

ECOPLUS - Frozen Food Temperature Monitoring during Transportation and Storage

Frozen Food Temperature Monitoring during Transportation and Storage presents a best practice in maintaining high quality of transported foods. As of January 1st 2010 the owner of a catering or gastronomy company has the obligation to record the temperature of his short-life food products during transportation and storage without a gap and has to keep the recordings for more than a year. The challenge was to develop a concept and a functional model which retrieves temperature readings from temperature sensors in refrigerating plants, analyze the recordings for eventual abnormalities to generate an alarm and archive the recordings in a database for a continuous report. The industrial partner of Fotec owns some branches of school buffets in which it is not possible to lay electric cables from a centralized temperature recording system to the temperature sensors themselves. Therefore, the company which?... developed a concept and a functional model which retrieves temperature readings from temperature sensors in refrigerating plants, analyze the recordings for eventual abnormalities to generate an alarm and archive the recordings in a database for a continuous report to keep the recordings for more than one year. The temperature recordings are stored in a central database via the internet for all branches of a customer. The user has the ability to configure threshold values for each temperature sensor and regarding to this generates notifications per SMS or e-Mail to immediately notify himself, a guarantor and/or a maintenance technician. In addition, the user can generate a complete record which includes all events and/or temperature readings. For these cases, it is possible to use temperature sensors with internal storage capabilities and an USB connector. This system is norm conform with: DIN EN 12830, DIN EN 13485, DIN EN 13486. The involved company benefits from significant results, in terms of quality of products, new products and technologies.

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SWOT ANALYSIS

Strengths:

- Focused end user system is a key factor for larger market adoption;
- Provides a flexible solution to a problem in relation to the temperature of short-life food products -catering business;
- The system implement standards DIN EN 12830, DIN EN 13485 and DIN EN 13486, which catering and gastronomy companies have to obey. It records the temperature of their short-life food products;
- The device commercial application is proofed possible;
- The results of the project are easily transferable;
- The short-term high demand for such solutions is supported by the new food national law (January 1st 2010) in catering businesses, which obligates the recording and storing of food temperature.

Weaknesses:

- Not very well explanation of service compatibility with another similar products;
- Web site of the project contains information regarding another projects, that seems to be a little bit confusing;
- The development process has not been well documented;
- No quality control has been followed through out in all phases of the project;
- Due to its structure, the project creates little demand for new projects on this area;
- The problem arises when a fridge is out of reception range. In this case sensors with internal storage capabilities are used and later user has to transfer all readings into the database via USB connector;
- The device has not reached the market. Not a clear time schedule of the commercialization of the device;
- The development process has not been well documented.

Opportunities:

- To extend to larger EU market;
- The particular project idea can be used in different fields of transportation as a commercial device targeting specific needs;
- With the implementation of this system the company benefited in terms of quality of products, new products and technologies. There is a follow up product development in discussion.

Threats:

- Some problems concerning specific national regulations and certification procedures for the end user usage equipment is missing;
- The outcome may not reach the market;
- The system is developed in order to obey standards. In case they change, the system will have to be redesigned.