M2M - Machine to Machine Communication

MC TECHNOLOGIES

Company profile

MC Technologies is a leading European provider of innovative solutions for:

- Machine-to-machine (M2M) communications through a mobile wireless data terminal for business applications
- Custom-made wiring harnesses
- Sales and distribution of electro-mechanical components and modules from selected and certified partners

Through more than 60 years of experience in the TK marketplace, we offer

- Competent advice from experienced personnel
- Rapid and professional handling of all commercial and logistic processes
- Extensive service concept for our products and technical solutions

Business sector M2M

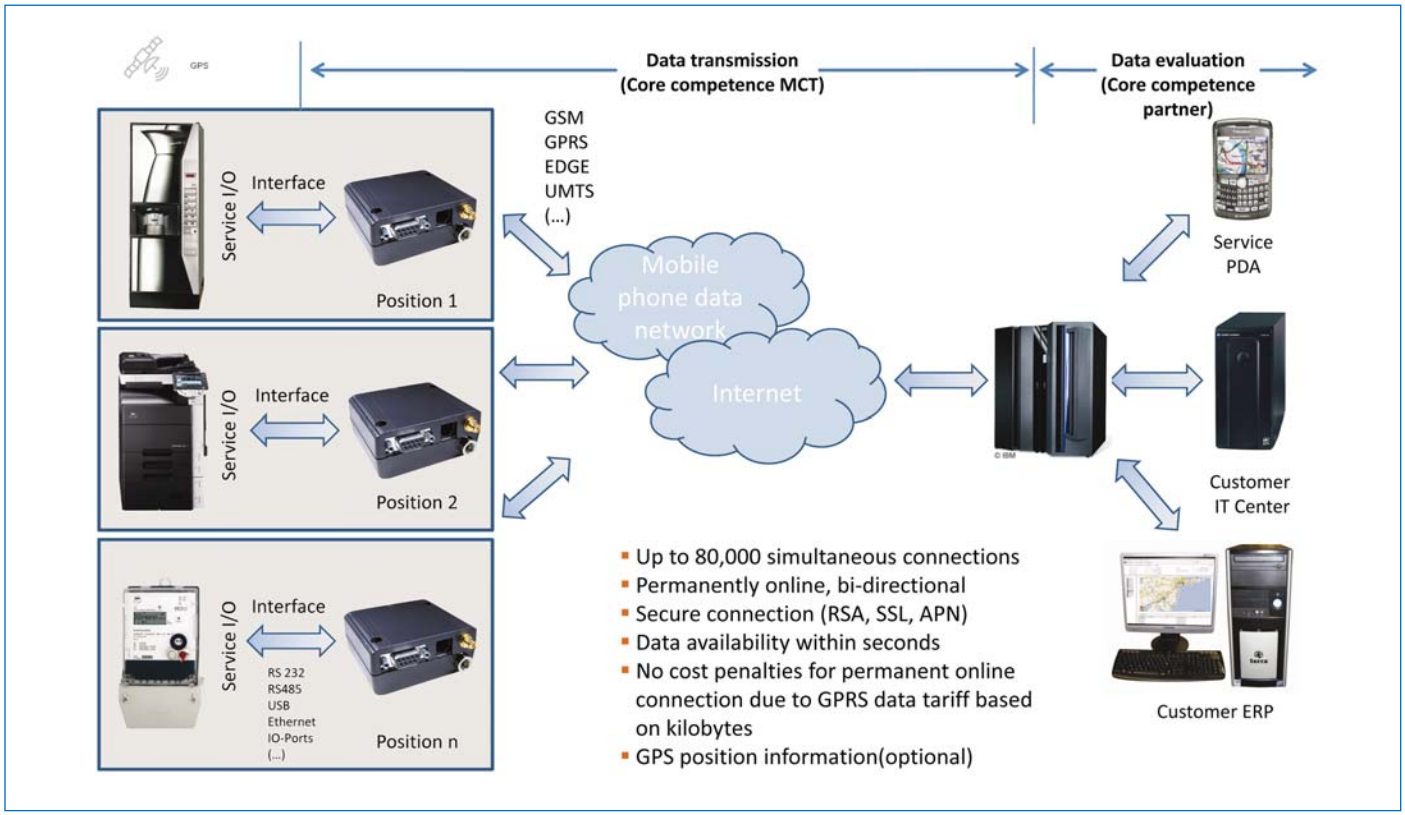
- MC Technologies is a major supplier of wireless applications and wireless modules in Europe.
- More than 270,000 wireless modules were sold in 2010.
- The product portfolio includes embedded wireless software, embedded wireless modules, and application software.
- In addition, our R&D department can help you to integrate our wireless technology in your own custom turnkey solution.
- In addition, MC Technologies can provide top quality of 1st and 2nd level support.

