

NOTES FROM THE ZARAGOZA UNIV.

MORNING TECHNICAL SEMINAR ON "MONITORING" (WP2): MONITORING & CONCERTO PLUS DATABASE (WP2)

Participants: Marc Jedliczka (Hespul)
Hervé Pabiou (INSA- CNRS)
Olivier Pol (Concerto Plus)
Olivier Sidler (Enertech)
Jose Antonio Turégano (Universidad Zaragoza-UdZ)
Rodrigo Vásquez (Universidad Zaragoza-UdZ)
Lionel Granier (Lot B- Bouwfonds Marignan)

Chair: Olivier Pol (Concerto Plus)

Reporter: Rodrigo Vásquez (Universidad Zaragoza-UdZ)

Concerto Plus description:

Concerto Plus is composed by 25 people. Technical and economics comparison are made between Concerto and non-Concerto projects, to analyse the results and make recommendations to new or current projects.

Concerto Plus Database

Olivier Pol (Concerto Plus) described the information in the Concerto Plus database (<http://tmdb.concertoplus.eu/>) and its structure.

- General data: Summary of project data and its costs.
 - Olivier Pol (Concerto Plus) explained that it's very useful to have the cost of tasks.
 - Olivier SIDLER (ENERTEC) proposed to add the annual cost, because it's important to follow up the project's cost.
 - The following items were discussed: "How is the cost detailed?", "what is the cost definition for new efficient building? ", "What cost can be integrated ? How to distinguish additional costs? ". Then Jose Antonio Turégano (UdZ) proposed to change the word "extra-cost" (since it has a negative impact) by "energy improvement cost". Finally the word will be "eligible costs".
 - Olivier Pol (Concerto Plus) asked Zaragoza's experts to provide and sent the information on refurbishment activities, to be posted & indicated in the webpage.
- Weather: typical climates values and data of heating and cooling to make comparison between partner's results.
 - Jose Antonio Turégano (UdZ) proposed and commented on the importance of complementing the information of energy demand, incorporating the day's degree to represent the climate. This is useful to compare buildings in different climates areas.
 - Olivier SIDLER (ENERTEC) did not think "day-degree method" would be a good parameter to make comparisons between several places.
- Conventions: The conventions as surfaces, areas, energy balance are discussed in order to clarify the differences between refurbishment or new-construction projects.

- When the information is not enough by building, we must consider several buildings and create a model building to get a medium value (average).

Demands and Consumptions discussion:

- Based on his previous work & experience on monitoring in France, Olivier SIDLER (ENERTEC) explained that the main consumption in a building is the electrical appliance (46%). Jose Antonio Turégano (UdZ) commented on the consumptions in Spain that are lower than what ENERTEC had recorded in France. This issue is not considered with the same “weight” in Spain, where the pre-existing data shown a much lower percentage. UdZ considers the Energy appliances and lightnings are around 10%.
- Olivier SIDLER (ENERTEC) mentioned that it’s hard to determine the real consumption, due to the human factor. He stated, from his previous works, that common zones are about 700 kWh-year, whereas for inside dwellings, the consumption is about 2600 kWh-year (even if it is not so easy to measure these consumptions).
- Lionel Granier (LOT B) explained the solar photovoltaic energy supply the 50% of collective zones energy demand. They’re working with presence detector, low consumption devices. They have selected the best solar collectors including architecture integration. Ventilation mechanic demands very low electric demand (microWatio).
- Jose Antonio Turégano (UdZ) stated that the main part of common consumptions is controllable.
- Natural Ventilation is not considered in the Concerto Plus webpage, Jose Antonio Turégano (UdZ) suggested adding this parameter.

Integral process of certification:

- Jose Antonio Turégano (UdZ) and Rodrigo Vásquez (UdZ) exposed on the importance of an integral process of certification. UdZ wants to transmit this work to the future construction good practices and new normative.

This includes:

1. Building simulation
2. Thermography inspection
3. BlowerDoor test in order to determine air leakages
4. Measuring thermal transmittance
5. Thermal system inspection, to find thermal losses, bad isolation, etc.

Simulations:

- Jose Antonio Turégano (UdZ) said that the simulation demand allows having a reference, to establish a comparison between real data or real year data and the reference.
- Olivier SIDLER (ENERTEC) explained that its company hasn’t made simulation in Lyon buildings (but INSA did), but they have experiences in others small projects, and observed that dynamic simulation helps for the eco-design, to determine the system etc. Internal gains, internal loads are included, but the fundamental aspect is the habitant’s behavior.
- Transient building simulations should be compared with results, considering the human behavior in the final analysis. In that sense, Jose Antonio Turégano (UdZ) proposed that if there is a high level of feedback, it can be used to make activities with the habitants in order to saving energy.
- Jose Antonio Turégano (UdZ) proposed a model to follow: to begin with the urban design before designing buildings. GEE group (UdZ) has created software to simulate the whole urbanization,

called URSUS (URbanismo SOStenible; Sustainable Urbanism). URSUS has proven to be a useful tool to improve the design in Valdespartera. Jose Antonio Turégano (UdZ) offered to share this software to the Concerto participants. The beta version of URSUS is being improved to incorporate different climate data from Europe.

Finally Olivier Pol (Concerto Plus) asked to the partners, to send updated information about their respective project in order to analyze results and compare them with other projects.