KNX for Smart Home Applications

The benefits of using a connected control approach to residential applications are manifold as demonstrated in this real example of a smart home:

- This 25,000 square feet residential project had one set of requirements for a core control system: to provide the main control interfaces and be able to communicate to all other devices via simple ports or gateways, that could be expanded if required.

- When faced with the degree of anticipated systems provisions, KNX was the only choice for the control system.

- Lighting throughout the project is provided by advanced LEDs with less than 50% of the energy used by conventional equivalents and offering extended lamp life too.

- The lights are all DALI variants, meaning free configuration on each light or emitter. This makes it easy to set up very specific scenes and low level operations as well as providing huge amounts of light when required.

- The heating is taken care of by two large ground source heat pumps, six solar panels and no back up from gas fired equipment. The underfloor heating system is fully zoned.

- External Venetian style aluminium blinds are included, for privacy, security and heat control. The heat control aspect, when utilising the solar tracking device, will prevent direct sunlight solar overheating in summer months and encourage solar heating in winter.

- 48 Solar Photo Voltaic panels on one roof generate almost 12kW of power, providing three phase power for heat pumps and motors.

- This is measured and evaluated to provide real time information to the central touch screens and via an App.
- Providing native support for all lighting, heating, façade control, air conditioning control/manipulation, metering, alert functions and messaging was easy with KNX: over 400 manufacturers providing a huge variety of products.

- KNX's capabilities have been utilised comprehensively. The system acts as the manual and automatic control medium for the five hundred DALI lights, the sixty blinds and the windows.

- It provides accurate real time feedback on energy use, energy production, incoming mains water, re-used rain water, measurement of external temperature, humidity, wind speed, presence of rain along with accurate solar tracking for blind deployment to control solar gain.

- Various other systems are monitored such as waste tank levels, high level alarms, on site standby generator operation, low fuel levels and various pump system operations.

- Any additional requirements will be easily met with KNX.