials): **Frank Haverkamp** (www.hasko-lehm.de), **John Minolla** (Lehmbau Fachwerkerhaltung, Dortmund), **Lehmbau Gerhard Bocian** (15848 Tauche / OT Sabroth), **Thomas Bieseke** (www.thomasbiesekebau.de), **Arpád Biró** (www.lehm-biro.de), **Harry Unger** (Unger GmbH & Co) 64646 Heppenheim / Bergstraße) **Torsten Selle** (www.naturbau-selle.de).

The meeting was hosted by P9, the Leipzig vocational school with an earth building department.

An external expert, A. Hilpert, acting as a facilitator, applied the DACUM method to analyse the earth builder's job.

Three Pirate colleagues attended but were only observers, not allowed to talk! The participants, all running their own company, are not familiar at all with educational standards, skills description, units etc. They very seriously played the game of listing their duties and tasks, knowledge and skills, with the expert guidance of Mrs Hilpert, who always managed to keep the attention, motivation and main focus. The two days process required a lot of concentration for all, but there was a good atmosphere and ending up with a DACUM chart has been very satisfying. There have been moments of intense discussion on technical issues and details and also on the position of earth builders in the German occupational framework.

The analysis focused on brick laying and production, although this is only part of the earth building companies' activity. The result provides a solid foundation for the set up of the ECVET Learning outcomes.

The terminology used within the DACUM process does not completely confirm with the definitions of the EQF and the ECVET. But the results can easily be adopted.

In the resulting DACUM chart, there are both tasks common to all the European earth builders, and tasks specific to the German market.

The chart has been translated into English and French, for the other Pirate partners, and is available for download in the 3 languages: http://pirate.greenbuildingtraining.eu/public/?page_id=1433



What is DACUM?

DACUM stands for Develop A CURriculum. It is a method to analyse a job in order to find out what to teach. In the DACUM process, skilled workers identify duties, competences, knowledge, skills, tools and equipment that make up their job. They participate in a 1 or 2 day storyboarding workshop and are guided by a neutral trained facilitator. The DACUM method, originated from North America, is an internationally recognized technique. It provides a quick and thorough analysis, using the expertise of the workers. Trainers and researchers are not allowed to participate actively in the process. The DACUM method is a good way to find out, what is really going on in a job.

Spain - National BRICK meeting

PIRATE partner involved: P14

Place: Segovia

Date: January 21st-22nd, 2013

Method: National meeting.

ESTEPA invited specialists with different backgrounds within the earth building sector, coming from Seville, Barcelona, Madrid, Palencia, Valladolid.

Participants: 6 persons (2 earth builders/ entrepreneurs with an own CEB and adobe production and being also trainers, 1 supervisor, 1 historian / restoration professional, 2 architects also trainers)

Even though it was small in scale, our meeting reflects the national situation: i.e. not very many practitioners make their living building with earth in Spain... but they are very enthusiastic! If we add the distance the participants had to travel for coming and returning home we have 3.000 km... without being paid.

As none of the participants have any previous experience in producing building or educational standards, a week before the meeting ESTEPA distributed the National EQF L3 – L4 standards for masonry (very recent in Spain) as a guide or frame for our work. After studying these standards we focused on the competences and skills required for an earth builder, keeping only those and adding several other ones that were relevant to the participants' experience and backgrounds.

Once the long list was complete, we discussed the units of learning outcomes that could fit those requirements, identified many existing content in ECVET Clay Plaster, and focused only on the new units, assuming the Clay Plaster common ones - Earth as a Material and Marketing-once enriched, could be a part of this new ECVET as well.

We never focused on teaching contents and agreed about our common results.

We plan to organise a second national Brick meeting with many other participants, based on a more solid document before the next international meeting Brick 2,

General situation for qualification of masons in Spain:

Regular masons (level MEC 3, 4 and 5) exist, but not more than 10 % of masons come from the formal system, the majority is learning on the job or from a relative. There are professional training courses for unemployed people (300-500 hours). To attend Level 3, only a primary school certificate is needed. For level 4 you need to have a secondary school one. For level 5, you need level 4 or bachelor (a university degree).



Portugal - Qualitative semi-structured interviews (rammed earth)

PIRATE partner involved: P15

Place: Vila Nova de Mil Fontes

Date: 31 January 2013

Method: Qualitative semi-structured interviews.

Topics concerned the acquisition, development and application of skills, knowledge and competences of rammed earth constructions, as well as issues concerning organization and safety of building sites.

