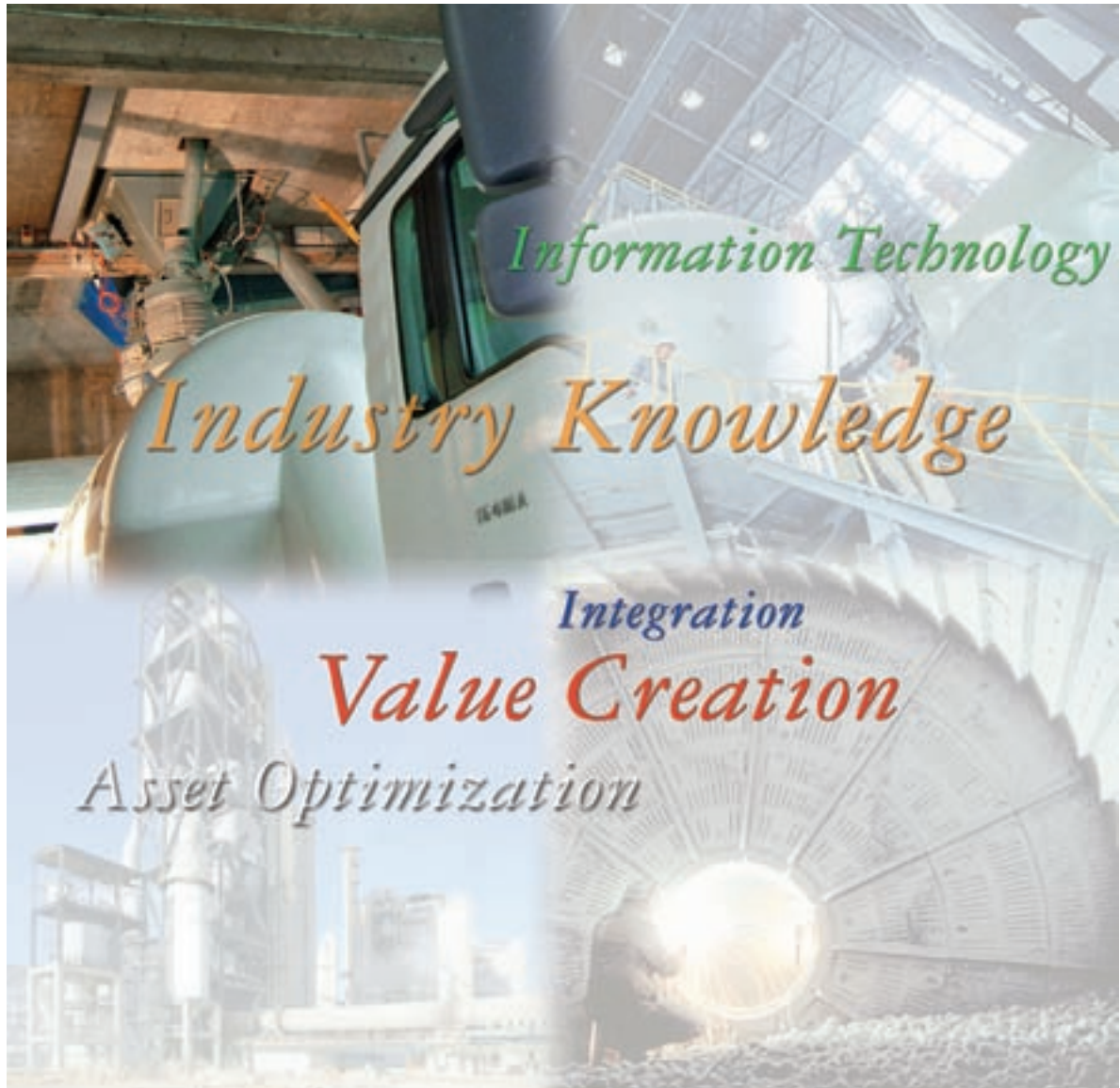


Dispatch Automation Solutions

Industrial^{IT} Solutions for the Cement Industry



ABB

Move more product with Dispatch Automation Solutions.



Benefits

- Immediate customer solvency confirmation for transaction approval and billing
- Full integration into plant business information network to improve sales planning
- More accurate inventory control data to reduce stocks on hand
- Dispatch Personal Assistant PC interface for advanced reports and statistics

The cement industry improves every day. New manufacturing technologies constantly raise quality, cement types, capacities and output levels. But are your work processes and work flow in your dispatching department causing bottlenecks? Managing the dispatch of the final product is often the least advanced of all processes in cement plants. You do not profit until your cement passes into your customers' hands, so it pays to make that happen as

quickly and efficiently as possible. At ABB, we are solving this for our cement customers with Dispatch Automation Solutions (DAS). With this distributed hardware and software system that computerizes order handling and delivery tracking, a controlled and orderly traffic flow inside the plant is achieved. The loading of trucks is automated. DAS eliminates dispatch bottlenecks to increase sales capacity and the speed of your cement investment payback.

