



AMCS Case Study Unicon

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Unicon has significantly increased the productivity of their fleet with AMCS' Concrete Planner solution.

Unicon in brief

Unicon is a part of the Aalborg Portland Group and a subsidiary of Italian multinational Cementir Holding, which specialises in the production and distribution of grey and white cement, ready-mixed concrete, aggregates and concrete products. Over the years the Cementir Group has grown to become the global leader in the production of white cement and Unicon the leading ready-mixed concrete manufacturer in Scandinavia and the only cement manufacturer in Denmark. The company is now present in 18 countries across 5 continents.

The opportunity

Ready mix concrete is produced by mixing a number of materials including rock, sand, water and cement to a specific recipe depending upon the customer's application. Across Denmark and Norway, Unicon operates approximately 80 batch plants all capable of producing a wide range of concrete recipes. The concrete is then delivered to the customer on a fleet of 450 trucks, which are either operated by Unicon or a third party.

Historically, each plant would have a number of trucks assigned to it depending upon the region in which it was located.

Every time a load was delivered to the customer the truck would return to its designated plant and collect its next load. However, due to geographical placements of the plants, having a truck allocated to a single plant resulted in a number of operational inefficiencies. This ultimately limited capacity and the ability to meet customer's delivery windows, which are often only 10 minutes.

Ultimately, Unicon wanted to break down the geographical boundaries and allow trucks to operate across the network of plants. This increased flexibility would increase truck availability and improve the ability to meet delivery windows. As concrete has a relatively short shelf life it would also mean that more loads would arrive in optimal condition and reduce the potential for loads changing the quality whilst in transit.

Improved efficiency

The AMCS solution allows Unicon to manage all the elements associated with the successful delivery of ready-mix concrete in a real-time and in on-line environment. In addition to ensuring tight delivery windows could be met, the new system has the capability to manage constantly changing orders as a result of a range of factors including weather, delays with trades or other issues which may have affected progress on site.

The fully paperless system provided a far more efficient and effective alternative to the old manual system, which was constrained by strict geographical borders. The free-flowing nature of the system means that it is possible to keep track of hundreds of thousands of orders a year, all of which are generated in a highly dynamic and fast changing environment.

System Coordinator at Unicon, Hans-Christian Wattum, says "AMCS Concrete Planner has supported us in developing a highly efficient and flexible delivery model which has significantly increased the productivity of our fleet."



[Watch video about AMCS Routing](#)

Customer service and requirements

To further improve efficiency, geographic boundaries/geofences are used to trigger timestamps and status messages for vehicles. This ensures loads are allocated to the vehicle which is best placed to meet the customer's delivery requirements. This decision is based on a number of factors including plant availability, recipe, distance and drive time.

The "Ready in 5" geofence, for example, informs the plant operator when a vehicle will be ready for a new load in a maximum of 5 minutes. This minimises waiting time and increases the efficiency of the plant and the capacity of the fleet.

The AMCS system which, includes Fleet Planner and Mobile Web is fully integrated into Unicon's SAP system which is used to take and maintain orders. Orders are then sent continuously to Fleet Planner from SAP to accommodate changes. Once the order is confirmed the information goes to Unicon's production system, enabling the plant to get the right mix and volume ready for the delivery truck.

Once the order is agreed, the details are sent to the driver via Mobile Web providing all the information required to meet the delivery window. When delivered the driver asks the customer to sign it off on a mobile device resulting in immediate proof of service. In fact, an order cannot be completed until the documentation on the Mobile Web system is completed.

If the driver experiences waiting time or if additional services are required, they can register this on the system enabling the appropriate surcharge. The result is 100% management of the service delivered against the costs incurred and highly accurate billing. Previously, reporting of demurrage would have relied upon a driver's written notes and as a result these charges would often be missed.

Substantial increase in deliveries

AMCS has supported Unicon in achieving its objective of changing the model from 70 individual businesses to one single dynamic business.

The AMCS's solution enables the fast, flexible and efficient handling of high order volumes which are often subject to a large number of changes and constraints. It also provides an accurate overview of trucks and mixing resources despite the large number of resources involved. Order taking is now far more structured and stress free with an integrated and paperless data and work flow. The adoption of a single consistent system has also facilitated the sharing of best practice across the company.

Major benefits from implementing the system:

- ▶ Increasing the number of deliveries per truck per day by 20- 25%
- ▶ A 33% reduction in the number of employees required to manage order-taking and planning
- ▶ 100% management of the service delivered vs. costs
- ▶ 1-5% increase in revenue resulting from more accurate charging of waiting time
- ▶ Meeting the internal goals (KPIs) regarding "on-time delivery" and the associated improvement in customer satisfaction

"The increased automation of our systems and adoption of mobile technology has significantly improved our ability to capture additional costs such as waiting time and ensure it is billed fairly and accurately."

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AMCS enables us to manage thousands of orders every year, all subject to a wide range of variables that can change right through to the point of delivery.

