



Industrial GSM/GPRS/3G modem 3in1

Bento
Versatile 3in1 Modem



Versatile modem could be used in plenty of applications like process control in industrial automation, sensor measurement in home automation, environmental monitoring, vehicle tracking (AVL), automatic meter reading (AMR) and display unit controller.

It is having state of the art GSM/GPRS/3G wireless communication, short distance wireless communication (ZigBee) and variety of wired busses and I/O.

ARM9 core make it powerful platforms for OS, application and algorithm programming.

3in1 modem:

Standard modem: Ready to use modem with proven telecom and processor technology

Semi custom modem: Additional boards could be designed and fitted to the standard enclosure. This allows application/customer specific tailoring in cost and time effective way.

Platform for full-custom telemetry designs: OEM design could be made based on modem basic features. Prototyping could be done with the standard modem and features could be stripped-off / added based on customer requirements.

- GSM/GPRS/3G based on Telit GC864/UC864 module
- Wired Busses
- 2x Relay Output (isolated)
- GPS (SiRF StarIII)
- Operating Voltage 9-33VDC
- Internal protocol stack
- 4xEthernet 10/100
- 1 digital in
- ZigBee
- Memory Card: SD
- 4-band GPRS optional 3G
- 2xRS232, RS-485, USB,I2C
- Internal bus for expansion cards
- Status LEDs
- Enclosure Rugged Aluminium: 100x50x150mm

WIRELESS M2M INSTRUMENTATION IN RENOVATION AND SANITARY BOX ELEMENT MAINTENANCE (LANKO - project)

Project owner: Jyväskylä University of Applied Sciences
Financier: Tekes, VAMOS program
Record number: 1118/31/08
Project home: Jyväskylä
Timetable: 1.6.2008 – 30.11.2009
Budget: 100 000€
Project Manager: Petteri Weckström, GSM: + 358 40 531 3239, Email: petteri.weckstrom@jamk.fi

Summary of the project:

The project's objective is to research and develop an innovative wireless telemetry solution as an added value service for sanitary cabin renovation industry. The solution under research is seen to have potential for significant cost savings for water/moisture damage restoration as the renovation lead time can be decreased when temporary accommodation needs and renovation company's intermediate and re-examination needs can be reduced. The wireless M2M (Machine-to-Machine) technology concept developed in the project aims to make possible of installing an innovative sanitary box element safely and controlled on top of still moist concrete bed. The remote controlled M2M solution brings also new opportunities to predictive maintenance for avoiding moisture problems in both private and public buildings. The indirect objective of the project tends to prove mould, bacteriological and radon gas free construction method in sanitary cabins by testing the developed system in real bathroom box element that will be built for live testing in the project.

List of project objectives:

1. To R&D and pilot remote controlled/managed drying equipment solution in practice
 - The solution reduces the need for periodic local examinations in moisture damage restoration projects.
2. To pilot new M2M and (wireless) sensor technology business model for renovation industry and predictive maintenance of the sanitary cabinets. (condition inspections / estimates)
 - Benchmarking the international M2M market data for the project pilot
 - Researching the to be developed business model in cooperation with the project partners

- The residents can benefit from embedded sensor technology by being able to observe the humidity trends and history independently (real estate purchase/selling).
3. To research, verify and report how the developed M2M enabled drying equipment makes it possible to use the newly installed sanitary box element on top of still wet concrete.
 - Minimizes the need for temporary accommodation
 - Demonstrating the benefits such as significant lead time reduction in moisture damage restoration
 4. To research, test and report the validity of the humidity readings and precision from (wireless) sensors with the remote controlled concrete bed drying process equipment.

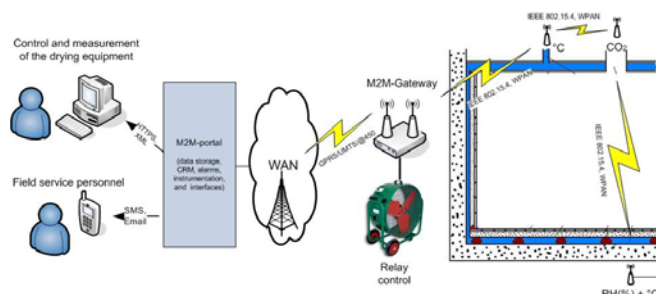


Figure 1. Remote controlled drying equipment can create significant cost savings in renovation industry.

Project partners: Lamit.fi, M2M Platforms Oy, Excellent Element Oy, Hoxville Oy, Suomala Kuivaustekniikka Oy.

Project management group: Petteri Weckström, Heikki Elonheimo, Sakari Suomala, Seppo Karjalainen, Ari Järvinen, Kari Järveläinen, Jari Kovanen

