

# Case Study for Concrete Pumping Industry



Concrete pumping services companies lose \$780 million each year to dispatch errors (based on ACPA statistics). These errors commonly fall into delivery of the wrong product to the work site, or delivery of a product (referred to in the trade as a *Pour*) outside of a setting time window. The demand for a comprehensive solution that helps cut down communication errors, streamline dispatch operations and provide integrated workflow is pronounced throughout many elements of the logistics industry. Generic GPS Service provider offerings go unused. Finally, a key element – dispatcher communication overload – is never addressed (until now).

## The State of the Art

GIS companies have created systems that provide limited functionality at high price points (ex. MDSI Advantex, or Qualcomm). Built-in GPS service provider mapping provided is commonly focused on the technical problem of drawing a point on a map or other generic operations such as simple routing, normally provided in conjunction with an offering to a larger customer such as a telco, but *without* workflow. To draw an analogy - Air traffic control is impossible without a critical set of information displayed on the screen, altitude, flight path, etc. Dispatchers have enough to do, let alone use a system that does not solve all of their problems - the systems just can't catch enough of the work, of a dispatcher to be useful, in fact. There is a strong tendency on the part of the dispatcher to be staying in hard copy, and to work extensively on the phone or radio. **The cognitive load on a dispatcher is considerable – their Radar screen must be coded, like an air traffic controller's screen, to provide all the information they need to do their job. Anything less, does *not* solve the problem.**

## The ATR Solution

ATR Wireless is a leader in integrating State-of-the-Art technologies and developing highly efficient interfaces to ensure seamless operations of all applied technologies. ATR accomplishes this by *Dispatch Radar*, a multimodal, speech, GPS integrated software product that solves the problem completely. **Multimodal interfaces simultaneously blend speech, touch and graphics, so that users have fluid, efficient access to information systems through voice commands, touch controls, or a combination of both.** Multimodal System allows wireless carriers and service providers to extract new value from existing systems or generate new offerings that improve customer access to information.

## Our solution strength:

- **First of a kind Telephony speech Integration – truly helps dispatchers to reduce the calls that they have to handle on day-to-day basis – operators update status ROR**
- **Real time information for field staff from anywhere anytime regarding the next job, directions, traffic and weather alerts, job changes etc.**

- Usable, carefully constructed workflow. Locating units using GIS and GPS.
- Weather, and Traffic Integration (Enterprise Version)
- Key AI components calculate critical path, best combination of jobs and units, scheduling, rescheduling, routing, rerouting, geo-fencing, critical alerts (alerting of job change, serious traffic delays, alerting the other construction worker for the arrival of the vehicle etc.)
- Data update using cell phone; ‘hitching our wagon to a star’ – potential for tremendous platform growth and capability enhancement (such as signing work orders and onspot invoicing)
- Multimodal (field available) reporting for management, field and dispatch  
The system consists of two main parts, a GUI interface, and a Speech Product, that are packaged in a single hardware / software product installed on-site.

**The GUI sports a dynamic, click-able Map and administration tool.** End users Click to Assign attributes (in the case of dispatch, a work order). Our engine uses geo-coding techniques to define attributes, and allows end users to easily acquire and manipulate latitude/longitude pairs. Another key feature, Geo-fencing, allows dispatchers to set rules of the road. **Utilizes our GPS data connector, which normalizes GPS feed from Service Providers allowing us to work with all GPS Service providers ( tested with Discrete Wireless, @Road, others).**

**The Speech Recognition Element** provides over-the-telephone operator ‘leave times’, system alerts. This provides a crucial interface into the system to allow the operator to update his job status to ‘done’, to be able to check, anytime day or night – his leave time and what he needs to carry to the job – using text to speech and proprietary ATR multimodal technology that accommodates accent, alerts, and provides high accuracy and endpoint recognition. This feature alone eliminates many of the dispatch work.

Early testing on our system shows the following benefits:

- **40% reduction in overtime**
- **20% reduction in travel time, increase in asset, and service availability**
- **20% improvement in jobs completed and dispatcher response time**

**Finally, our system features “wargaming”, of various dispatch scenarios.** Each icon on the map calls up its own context menu, with a line to its target. Areas of alert are flagged and viewable in an alerts layer. All dispatch activity, including all locations, are database driven. Dispatchers can plan the day in advance, or do a instant replay from previous day’s work, to troubleshoot mid-day or event scenarios. This also commonly results in the ability of dispatchers to be able to ‘bounce’ pours off one another. Developers appreciate an all-access pass to scheduling efficiency and quick completion.