



PRODUCTION AND CIRCULATION ENGINE



## What is PACE?

**PACE is a system for synchronizing mill production and distribution in a single drop setting. It ensures smooth running of the production plant, maximizing contiguous product type runs and minimizing transport costs.**

**PACE integrates real time GPS updates superimposed on the planned schedule to allow easy comparisons and change of plans.**

## Features & benefits:

- ▶ **Designed for single drop settings**
- ▶ **Compartment level modeling of vehicles**
- ▶ **Two simultaneous schedules; production & distribution**
- ▶ **Avoids bottlenecks at customers and the depot**
- ▶ **Contiguous product code runs in the mill**
- ▶ **Optimized routing and scheduling**
- ▶ **GPS tracking integration**
- ▶ **Integrates with ERP system**



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**PACE** (Production and Circulation Engine) is a scheduling tool designed for single drop settings. This production environment includes constraints as to when feed is available for delivery. **PACE** provides two simultaneous schedules to achieve efficiency: one is for distribution indicating loads and vehicles; the other is for production showing products, quantities and times that the feed is needed. In this way, **PACE** helps the two ends of a feed mill work together more smoothly.

**PACE** satisfies:

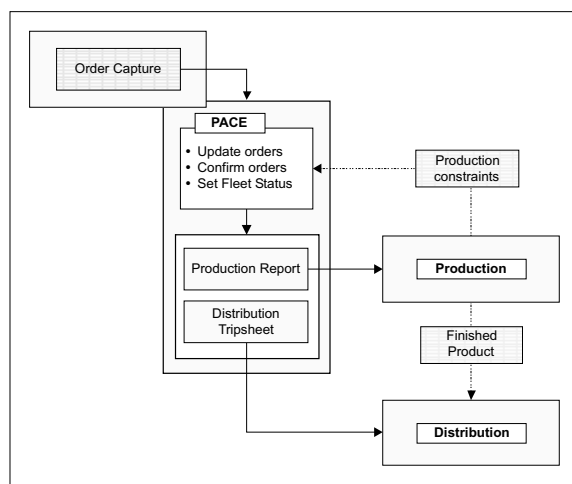
- customer requirements (i.e. priority, single load, delivery day/time and vehicle restrictions)
- truck capacity constraints
- fleet maintenance requirements (alerts when vehicles require maintenance)
- production efficiency (plans driver schedules with production in mind to avoid bottle necking in the production process)

**PACE** makes use of a sophisticated load generating algorithm. Included in the software, is compartment level modeling of vehicles where variations in loading capacities of these compartments by product type is allowed. With this feature, mill production and distribution facilities can, given a set of orders, automatically generate an optimal set of loads for a specified fleet composition.

**PACE** takes the orders to be delivered and schedules them, taking into account a variety of factors particular to mill production. These include business rules, driver information and product information. The schedule provides for scattered arrival times at customers and at the depot (to avoid bottlenecks), contiguous product code runs in the mill (to minimize mill changeover time) and optimal vehicle utilization.

The **PACE** system can be integrated with the customer's real time tracking system with easy-to-see live updates on the status of each vehicle. This allows for automatic updating of the Gantt chart to show current vehicle status (e.g. if running late) that facilitates early detection of possible scheduling problems and gives the production manager the opportunity to adjust if necessary.

**PACE** is ideal for many single drop settings where production factors must be considered when planning distribution.



PACE workflow diagram

**PACE provides cost-efficient driver and production schedules.**

**PACE is able to reduce running costs by approximately 10%.**