Key applications

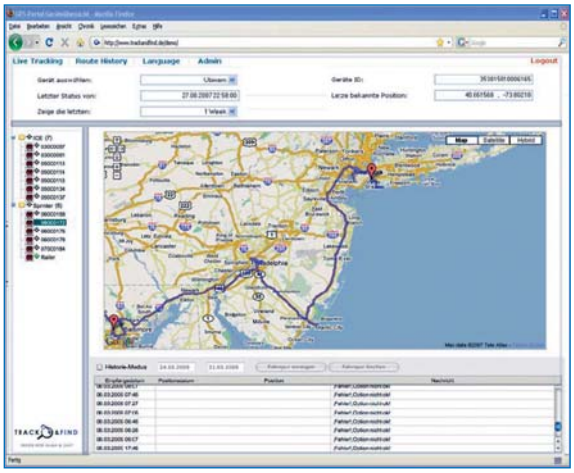
- Automation & Control
  (copying and franking machines, pumps, elevators, etc.)
- Smart Metering
  (remote meter reading for power utilities)
- Vending
  (Remote servicing, remote control and telemetry for vending machines)
- Track & Trace
  (logistics and fleet management, traffic telematics, container tracking)
- MC Technologies/Inside M2M have developed a universally applicable data transfer solution for M2M applications and can provide expert advice for transferring data via the mobile phone data network.

Advantages

- **Efficiency**: With our technology, a single server can maintain and monitor up to 80,000 simultaneous wireless data connections
- **Speed**: A status check of tens of thousands of vending machines or printers etc. takes only a few minutes
- **Reduced data volume**: Data pre-processing in the intellgent terminal considerably reduces the data payload; data transfer costs are typically <5 €/month per terminal
- **Location independent**: The mobile phone data network is available practically everywhere and allows nearly any machine to be monitored. Plug&Play installation without needing cables
- **Return on Invest** (ROI): within one business year



M2M Applications



Track & Trace for vehicles and mobile equipment

Description:

- Transfer of GPS position data from a vehicle to a central office or transport headquarters through a mobile wireless data terminal
- Transfer of additional information to a central office (driver ID, status information, etc.)
- Transfer of control commands and information to the vehicle (ignition on/off, order confirmation, etc.)

Applications:

- Route and transport order planning, order processing
- Fleet management and passenger information systems
- Electronic driver's logbook

Objectives:

- Theft protection and tracking
- Route optimization

Advantages:

- Increased turnover and profits
- Increased customer satisfaction and customer retention
- Protection of investments

Vending

Description:

- Online telemetry for vending machines through a mobile wireless data terminal
- Monitoring of correct function and sales / stock level
- Remote control of vending machines

Applications:

- Vending machines for drinks and food
- Vending machines for other products
- Reverse vending systems for returnables

Objectives:

- Immediate notification of faults and malfunctions
- Automatic sales statistics
- Allows online cashless payment in realtime

Advantages:

- Increased turnover and profits
- Optimization of corporate processes
- Protection against fraud and misuse
- Increased availability of the vending machine

M2M Applications

Remote control of decentral equipment

Description:

- Online access to equipment and machines through a mobile wireless data terminal
- Transfer of service reports and measurement data to a central office
- Transfer of control commands to the equipment