Participants: 3 craftsmen interviewed: (1) **Eng. António Afonso** is the enterprise Milvila partner-manager, who is doing renovation and new construction in rammed earth. (2) **Sr. Caetano**, Milvila's foreman/site agent and rammed earth worker, who started doing renovation on ancient rammed earth housing. He took part in a rammed earth renovation workshop and has been involved in new rammed earth construction. (3) **Mestre António**, the manager of a building construction company named Construtora Saoluizense; he has been a rammed earth worker since a young man (he began working on rammed earth with his father and brothers).

The Portuguese team has decided not to organize a national meeting of rammed earth builders in Caparica University Campus, near Lisbon, for two reasons: (1) most rammed earth builders reside in southern villages distant from the capital; thus a trip to Lisbon would involve costs that the builders could not afford; (2) earth builders are in constant demand on their building sites in the South of Portugal, and can only rarely leave without causing disruption to their work. Therefore, we have decided to go on field trips to the villages and conduct interviews, collecting information directly from the builders.

In January 2013 we met three craftsmen from the village of Vila Nova de Mil Fontes, whilst also visiting a new rammed earth house at Monte do Caeiro, Porto Côvo.

In the interviews we first gave a brief explanation of PIRATE, of our university's role in the project, and afterwards some random questions were asked to let people start talking more comfortably. The interviews were digitally recorded. The builders talked about what they do on their building site following a loose script of questions established beforehand. The following questions were part of this script:

- How, where and when did you acquire your knowledge on rammed earth techniques?
- How do you evaluate if the building site soil is suitable and what stabilization is needed?
- Do you feel you know enough on the soil's main characteristics and rammed earth techniques?
- How do you calculate the volume of soil needed for your building construction?
- How do you establish safe working conditions on a rammed earth building site?
- Do you organize a rammed earth building site like a conventional one?
- How do you calculate a rammed earth building budget?

On the basis of the results achieved with these interviews and on data collected through other means, P15 team brought to MONO1 meeting in February an overview of the Portuguese context and of how companies in Portugal are using rammed earth in their building activities today.

Because we are working under a very limited budget it was not possible to organize further trips and meetings. In spite of the difficulties, P15 is now preparing a meeting with other selected rammed earth builders, some members of Centro da Terra association. This second meeting is to be held in Santiago do Cacém on the 20th of November, one day before our international MONO2 meeting.



In Southern Portugal, Baixo Alentejo and Algarve, regions located south of Tagus River (see map) have the highest number of rammed earth buildings in the country (including housing, public buildings, as well as historical military fortifications), and they continue to be the most active areas in new construction with earth. At the Odemira council (Baixo Alentejo) we can find a huge number of new constructions in rammed earth, largely due to the activity of architects who settled in the area in the 1980s and specialized in the design of earthen architecture and the contemporary application of rammed earth techniques. Today, there is a small but consistent and active group of architects in the Odemira council working on rammed earth construction. We have established contact with this group in order to collect contact data on rammed earth builders in the area.



Serbia - Qualitative semi-structured interviews (rammed earth)

PIRATE partner involved: P18

Place: Novi Sad, Serbia

Date: march 2013

Method: visits in villages, interviews with masons by phone

Participants: 3 masons

Unfortunately we were not able to organize a meeting with rammed earth builders, because we couldn't find them or any information about them. So, we made an online survey (on www.kucacuvarkuca.com) to try to get information about these local people from the younger ones that are following our work and want to support us.

In Serbia building with earth was forbidden by the state in the 1950's (but people continued building rammed earth houses until the 1970's.) Since then, people stopped using clay and we can find only small repair works in the villages, done by owners themselves or by some of the local people. Most of these locals are not masons, but they remember how to do these small works. Still, most of these houses, if the owners have money, are generally destroyed and replaced by fired brick and concrete buildings. If not, these houses are mostly repaired badly by putting concrete mortars on the walls, changing two slope roofs into 3 slope roofs (to protect the gable of the main elevation, which causes most of the problems). Only poor people do the small repairs to the walls (and the stove) by using earth.

What they also do, if they want to protect these houses (built mostly without foundations and damp proofing) is insert damp proofing (very expensive) or they cut away, metre by metre, sections of their walls and replace the damaged parts of the rammed earth with fired bricks.

Apart from this information collected in the villages by talking to local people and observing what they are doing, we got in touch with 3 masons thanks to this online survey.

