

## Company info

**Sector:**

Cement & Aggregates bulk powder & packed products Distribution

**Location:**

Uk

**Implementation date:**

2008/09

**Microlise Modules:**

- Electronic Proof of Delivery
- Transport Management Centre
- Vehicle Tracking & Telematics
- Driver & Vehicle performance management

**A global supplier of cement, ready-mixed concrete and aggregates, in the UK CEMEX also provides asphalt and manufactures roof tiles, concrete blocks and concrete railway sleepers.**



With deliveries of bulk powders, mistakes are not simply an inconvenience but can be business critical. Should CEMEX deliver the incorrect grade of cement to a customer who then used it for the foundations of a building, for example, this would be an incredibly costly and time-consuming error to rectify, as well as inflicting serious damage on CEMEX's hard earned reputation for delivering top quality customer service.

Consequently, CEMEX engaged Microlise, an established CEMEX business partner and expert in transport management and mobile workforce solutions, to enhance and adapt the market leading Microlise transport management and electronic proof of delivery (ePOD) solution to meet the exacting needs of the company.

**Right vehicle, right product, right customer**

**Working in partnership**

The challenge facing CEMEX was to ensure the right vehicle delivers precisely the right product to the right silo at the right customer site.

The way the companies worked together to develop and deploy this solution is a case study in working in partnership. Microlise and CEMEX worked closely as one team from day one, fully involving Motorola - the provider of the ePOD mobile data terminals (MDTs) and IVU - the provider of the CEMEX order processing system - in the process throughout.

So, CEMEX decided to explore how it could remove the potential for human error at each stage of the delivery process by replacing manual systems and paperwork with a comprehensive, state-of-the-art technology solution.

Microlise employed an innovative project management technique for the CEMEX project, based on dynamic system design methodology (DSDM). This meant that two key members of the CEMEX operational team were seconded to the project for its duration and worked alongside Microlise to design, develop and test the solution.





As Grant Pettigrew, the Microlise Project Manager for the CEMEX implementation, pointed out, "This collaborative approach significantly reduced the development and deployment timeframe and made a significant contribution towards overall quality and fitness for purpose. It was a real team effort that definitely delivered superior results".

### Benefits at every stage

The new system is delivering significant benefits at every stage of the delivery process. Firstly, as order details are now downloaded directly to Motorola MDTs - ruggedised, hand-held computers - from the CEMEX order processing system, the first opportunity for introducing errors has been eliminated.

Next, the vehicle loader uses an integrated barcode scanner within the MDT to scan a vehicle to confirm that it is the correct one to fulfil a specific delivery.

Before loading can take place, however, the application on the MDT enforces a tare weight check of the vehicle to verify it is empty and doesn't have any product already on board. This not only ensures that the vehicle has the correct quantity of product loaded but also helps to eliminate the potential for cross contamination of products.

Once this task has been completed, a scan of the loading point confirms that the correct product is being loaded. When a driver reports for duty, barcode scanning is used again to confirm the driver's identity and to associate the driver with a particular vehicle and load.

On arrival at a customer site, the driver scans a CEMEX-provided barcode plaque with the MDT to confirm that he (or she) is at the correct location. Again, before the driver is allowed to move to the next stage, the application enforces a sign-off by the customer to confirm that all relevant safety procedures are being observed and it is OK for the delivery to go ahead.

Once he has received this 'permission to discharge', the driver proceeds to the discharge point where a further scan ensures that the right product is off-loaded at the right place. Finally, the customer 'signs on glass' on the MDT to confirm that the delivery has been successfully completed.

A refinement to the Microlise solution, developed specifically for CEMEX, is a 'supervisor confirmation' facility.

This requires a supervisor to enter a password in order to grant approval under certain circumstances for tasks to continue. Effectively, this puts a check into the system where a transaction may require a higher level of authorisation.

According to Graham Russell, VP for Commercial, Logistics & Building Products at CEMEX, "The 'supervisor confirmation' facility is really useful. It means we can manage by exception and, therefore, a supervisor only needs to get involved under very specific circumstances. This is a much more efficient use of our resources".