Step 1: Identifying customer

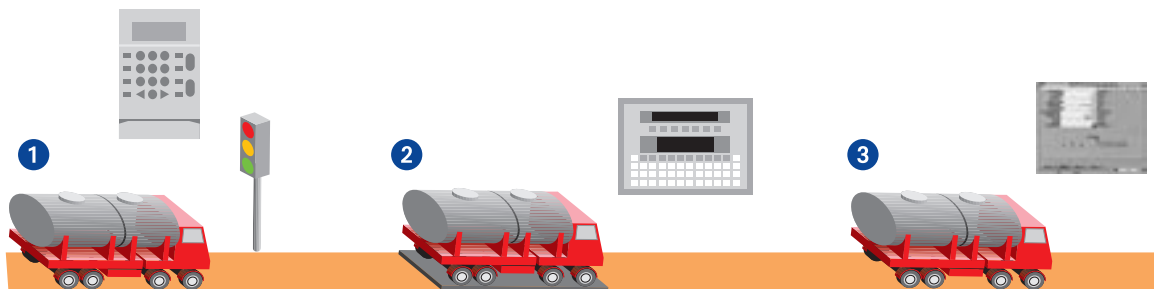
Arriving at the plant registration desk, the customer's truck driver identifies himself through the DAS driver identification system. The customer's arrival is automatically logged and his records made available to your operator. The order is logged and solvency information is immediately available. The vehicles are directed to their proper loading bays.

Step 2: Weighing of empty truck

Driving onto the entry weighing bridge, the truck is weighed and then guided into the proper loading bay and re-identified.

Step 3: Printing loading instructions

At the entry gate, the customer's driver receives a detailed printout of his order and loading instructions. Even before loading, this information is being processed through your plant's information management systems.





Dispatch Automation Solution employs a comprehensive distributed computer system with ABB's well known Inform^{IT} Knowledge Manager user-interface. Each DAS system is customized for the plant. System inputs come from the system operators and

the remote driver identification system which track the actual dispatch process. Screen information and reports are available in English as well as your native language. Information management is enhanced at every level of your enterprise.

Step 4: Loading

The ordered type and quantity of bulk cement or bags is loaded into the truck, automatically or by plant dispatch workers.

Step 5: Weighing of loaded truck

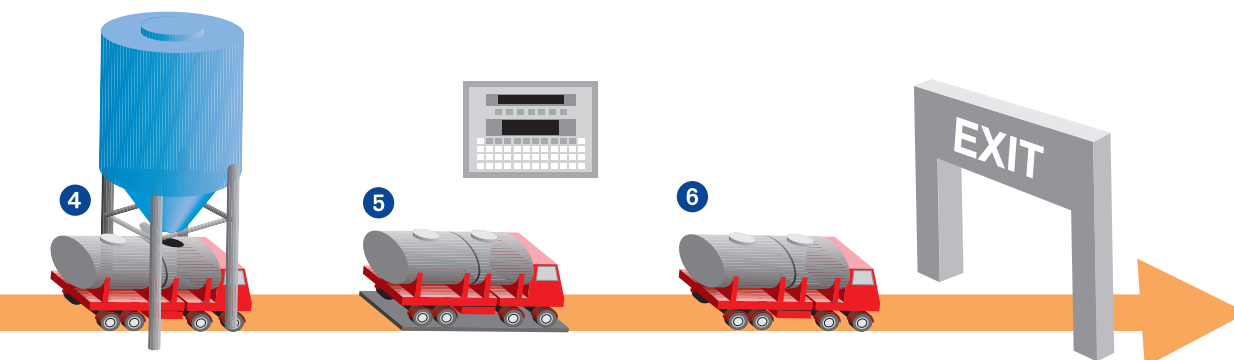
Proceeding to the exit weighing bridge, the truck is again identified through a driver identification system. The full truck is weighed, and signaled to the exit.

Step 6: Completing dispatch

Arriving at the exit gate dispatch terminal, the customer receives his printed delivery confirmation form, and leaves the plant area. Before the customer's truck has even left your plant grounds, all data associated with the transaction are available to your business information network for tracking, planning, control and forecasting purposes.

DAS steps to success

When your customer's truck arrives to pick up a delivery, your Dispatch Automation Solution guides and tracks them through the dispatch process – smoothly, quickly, easily.





Return on the DAS Investment: A case study

With the start up of ABB's Dispatch Automation Solution at the Arabian Cement Company's Rabigh operation, dispatch queues shortened from the typical 60–70 trucks to 8–10 trucks waiting at any one time. The result? The plant was able to process more trucks per day, increasing average weekly billings.

Beyond Dispatch: A complete materials handling capability with DAS

Most cement plants not only dispatch cement products, but receive raw materials as well. Even a cement plant with limestone and marl quarries still needs to bring in bulk materials such as high quality limestone, fly ash, pyrite, shale, iron ore, gypsum and bauxite.

ABB will customize DAS for your operation to track and manage incoming materials in addition to automating dispatch.

In short, DAS will deliver a complete materials management infrastructure. You quickly achieve more favorable inventory minimums and maximums. As inventory management improves, so do cash flow and return on plant investment.

Automate dispatch with ABB

- **Reduce employed capital**
- **Increase staff effectiveness**
- **Utilize the full planned capacity**
- **Maximize financial results**



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