



## Manufacturers of Construction Machinery

Mobile data collection for construction machinery

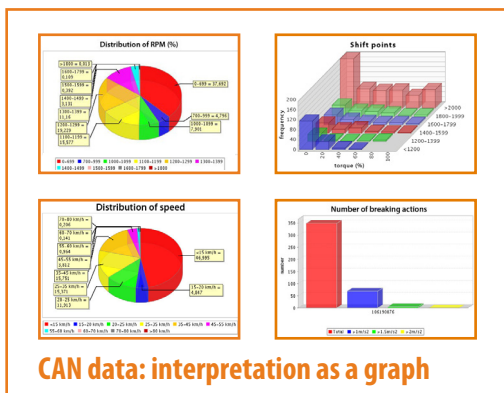
### Do you know the status of your construction machinery before your customer calls?

Customer focus is the secret for successful business. The production of construction machinery is subject to the interests and requirements of your customers.

What do they require in addition to the best excavators, tracked vehicles, vibrating plate compactors, compressors and other equipment? The certainty that they are fully operational at all times.

A service and maintenance package is a major component in your product range. Set up remote access to valuable information from machinery, e.g. hours of operation, battery status, maintenance intervals, error logs.

Or should your service team's journey to construction equipment operating far way become just an expensive day out? Your customer appreciates the efficiency of your construction machinery, and you appreciate the efficiency of your service and maintenance department.



### This is what the ENAIK00N telematics solutions offer:

#### Hours of operation and other equipment information

- ✘ Detailed display and immediate availability of all information:
  - > Machine data
  - > Hours of operation
  - > Fuel consumption
  - > Monitoring of service dates
  - > CAN bus data
  - > Battery status
  - > Exact GPS location
- ✘ Monitoring and substantive proof for this data
- ✘ Evaluation of construction machinery according to objective criteria

#### Detailed analysis and remote diagnosis

- ✘ Analysis of handling/utilisation via CAN bus
- ✘ Ratio of idling to load operation
- ✘ Identification of degree of utilisation and capacity and evaluation for discussion with customer
- ✘ Utilisation analysis of machines with several drivers
- ✘ Remote diagnosis maintenance and repair requirements thanks to live transmission
- ✘ Remote maintenance to significantly reduce unnecessary and expensive deployment of service engineers

#### Threshold monitoring

- ✘ Configuration of various alarm profiles for different machines and vehicles
- ✘ Set different thresholds e.g. for battery status, hours of operation, TÜV certification, maintenance dates, oil temperature, pressure etc.
- ✘ Different levels of alarm: prewarning, main alert, chief alert
- ✘ Early warning
  - > reduces downtimes
  - > ensures planning certainty
  - > minimises costs
  - > optimises spare-part ordering

#### Remote control and configuration

- ✘ Activation or deactivation of each individual machine
- ✘ Immobiliser and remote shut-down prevent unauthorised use
- ✘ Remote shut-down for critical operating states

ENAIK00N records, checks and documents everything to do with your construction machinery.

## ENAIKOON telematics solutions offer your customers:

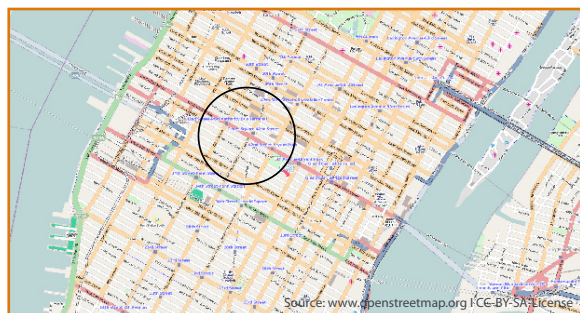
All the features listed are also important for your customers - building companies and construction equipment leasing companies. They place additional requirements on the telematics system used:

- GPS positioning
- Remote shut-down
- Restrictions on use (place and time)
- Employee monitoring
- Anti-theft system
- Use of Geofence

## Equipment security and cost centre allocation

A geofence is a "virtual electronic fence" around a construction machine. You receive a fully automated email or SMS text message when differences to the operation schedule are detected. This keeps you up to date and you can rapidly initiate appropriate measures.

Thanks to geofence each building site can be given a cost centre number or other designation which is then automatically included in all reports.



Source: www.openstreetmap.org / CC-BY-SA license

### VDBUM: Concerning the use of telematics with construction machinery

In 2009 VDBUM, a German association of engineers, established a working group made up of managers drawn from leading construction companies in Germany. Requirements for manufacturers of construction machinery were collected, and these were then presented in subsequent meetings. While anti-theft systems are one important criterion, it is also important in times of optimisation to permanently collect important machine data and to evaluate this using appropriate IT solutions. A common goal was agreed that all manufacturers should install a standard interface in all equipment with identical data formats for easier data evaluation. It was also agreed that scheduling data and logistical characteristics should be provided for better evaluation. The commercial vehicles sector serves as a model since the large players in this industry are pursuing standardisation and supplying required data via an identical interface. VDBUM welcomes the fact that ENAIKOON actively supports this project.

## An overview of ENAIKOON telematics

- Very large selection of different telematics modules: suitable solutions for almost any application area
- Mobile telephone transmissions in real time: you always know what's going on
- Powerful, highly secure, web-based solution:
  - > No software installation required
  - > Data retrieval via any web browser - even with a mobile phone
- Possibility to connect to existing programs
- Automatic email reports, SMS for easy handling with individual configuration
- Evaluations put you in the know:
  - > Hours of operation, downtimes
  - > Daily, weekly, monthly reports of the construction machines and employees
  - > Logbook, pause time of staff
  - > Driving behaviour: speed and acceleration
- Automatic alert message: Report per email or SMS for e.g.
  - > Reaching or leaving of defined areas
  - > Under-running a defined power supply voltage
  - > Exceeding of defined parameters, e.g. max. ultimate load or protrusion
  - > Reaching of a defined number of operation hours to meet maintenance intervals

## Easy to use technology

- Installation of the device within minutes
- Maintenance-free operation
- Detailed manual and hotline with usual call charges

## Useful extensions and accessories

and other information about the use of ENAIKOON telematics solutions are available for you and your customers in

- ENAIKOON Branch Application "Construction equipment rentals"
- ENAIKOON Branch Application "Construction company"