### Managing dynamic change

It is common for a driver's plan for the day to be updated dynamically to cater for changing customer requirements or circumstances.

Previously, a change of delivery destination relied on a driver taking down the revised details over the phone and then amending by hand an existing delivery ticket with the relevant account details, ticket number and site address. Clearly, the potential for error here was great.

With the Microlise system, however, updates to a driver's schedule, delivery destination, and the like, are simply transmitted to the driver's MDT via GPRS. This removes the potential for human error and allows the revised delivery to be completed in the usual manner.

## Quantifiable financial benefits

As well as minimising the potential for error, CEMEX is enjoying an immediate saving of circa 8,000 sheets of paper a week that formed the multi-part delivery notes. This not only contributes towards the company's commitment to environmental responsibility, but also delivers a significant financial saving in terms of the direct cost of producing, managing, storing and retrieving paper documents.

Furthermore, the data and signatures captured by the application enable CEMEX to validate delivery details and confirm these back to customers almost immediately. This not only minimises customer queries, but also prevents delay in issuing accurate invoices and improves the overall efficiency of the invoicing process.

*"Previously, we spent a great deal of time chasing paper in an attempt to ensure we were invoicing the customer for the correct quantity of product. This was not only costly but also error-prone, which in turn could have a negative impact on the quality of customer service we were able to deliver. The Microlise ePOD system is so easy to use and means that POD-related queries have all but been eliminated",* says Russell.



## Improvements in productivity and accuracy

Other aspects of the Microlise solution deployed by CEMEX are also making significant contributions towards an estimated 15% improvement in overall productivity and a significant reduction in administrative overhead.

A Microlise in-vehicle tracking & telematics device and complementary back-office system provides CEMEX operational staff with real time visibility of each truck's location and how it is performing against plan.

The system provides CEMEX with the information it needs to pinpoint deliveries to 30 minute windows and is helping the company to realise >95% accuracy in estimated delivery times. In an environment where delivery times often are given as 'morning' or 'afternoon' at best, this is a real differentiator for CEMEX in terms of customer service quality.

On return to base, a user configurable geo-fencing facility within the system automatically triggers an alert when the vehicle is a given distance from home. This enables the despatch department to pre-allocate the truck's next delivery. As this load information is sent directly to the driver's MDT, he can re-load immediately on his return, thereby dramatically reducing both administrative overhead and turn-around time.

The Microlise tracking unit integrates with the vehicle's digital tachograph and CANbus.



The former provides automatic driver ID that instantly associates a driver with a specific vehicle and journey. The latter drives a set of easy to interpret driver & vehicle performance reports. These are helping CEMEX to understand better driver behaviour and driving style, and so to identify where de-briefing and training may be applied to further enhance safety and economy.

Reflecting the views of the CEMEX project team members who were heavily involved with the technical functionality of the system, Russell commented, *"Whilst the team concentrated on ensuring a system that provided for our business needs, they were also mindful of the need to manage our quality assurance and health and safety responsibilities. The system fully endorses our values in these areas"*.

#### **Exemplary customer service**

Like Microlise, CEMEX has built an excellent reputation for delivering exemplary customer service by going that extra mile to deliver precisely what the customer needs. Certain customers, for example, require product specification or classification data over and above the information provided under the universal British Standard grade classifications.

For example, in some environments or for the manufacture of certain products, such as tunnel linings or railway sleepers, the temperature at which the product has been stored or other specific characteristics are critical and so this data is appended automatically to the POD data provided to the customer.

#### **In summary**

CEMEX's investment in Microlise ePOD and transport management technology is delivering significant cost savings to the business, whilst simultaneously enabling the company to deliver industry-leading customer service and helping it to fulfil its commitments to safety and environmental responsibility.

As Graham Russell says, *"This whole project has been a master-class in collaborative working. Not only has it enabled Microlise and us to deliver the project against a very ambitious timescale, but it has also ensured we have realised the quantifiable savings and business benefits we were seeking to achieve right from the word go. It certainly looks as though our estimate of a return on investment in less than 12 months is more than achievable"*