

# Grupo Plaza

## Hops

*Passengers Transport Schedule and  
Optimization*





## Grupo Plaza

- Industry: Public Transportation.
- HOPS: Automatization and optimization of driver's Schedule assets maintenance.

## Challenges

- Reduce a Highly manual work.
- Have a faster reaction to a constant changing business environment.
- Understand a complex and unpredictable traffic
- Generate an optimized schedule for maintenance and driver's day-off.

## Solutions

HOPS: We developed an automated tool of optimization and planning of services. The solution is integrated in three modules:

- Driver's day-off schedule: This module is an objective-oriented optimization of the resources that reduces the extra cost allocated to drivers because of lack of planning.
- Maintenance Schedule: This module is based on preventive maintenance of the buses. The algorithm uses the data from the bus schedule module to calculate the kilometer that each bus runs daily to predict when to stop a bus.
- Bus Schedule module: Is based on Ant Colony Optimization algorithm. This module integrates the services requirements for each day.

## Benefits

- HOPS reduced 70% the time used to generate a schedule. This helps to have a faster reaction to changes.
- Using three different algorithms HOPS increased the understanding of the complex environment. So you can design better schedules.
- Automatic, integrated and optimized schedule for maintenance and drivers.



## About Contинente Siete

Contинente Siete is an algorithm workshop, where mathematical models are constantly being developed to address complex problems.

### What is an algorithm?

It is a step-by-step procedure for calculations.

We are Able to use them in different areas for different problems.

### What do we offer?

We have a set of “plug-and-play” products to attend specific needs.

But we feed our innovation process by building tailor-made solutions for our clients. Our core is our methodology, which allows us to work across industries with ease.

We move between two worlds (academic and business) and with this bridge we bring knowledge and innovation to results.

### How do we do it?

People + context + tools. Contинente Siete is a transparent company with amazing people and the right technology. We keep our engine running (fun and engagement) through challenging requests.

We have worked in many industries, including demand forecasting, on-line marketing, transportation, behavioral targeting and telecommunications.