

technologies such as infrared or Bluetooth still continue to be used.

Fleet management is supported by intelligent logistics programmes, according to the mottos “optimisation of tanker deployment” and “uninterrupted flow of goods”.

The dairy must always be in a position to be able to react to any parameter deviations immediately.



Zevodat-M data acquisition unit with a variety of peripheral devices

One declared aim of trip planning is to reach 100 per cent of tanker capacity wherever possible. Some of the important aspects that have to be taken into account are:

- compliance with weight limits, e.g. on bridges
- the danger of exceeding the permitted filling level in the tank, e.g. on gradients
- other restrictions on collection times (noise nuisance at night, prohibitions on Sunday driving etc.) or road use (diversions at certain times near schools)
- monitoring of the driver’s working time (including maximum annual working time)

Milk payment accounting remains an important aspect of data capture on milk collection tankers. For this purpose, the milk quantity has to be linked to the analysis data determined in the laboratory. It is of extreme importance that sampling bottles should be reliably attributed to the correct suppliers; this can be double-checked, for example, by reading the barcode number into the data capture system again before the start of the intake process. If any additional information is required for the sampling, it is advisable to use RFID tags. The data from the laboratory and the tanker are linked automatically in the operating system and form the basis for milk payment accounting.



Officially approved metering apparatus with control unit and Zevodat-M data acquisition unit

It is a declared aim of the industry federations and of the dairies to achieve the standardisation of data formats and common regulations for the collection of milk; only then will it

High-tech equipment installed on milk collection tankers can supply information that is useful to the dairy even before or during the transportation of the milk. Integration into a complete tour and flow management system offers advantages in terms of quality and costs. As a manufacturer of metering and data technology, GEA Diessel supports this concept with simple and economical starter models and the possibility of later retrofitting or upgrading of the existing devices, so that the customer’s initial investment risk remains calculable.

With its electronics platform, which has been tried and tested over many years, GEA Diessel can react very flexible to the requirements of individual customers.

be possible to use tankers across national boundaries within the EU.

It is utterly essential that reliable metering, approved by the weights and measures authorities, should be guaranteed. Although the individual devices have been type-tested and approved, and are thus to a large extent self-monitoring, provision is nevertheless frequently made for an official stationary measurement device (using volumetric or mass flow metering technology) to be used for counterchecking purposes, ensuring adequate redundancy and thus enhancing the reliability of the measurements taken.

Communication with the tanker

Bilateral data exchange between the tanker and the base station has now been replaced by “multiple” exchanges between all the tankers of a fleet. The reporting back of the previous day’s quantity data (“quantity memory”) supports the function of controlling the tanker-mounted sampler, ensuring the consistency of samples. At the same time, the quantities provide the basis for dynamic route planning.

Any changes to the route or any unforeseen events can be communicated individually to the tankers at any time; the drivers can receive or call up the necessary instructions on special terminals in their cabs, or even through a function integrated into normal, commercially available navigation systems.

The GPRS service is particularly suitable for this constant communication; since 2002 GEA Diessel has been retrofitting fleets’ existing Zevodat systems with this function.

Data security

Reliable access to data should already be adequately ensured in the individual data capture unit, e. g. through the long-term memory. In addition, the security of the data channels against unauthorised access and manipulation is an important aspect. Right from the basic design phase, GEA Diessel has taken into account all modern security techniques at the various points of the overall transmission chain from the tanker all the way to the server via the internet. Thus the data is always protected against both external and internal attack.

Dairy

Name:	_____
Truck	4
Print no.	22
Date	25. 11. 97
Time	12:06
Quantity	1567.6
Temperature °C	4.5
Signature:	_____

A simple official voucher for milk collection data