

ICT Environment to support the Building Design Process.

Project idea

The aim of the project is to develop an environment consisting of software applications and a physical infrastructure, together with a methodology of deployment, to better support the Building Design Process. The purpose of such environment is to allow a company to attain those business objectives:

- Make significant improvements in the Design Process, in particular regarding cost, duration and quality.
- Optimization of the value chain, overcoming characteristics of the building industry such as its fragmented nature and the inefficiency of operations.

Productivity in the sector of construction falls behind other industries. There is a general acceptance among field participants that ICT are the key enabler to support leading edge, innovative and powerful solutions. The construction industry is learning the lessons so successfully applied in the manufacturing industries: model-based digital design, linked with production planning, supply chain management and integrated business processes management systems.

Building Information Modeling technology (BIM) promises to dramatically improve the way information gets managed across the building process, and also to promote the early collaboration between all the participants. Although the benefits of BIM in terms of productivity and quality gains are widely acknowledged and reported by early adopters, and despite the software tools are ready and rapidly maturing, it's surprising that actual BIM adoption it's being much slower than anticipated.

There are barriers that are preventing the effective transition to BIM. Some of them are technological, such as the semantic and technical interoperability issues that arise when exchanging data with legacy applications or with subcontracted companies. The coordination of concurrent work from scattered offices can pose some difficulties on the infrastructure, too. Most of the companies are small or very small and cannot afford committing a technical team to this task.

This project will develop a package of products and services that will allow the companies doing building design to make an integrated transition to BIM. The aforementioned barriers will be overcome by facilitating collaborative work, project management, and a fluent communication through the value chain. The technical requirements that the proposed ICT environment has to fulfil are:

- Complete technical and semantic interoperability, standard-based, between the applications and systems used by the different teams and companies involved in a building project.
- Project wide information accessible through a portal which all players can access, supported by a physical infrastructure distributed and secure.
- Methods and tools for distributed collaborative work, both on-line and off-line, with security, change management and tracking.
- Visualization of a BIM model through an Internet Web browser, to make it accessible to the end user, with marketing and commercial purposes in the residential segment.

Explain briefly your expertise

The project is proposed by a consortium formed by Abantail S.Coop., a software developer and services provider, who is going to be the leader of the project and will exploit commercially the results; LKS Ingeniería S.Coop., an architecture and engineering company, who's role as end user is to implement a prototype of the proposed environment to test its

validity; and Isea S.Coop., a Technological Centre that will contribute with research and management of the project.

Abantail S. Coop. Develops software and services for the optimization and automation of the Adaptive Design processes, targeting the industrial and construction sectors. It is part of Mondragon Corporation - MCC. Abantail has a staff of 19 people, all of them software or mechanical engineers. Its areas of expertise are design software, CAD and 3D visualization software. Abantail has a strong commitment to research and innovation.

LKS Ingeniería, a company integrated in the Mondragon Corporation, has over 40 years' experience in the Architecture and Engineering field and provides its clients with an all-round service, from preliminary studies (technical/financial feasibility studies), urban and legal reserves and technical development projects (planning, civil works, construction, etc.) to comprehensive management of the promotion process until final delivery to the client. LKS Ingeniería employs 276 people, most of them engineers, architects, and other degrees.

Isea S.Coop. is a private and non-profit Research Centre, specialized in the Services Sector. Isea has been promoted by the Division of Engineering, Professional and Educative Services of Mondragon Corporation. The mission of Isea is to become the R+D+I divisional structure which will allow the technological development of the companies of the Division. Additionally, Isea supports the diversification of the Division by means of the development of the entrepreneurship and the launching of new business activities

Describe what your contribution will be to this project (financial, technological,...)

The consortium that proposes this project will contribute in the activities of research, technological development, pilot deployment and project management.

Which type of contribution you are looking for (financial, technological,...)

The consortium is open to potential European partners that could contribute with their know-how in research or software development, specially in the fields of interoperability, team collaboration and web based virtual reality. We are also looking for architecture companies willing to pilot test the new environment.

Contact information			
Full name	Josu Onandia		
Email address	jonandia@iseamcc.net		
Organisation name	Isea S.Coop.		
Address	C/ Goiru 7, GARAIA Innovacion Centre		
City	Arrasate, Gipuzkoa	Zip	20500
Country	Spain		
Tel.	+34 943 772 064		
Fax.	+34 943 795 437		
Remarks			