

Modul 3: Reducing the energy consumption of a residential building with a smart home system

Scenario:

The owner of an apartment or small house has heard that it is possible to save energy by using smart home components in their home. They contact an electrician or heating engineer with the following request:

“I would like to optimize my home's energy consumption and have heard that this is possible by installing smart home components.

Specifically, I have the following questions:

1. What is the potential to save energy with the help of smart home, and how big is it?
2. Can you give me a recommendation where a smart home system makes the most sense and where the cost/benefit ratio is most favorable?
3. Can you tell me how complex the installation of a Smart Home system is and what kind of work I will have to do?
4. Please suggest a suitable manufacturer and compile a list of all the components I need for my home.

I would ask you for a written consulting concept.”

Tasks:

Answer the 4 questions posed by the customer and formulate the desired counselling concept in writing.

Instructions:

- As a first step, create a work plan with specific work steps that are required to provide qualified answers to the customer's questions.
- if you have compiled all the information required to answer the customer's inquiry, create the written consultation concept.
- You can use document *6-Blanc-Consultation Concept.docx* as the basis for the written documentation.

Links to smart home providers (selection Germany):

<https://www.bosch-smarthome.com/de/de/produkte/>
<https://www.busch-jaeger.de/systeme/busch-freeathome>
<https://homematic-ip.com/de>
<https://www.philips-hue.com>
<https://fritz.com/produkte/smart-home/>

Links to the structure and function of heating systems (selection Germany)

<https://www.baunetzwissen.de/heizung/fachwissen/heizungsanlagen/bestandteile-einer-heizungsanlage-161168>
<https://www.buderus.de/de/heizung>
<https://www.vaillant.ch/privatkunden/ratgeber-heizung/heiztechnologie-verstehen/funktionsweise-einer-heizung/>
<https://www.viessmann.de/de/wissen/technik-und-systeme/welche-heizung.html>

Links to technical articles and videos about the thermostatic valve function (selection Germany)

<https://haustechnik-wissen.de/thermostatventil/>
<https://www.youtube.com/watch?v=4Eg613ZBexU>
<https://www.bosch-smarthome.com/de/de/loesungen/heizen-und-kuehlen/richtig-heizen-und-heizkosten-sparen?srsId=AfmBOorgV-3CCOmGEgMU53kaOjBMQzYOeTKOmcepMX9xcLMmQ6VZVSH>

Scenario

- *01a-Scenario task.docx*

Information sheets

- *02-residential building customer.docx*
- *03-Energy consumption residential buildings GER.docx*
- *04a-Information Heating systems.docx*
- *05-Smart-Home-systems.docx*

Tasks and Blancs for Documentation:

- *01b-Scenario key questions.docx*
- *04b-tasks-Heatingsystems-blanc.docx*
- *06-Blanc-Consultation Concept.docx*