

Pupils Build a European 'Smart Home'

Teaching project with KNX

Winner
KNX Award 2010
Category
Young



A prizewinner, even before the work has been completed? The jury for the KNX award was already enthusiastic about just the idea that pupils from six European countries intended to develop an 'intelligent home', based exclusively on their own ideas. Further, the activities would not only include the functions of the home, but also the marketing and – in connection with that – a market analysis.

In 2008 six vocational colleges from Belgium, the Czech Republic, Finland, Germany, Italy and Hungary started the 'Smart Home in Europe' project – as part of the Comenius EU learning program. The 200 participating students set themselves the goal of developing useful functions in a networked house of the future. For this purpose, each formed team took on a special task. In their search for the right technology, they discovered KNX because the system can cover all applications in the house and represents an international standard which is recognized in all participating countries – that means that KNX also has a unifying aspect, which is particularly appropriate for a European teaching project.

Promoting the idea of 'Smart Houses' to the general public and politicians

The Comenius school partnerships are supported by the EU Commission and link teachers and pupils from different participating countries to join in shared activities over a two year period. Initial meetings about the 'Smart Home in Europe' took place in Recklinghausen (D), Kokemäki (FIN), Békéscsaba (H), Modena (I), Pilsen (CZ) and Genk (B). These served not



The participating class teams scored points after receiving an award for their public participation project. Above is a collage by the participating Belgian school relating to the event.

only to determine the division of labor but also to gather basic knowledge. This led to the conclusion that 'Smart House' technologies are still largely unknown to large parts of the population. So there is a task for the marketing team: the future commercial assistants of the Kuniberg vocational college in Recklinghausen assume that the demand for 'Smart Homes' will increase, particularly amongst older people, although currently there are not enough political or commercial incentives. Their idea: a campaign to bring the idea of helpful functions, safety and energy efficiency in one's own home to the public and hopefully also to representatives of the political parties.

Saving energy with lighting

A first technical application was implemented at Kokemäenjokilaakson ammattiopisto in Finland. The lighting system of their own classroom is controlled via KNX/DALI, including dimmer function and lighting scenarios, and is intended to increase the awareness of artificial lighting and the need and potential for saving electrical energy. In addition, the solar screening system, black-out system

and screen were linked up to automatic KNX operation, which includes a visualization representing the functions. The pupils received support with equipment from BEMl-automation (specialist for lighting design in Vaasa, general manager Micheal Bendtsen), Somfy Group (world leader in window motorization and control), Ulvilan Kaihdin (local producer of Venetian blinds), Berker and Wago.

As a result, BEMl automation has designed very modern lighting for the classroom using the latest findings of psychology on illumination and the most modern instruments of KNX.

Further projects are underway. The Technisch Instituut St. Lodewijk in Belgium and the Istituto Tecnico Industriale Statale 'Fermo Corni' in Italy work on solutions for conserving energy. Students of the Békéscsaba Central Vocational School and Student Hostel, Békéscsaba in Hungary work on audio and video control systems. And a team of budding electricians at Vyšší Odborná Škola a Střední Průmyslová Škola Elektrotechnická Plzeň, Pilsen, Czech Republic works on the communication technology in 'Smart Houses'.

Benefits provided by KNX in this project

In this teaching project, pupils take the lead in designing their own 'Smart Home' of the future. Their ideas and creative solutions are a good match for the international KNX standard due to its many functions, its large selection of compatible components and brands and the international applicability of the system.

Participating institutions

Technisch Instituut St. Lodewijk
Mosselerlaan 110,
3600 Genk, Belgium
www.tisl.be
Main project coordinator:
Robert Gabriëls

Kokemäenjokilaakson
ammattiopisto
Suoratie 1,
32801 Kokemäki, Finland
www.satakola.fi
Project coordinator:
Marko Kempainen

Istituto Tecnico Industriale
Statale 'Fermo Corni'
Sede Largo Aldo Moro 25,
41100, Modena, Italy
www.itiscorni.it
Project coordinator:
Enrico Artioli, Cecilia Lombardi

Kuniberg Berufskolleg,
Recklinghausen
Im Kuniberg 79,
45665 Recklinghausen, Germany
www.kuniberg-berufskolleg.de
Project coordinator: Andrea
Thommes, Erich Drotteff

Békéscsaba Central Vocational
School and Student Hostel
5600 Puskin tér 1,
Békéscsaba, Hungary
www.bekszi.hu
Project coordinator:
László Kruzsić

Vyšší Odborná Škola a Střední
Průmyslová Škola Elektrotech-
nická Plzeň,
Koterovska 85,
32600, Pilsen
www.spse.pilsedu.cz
Project coordinator:
Karel Hajzman

Companies involved to date:

BEMl, Vaasa, Finland
Somfy Group, Finland
Ulvilan Kaihdin, local producer of
Venetian blinds, Finland
Hager Modulec NV, Anderlecht,
Belgium