Abstract

The HARMAN Energy Management System according to ISO 50.001 is completed and will be communicated to all plants and offices of HARMAN Infotainment.

Reduction of energy demand is a big concern of HARMAN top management. Due to that the environmental policy was changed to a combined energy and environmental policy. Afterwards the roles and functions of the Energy Manager, Energy Management Representative (EMR) and also the Top Management were created or updated.

Also the energy targets and measures to adhere the targets were set. As claimed in the ISO 50.001 energy performance indicators (EnPI) were elaborated. The EnPI will be recorded from all European sites of HARMAN and communicated to the EMR.

a) Direct EnPI
Costs and amount of energy sources of Harman Infotainment will be shown.

Example: energy consumption [Euro or kWh]

b) Relative EnPI
Costs and amount compared to significant figures of Harman Infotainment will be shown.

Example: $\frac{\text{energy consumption}}{\text{employee}}$ [Euro or kWh/employee]

Ratio of total costs and amount of Harman Infotainment will be shown.

Example: $\frac{\text{GHG−Emission from oil}}{\text{GHG−Emission total}} * 100$ [%]

To measure the data of the EnPI exact data is needed, because of that smart meters will be implemented in Karlsbad and later in Straubing and Schaidt. At the moment the Energy Management System is rolled out for the European locations, this will also be done in all other locations globally. The smart meters will be implemented into the electric control box and connected to the network. The information will be available for the Energy Manager and Energy Management Representative of each location.
The main electricity consumers of the location will be identified and smart meters implemented to analyze the consumed electricity. There are also smart meters available for natural gas, so detailed information would be available of energy consumption for heating.

The collected data will be stored in the Energy Performance Indicators sheet and identified. New targets and measures will be derived from these data to reduce the energy consumption in the following years.

In the first step the energy consumption for production, laboratory and data center will be identified.

In the second step the other consumers will be identified. That includes all air conditionings, ventilators and electrical heaters. Each building of Harman Infotainment Karlsbad is equipped with air conditioning or ventilation. This will therefore also mean around 16 smart meters in the second step.

In a third step smart meters for gas consumption and also for heat and chilling could be implemented to find the main consumers for heat and air conditioning.

By the time all smart meters are implemented and the data is recorded, it will be possible to set selective measures and reduce the energy demand.