

Always on the Right Track



Price and service quality are the deciding factors in competition where the delivery of building sites with concrete, bulk materials, and materials and pallets is concerned. Around 15 - 30 % of the price is for transport costs alone. Since meeting deadlines depends largely on transport, efficient logistics and truck organization is especially significant. For this reason, the Hanson Group organizes its truck fleets in Australia with the help of an IT-supported transport optimization in real time.

By Thomas Bergmans

At the customer service center in Brisbane, the day begins early. Starting at 6:00 in the morning, the telephone lines are open and in the next 11 hours, customers have the opportunity to place, change, or cancel orders. "250 cubic meters of 20MPA finished concrete to Bond Street 2, Sydney CBD. Beginning at 9:00 – then six cubic meters every 5 minutes." Between 45 seconds and three minutes per call must be enough, then the next customer is on the line: "12 cubic meters tomorrow at 10 o'clock. The concrete pump manages 15 cubic meters per hour. Coronation Drive, Ecke Park Road - like last week. Please don't use a big mixer, that doesn't fit through our entrance. Oh yes, and with the delivery, please wait until our people call from the building site to say that the pump is really ready to go!" This is the daily routine for 50 customer agents who take orders for all of central Australia at the customer service center in Brisbane and then forward them out for dispatch.

As a company with approximately 27,400 employees in 14 countries, Hanson belongs to one of the largest manufacturers of building materials worldwide. In Australia, the company principally produces ready-mix and special concrete. In addition, they specialize in the supply of mineral raw materials such as gravel, sand, and ballast. 3,000 workers and a transport fleet of almost 1,000 trucks ensure that all the building sites are supplied with the right materials on time. A complex task - ultimately, the delivery area extends across four time zones. And time plays a crucial role in the building material business because finished concrete and bulk materials must arrive exactly at the time for which the customer orders it. Therefore, a crucial factor for the company's success is transport organization.

Since the end of 2000, Hanson has organized its deliveries with the help of the SyncroTESS software system. This system manages the vehicle fleets in the five cities with more than one million inhabitants - Sydney, Melbourne, Brisbane, Perth, and Adelaide. Here, organization means both advance planning for the next day, as well as situation dependent, real time control of the orders being delivered, taking into account unexpected problems, traffic related delays, or unplanned changes in the order. In addition, the software also supports the order entry, and with a tracking & tracing function, the planning manager can continuously call up the current status of all the orders and the vehicles.

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operational activities from Brisbane. Up to 12 planning managers, as well as 50 other workers in the customer service center work here simultaneously. The orders taken by telephone are entered into the SAP system, which then passes them on automatically into the fully integrated SyncroTESS system. On the basis of this data, every 1.5 minutes the software provides a new transportation plan both for the remainder of the current day and for subsequent days. This way, the trucks no longer shuttle back and forth between the parent plant and the customer building sites, as they used to do. Since the introduction of the new software, the Hanson vehicles are targeted to be where they're needed, and this saves the number of kilometers driven, and therefore travel times, and each one is given a better chance for a successful follow up order.

Therefore, the scheduling department works almost around the clock. By 4:00 in the morning, two hours before the call center opens, the early shift is busy organizing the first deliveries of the day. Altogether, the planning managers work throughout the day, and are distributed across three shifts from 4 am to 12 midnight. The end of a shift varies depending on the workload.

When the call center opens at 6 am, the "hot phase" begins. The customers can now place their order for a delivery period from "immediately" to "in two weeks." In addition, the employees catch up on confirmations for what are called "provisional" orders. These special telephone orders make it possible for the customer to confirm, change, or cancel deliveries up to the last minute. All the same, whatever the customer decides on, the real-time control of the system will quickly integrate these orders into the truck fleet delivery plan.

Between 7:30 and 8:30 am, the workload reaches its highest point. The entire vehicle fleet is now on the road and is supervised from the center in Brisbane. On average, a planning manager is responsible for 80 vehicles. Now, the main concern is to again and again eliminate unforeseen problems that can occur, and to do it fast. While some vehicles break down with technical difficulties, others are backed up in rush hour traffic. Around 9 am it starts to rain in northern Sydney - many orders are thus called off at the last minute. But another customer places a larger, last minute order of over 180

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next to the vehicle numbers on the planning manager's screen. Next, a customer phones the control center: "Where's my order for 10:45?" A glimpse at the SyncroTESS screen reports: The vehicle left the plant at 10:37 and is scheduled to arrive at 10:52. Although the planning managers can work under the most stressful of conditions, it's always hectic; but ultimately they can rely on the fact that SyncroTESS will give them an intelligent organization suggestion for each new situation.

The planner's job begins around 10 am. From now on, the next working day is prepared. With all the possibilities of real time control, precise advance planning is still important to ensure optimal service quality. For this, the planners rely on the simulation and scenario



module integrated into SyncroTESS. Here, they analyze the orders that already exist and prioritize them based on the specifications for the building material distribution. At the same time, they complete the data for the availability of the vehicles for the next day. From all of this information, the software now calculates the optimal delivery schedule for the following day, allowing for a certain buffer for unexpected events. This plan, however, doesn't take its final shape until after the call center's telephone lines shut down at 5 pm. With the specifications that are now certain for the next day, the planners can hone the workloads and adjust the possible overloads with external transport facilities. Then the delivery schedule is entered into an interactive voice response system, and starting at 6:30 pm, all the drivers and employees throughout the country can call in to check on their individual starting time for the next day.

It's not until nighttime that things start to calm down at the call center. From 8 pm on, the only person working is a planning manager, who still is looking after around 80 vehicles. When he/she goes home at 12 midnight, 20 hours have gone by in which 13,000 cubic meters of concrete, distributed in 2,700 individual deliveries, and 37,000 tons of sand and gravel, distributed through 1,500 individual deliveries, have successfully found their way to their recipients.