Rudolf Serenčeš is an old mason and the only one that used to have a company for rammed earth works. He tried to do the experiments with rammed earth, to present and promote his work on fairs, but he soon realized that it was not possible to make his living out of it, because people could not pay, and he couldn't afford to employ 4-5 masons. So, he closed his firm.

Sava Ognjanov is not a mason, but a 62 years old handyman who does the small repairs in the village where he lives (not only with earth). He collects the earth from the old quarry his ancestors used ("yellow" earth was for plasters and "red" was for the ovens.) Unfortunately, apart from these small repairs, although he says he knows, he is not able to make bigger interventions (from the experience of the people who employed him.)

Branko is also an older mason, who in past few years has been employed by The Provincial Institute for Protection of Cultural Monuments, to repair the cultural heritage built with mud. He used to work with his father and he remembers the techniques, so now he is supervising 3-4 other masons building rammed earth and adobe annexes in Nestin.



Czech Republic - Several regional BRICK meetings

PIRATE partners involved: P17, P16

Place: Brno and Hostim

Date: between January and September 2013

Method: Several regional meetings with craftsmen and architects, most of which are members of our association

Participants: 10 experienced craftsmen (Marek Vlček, František Mrázek, Aleš Dorazil, Jan Pospíšil, Bohdan Nebesař, Martin Papež, Zdeněk Vějpustek, Jiří Stražil, Ondřej Netík), **1 producer** (Michal Navrátil), **8 architects** (Kateřina Šmardová, Pavel Deržmíšek, Josef Hajný, Jan Havlík, Darina Havlíková, Filip Havlík, Jan Růžička, Zuzana Kierulfova) and **1 engineer** (Ivana Žabičková)

Meeting with craftsmen

For the international BRICK1 meeting in Toulouse our association prepared a list of activities every mason who works with earthen material should know. These are:

1. use of building structural engineering design documentation and technical datasheets from manufacturers of clay building materials and prefabricated components,
2. setting out of simple structures in scope of the profession,
3. selection, preparation and processing of natural earthen materials for making earthen vertical and horizontal structures, monolithic and masonry, and precast elements (bricks),
4. selection and preparation of plant material for clay mix,
5. selection and preparation of industrial mixtures of clay,
6. designing workflows for making monolithic earthen structures,
7. designing workflows for walling
8. selection and use of equipment and tools
9. building monolithic earthen constructions,
10. masonry of vertical structures from earthen prefabricated elements (bricks)
11. making lintels for openings and wall rings made of reinforced concrete,
12. installation of prefabricated horizontal structures - lintels, ceilings,
13. construction of multilayer chimneys.

Since then we modified the text a bit.

Professional qualifications

Our crafts sector council of the National Institute for Education in Prague agreed this spring with the work on a professional qualification that we proposed in 2010.

Our proposal is:

Create a new qualification: Hlínař/zhotovitel hliněných konstrukcí (earth builder). Level 3. This new profession consists of 3 parts: mason, plasterer and decorator. Now we are working on a draft document for these three occupations. Deadline for it is this autumn. The draft will go through the approval process (Trexima, National Institute of Education, Ministry of Industry, 5 independent experts, Ministry of Education) which should take one year.

The Czech situation for earthen architecture

Renovations, reconstructions of old earthen buildings

We have thousands of old earthen buildings in our country. They can be divided into 2 main groups:

Those which are protected by Heritage Authority. They usually benefit from better quality of renovation because professionals from Heritage Institutes control all the works. But - not all owners of these buildings are interested in living in an old fashioned house. They would prefer to have big windows, modern floors and so on!

The other group of earthen buildings are those without any protection. They are hidden under cement renders and nobody knows that they are built with earthen material. When the owner needs to retrofit, he can hardly find any company to take on the project because of lack knowledge about earthen constructions. Current building firms recommend such houses to be demolished and build new ones from industrial materials such as cellular concrete. In this case our association helps such owners with advice, by designing or by renovation or reconstruction.

Building standards

The lack of standards in the field of earthen buildings in our country does not allow new earthen buildings even if there are people who would like to have a new house of earth and also professionals who could do it. That is why our association together with the Slovak association ArTUR decided to prepare some technical information which will not yet be a standard, but will lead to it. We are currently working on the proposal.



Slovakia - National meeting

PIRATE partner involved: P16

Place: Bratislava

Date: 6. November 2013

Method: national meeting, presentation, discussion

Participants: 13 professionals present and other people as audience.

13 professionals are practitioners in earth building, clay plasterers, trainers, architects.

