

INTELLIGLASS WATER WINDOWS

Jorge Cruz González
Universidad Complutense de Madrid

In 2007, Juan Antonio Hernández and Miguel Hermanns, two aeronautical engineers and professors at Universidad Politécnica de Madrid (UPM), founded IntelliGlass along with two other partners, a firm located in Ventorro del Cano Industrial Park (Madrid). The core business of the firm is the design, manufacture and installation of a new type of window which enables to control the temperature of the rooms of a building.

This window outperforms the traditional double-glazing system by incorporating a circulating water chamber inside the window. As a result, the light passes through the window, but water blocks infrared radiation, so Sun's rays heat the water but not the room. Additionally, distribution pumps and thermostats controlled by geothermal simulation tools cool down the water.

This system, specially designed for summer periods in hot areas and buildings with glass frontages, improves internal comfort by maintaining a stable temperature and avoiding the need of air conditioning systems, so energy savings could achieve 70%. Obviously, installation costs are higher than those for traditional systems (approximately 40,000 € for 50 square meters), but this additional investment could be recovered just in one year due to savings in energy costs.

The firm, which is a spin-off of UPM, experienced the system in the workshops of the university during 2005 and patented it in 2006. Looking to the future, the company is considering new research projects to improve the system and to enhance its efficiency, such as automatic colour variation or water opacity inside the glass.

IntelliGlass does not only develop its projects in Spain, but also tries to reach out other countries like Dubai, Mexico and Argentina, where warm seasons are quite long. The firm expects to achieve a turnover of around a half a million euro in 2010.

Question: Identify the type of innovation undertaken by IntelliGlass as well as the kind of competitive advantage achieved by this firm.