Applications:

- Equipment and plant with high service and maintenance costs
- Complex manufacturing processes
- Equipment pool

Objectives:

- Immediate and automatic notification of faults and malfunctions
- Automatic recording of consumables
- Real time transfer of measurement data
- Remote configuration

Advantages:

- Cost savings
- Optimization of corporate processes
- New or improved service level / service models
- Strategic competitive advantages
- Increased availability of the equipment and/or plant

Smart Metering

Description:

- Remote reading of electricity / gas / water / heat meters through a mobile wireless data terminal
- Remote maintenance and remote control for housing and real estate management, power utilities and industry

Applications:

- Energy and power equipment

Objectives:

- Fully automatic determination of load profiles
- Fully automatic billing systems
- Energy management

Advantages:

- Cost savings
- Improvement of efficiency
- Implementation of local regulations and energy efficiency guidelines

M2M - Wireless Modules

Events / Dates

embedded world 2011 Exhibition & Conference

Nürnberg, 01.03. - 03.03.2011
Visit us: Hall 12 - Booth 241

CeBIT

Hannover
01.03.-04.03.2011
We participate:
Vodafone Booth

HANNOVER MESSE 4.-8. APRIL 2011

04.04.-08.04.2011
Visit us :
Hall 8, Stand D31
Wireless Automation
joint booth

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M2M - Wireless Modules

For the implementation of M2M applications, optimally coordinated hardware solutions in the wireless modules sector are elementary. Due to our many years of experience, our wireless module team can provide you with deeply rooted expert knowledge on our entire hardware product portfolio.

This includes various types of engines – terminals, data modules for implementation in existing systems, industrial PC plug-in cards, etc – as well as a wide range of service characteristics; e.g. HSDPA/EDGE/GPRS/GPS/JAVA™.

We supply hardware and software for the entire sector of M2M communications:

- GSM data modules and accessories:
  GPS, GSM, GPRS, EDGE, UMTS, HSDPA
- Development of custom solutions for industrial applications
- OEM products (GPRS-USB modem, Java terminal,
  Ethernet router, plug-in card for PC104 and PCI, etc.)
- Planning and execution of turnkey projects
- Antennas for special solutions; manufacture of cable harnesses

Highlights of our gsm modules:

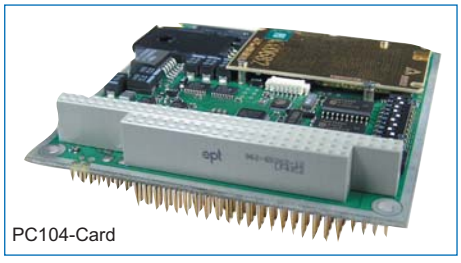
- Java™-programmable (J2ME™)
- Digital, programmable I/Os (GPIOs)
- Ethernet interface
- RS232/-485/-422, USB 2.0 interfaces
- TCP/IP stack:TCP, UDP, HTTP, FTP, SMTP, POP3
- PC104 plug-in card (for embedded systems)
- PCI card (for desktop and industrial PCs)
- Industrial terminal for DIN top hat rails
- GSM/GPRS terminal (without case)
  for industrial applications

Application examples:

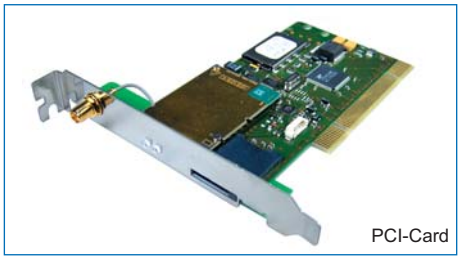
- Fleet management
- Telematics/traffic systems
- Building automation
- Power utilities
- Vending machines
- Safety technology
- Alarm / surveillance systems
- Production / automation
- ... and many more

GSM/GPRS
Terminal
with GPIO adapter
and portable antenna

UMTS/HSDPA
Terminal



PC104-Card



PCI-Card

Construction element manufacture

Manufacture of cable harnesses