TopHat transforms smart housing value chain into a real-time connected ecosystem
Wipro deploys first of its kind smart home technology to enable data-driven decision-making and continuous product improvement leveraging SAP suite of Intelligent Technologies

**Client background**

- **Client:** A leading modular house manufacturing company and a frontrunner in the design for manufacture and assembly housing industry in the U.K.
- **Industry:** Construction company
- **Products:** Modular house manufacturing & construction

**Challenge**

The smart homes industry strives to deliver a comfortable, secure and intuitive living experience to its users by integrating and connecting various smart components into a unified ecosystem. However, the industry has traditionally struggled to incorporate continuous improvements in a structured way across the delivery value chain, which would enhance the customer experience of their homes and provide greater value along the delivery process. The client wanted to drive technology-led innovation for informed facilities management and transform its housing value chain into a real-time connected ecosystem that would allow in-depth data analysis to feed and improve future house designs.

**Solution**

The client chose Wipro as their preferred partner to drive this technology transformation exercise dubbed Project Canvas. Wipro’s solution integrates data from design, manufacturing and home usage to enable a continuous feedback loop. The overall aim was to enable various smart devices, such as thermostats, lighting, security, appliances and other sensors like window & door contacts etc. in smart homes to be set up, connected and controlled via a central portal for intelligent insights on the data captured from various IoT devices. Key phases of the solution included:

- **Exploration workshop** to gravitate user-centric process design
- **System and data integration architecture of edge devices, IoT cloud and enterprise platforms**
- **Setup of sensor/edge devices and associated infrastructure in homes**
- **Collect all data parameters from different devices to IoT Cloud**
- **Integrate data from IoT Cloud to SAP Business Technology Platform**
- **Use of HANA as underlying database**
- **User-specific dashboards and analysis using SAP Fiori as well as SAP Analytics Cloud.**

Wipro leveraged the following Assets & IPs in this engagement:

- IIRA reference Architecture & Solution Architecture using Edge Devices (BOSCH), Platforms (IoT Cloud) and Enterprise Tiers (SAP Business Technology Platform & Autodesk)

Business use cases and its associated UX/UI screens.
Enable data-driven decision-making and continuous product improvements – a first in the housing industry, leading to huge gains in customer experience, and design and delivery of smart homes.

Achieve significant efficiency gains in operations and enable a proactive design process – a revolutionary step forward in the housing industry.

Enable informed facilities management through sensors installed in buildings that gather data about movement, heat, light and use of space. This information from the facility management dashboard gives insights to the manufacturing team on smart house performance and usage, which further helps improve future house designs.

Increase efficiency of community facilities management through analysis of energy consumption and appliances health data.

Enable Alexa integration in smart homes to deliver better user experience for those with assisted living needs.

“Wipro’s deep domain knowledge, well-rounded SAP expertise and flair for innovation is why we chose Wipro as our strategic partner. TopHat intends to bring a change in the construction industry by using real-time data to continuously improve the design, delivery and maintenance of its properties. With an able partner like Wipro, we have made an able start to bring about this shift.”

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