Main topics were: presentation of DACUM for earth brick layers, created in Germany, presentation of translated version of matrix with brick layers' tasks, as well as presentation of Czech effort to create new profession Earth builder. Also the activity of ArTUR to develop Normative Information about earth building was explained. The meeting started with press conference, opening the exhibition and seminar about retrofitting old traditional buildings.

The present professionals agreed to do the actions such as:

1. To merge the results of DACUM and Czech profession description and create description of profession Earth builder in general. This description of profession Earth builder will be sent to all the people present at the national meeting and also to other craftsmen who could not be present at the meeting.
2. In future ArTUR should try to create training program using technology description from the Normative information, which is being developed by ArTUR, because new profession can exist only if relevant national education and training is provided as well.
3. ArTUR will try to cooperate with foundation Ekofond and together we will try in future to implement the new curriculum into three vocational schools, they cooperate with.
4. In addition we will try to find the description of existing professions which might be relevant to earth builders and will try to implement knowledge and skills into those.
5. ArTUR will finish and issue normative information for earth building because at the moment no norms concerning earth exist in Slovakia.



The results of this important part of the work will now be used as a base for listing criteria and indicators for assessment, to be applied in our future ECVET for earth building (European Credit System for Vocational Education and Training - ECVET*). The preliminary units of learning outcomes will not be available to the public before autumn 2014, but the partner countries are happy to provide you with further information and welcome any person willing to join a work group for unit development, or a certification committee.

Next European Work group meetings

MONO 2 in Santiago da Cacém, Portugal: 21-23 November 2013

BRICK 2 in Senéc, Slovakia: 21-24 January 2014

SUPERV 2 in Toulouse, France: 18-20 February 2014

Next plenary meeting

OVERALL 2 in Palencia, Spain: 8-11 July 2014

Partner workshops

23rd November 2013: Centro da Terra: 10th anniversary, inauguration of documentation centre and conferences, in Santiago do Cacém, Portugal

10th-11th april 2014: SHS and ArTUR: Healthy Houses conference, in Brno, Czech Republic

23rd-25th april 2014: AsTerre: Assessors workshop (in French), in Normandie, France

12th-15th July 2014: ESTEPA: Adobe workshop, in Paredes de Nava, Spain

July 2014: FAL e.V.: European Earth Building Day 2014, 'Cob Building – Theory and Practice', in Wangelin, Germany,

Photo Exhibition: 'Cob Building in Europe', in the Lehmuseum, Gnevsdorf, Germany, July -September 2014

For info about partners activities and courses:

P1 CRATERre	www.craterre.org
P2 AE&CC	craterre@grenoble.archi.fr
P3 AsTerre	info@asterre.org www.asterre.org
P4 AFPA St-Etienne	www.rhone-alpes.afpa.fr
P5 Compagnons du devoir	www.compagnons-du-devoir.com
P6 UPS-LMDC	www-lmdc.insa-toulouse.fr
P7 FAL e.V.	www.earthbuilding.eu, www.fal-ev.de
P8 Dachverband Lehm	dvl@dachverband-lehm.de www.dachverband-lehm.de
P9 Berufliches Schulzentrum Leipzig	www.bs-z-leipzig-land.de
P10 LehmBauWerk	www.lehmbauwerk.de
P12 Fachhochschule Lübeck	www.fh-luebeck.de
P13 EBUK	www.ebuk.uk.com
P14 ESTEPA	estepa1@gmail.com
P15 FCT-UNL	www.fct.unl.pt/en
P16 ArTUR	ozartur@gmail.com www.ozartur.sk
P17 Hlina SHS	info@hlina.info www.hlina.info
P18 Kuca Cuvarkuca	www.kucacuvarkuca.com
P19 BiWeNa	www.biwena.de

*PIRATE aims to create learning outcomes units (http://ec.europa.eu/education/lifelong-learning-policy/doc/eqf/note4_en.pdf), which define skills, knowledge and competence a skilled or professional in the construction sector needs to build earthen walls.

Each unit can be assessed at different levels according to the type of job and can be linked with credit points. Three work groups (WG) are developing the matrix of ECVET units: Two concentrate on craftspeople of European qualification levels 3 (mason) and 4 (foreman), the third focuses on levels 5 (clerk of works) and 6 (site manager).

There have been 3 steps of analysis and development for work groups MONO (rammed earth and cob techniques) and BRICK (adobe, compressed and extruded earth blocks masonry).

Read page 1: First year's work group results.

