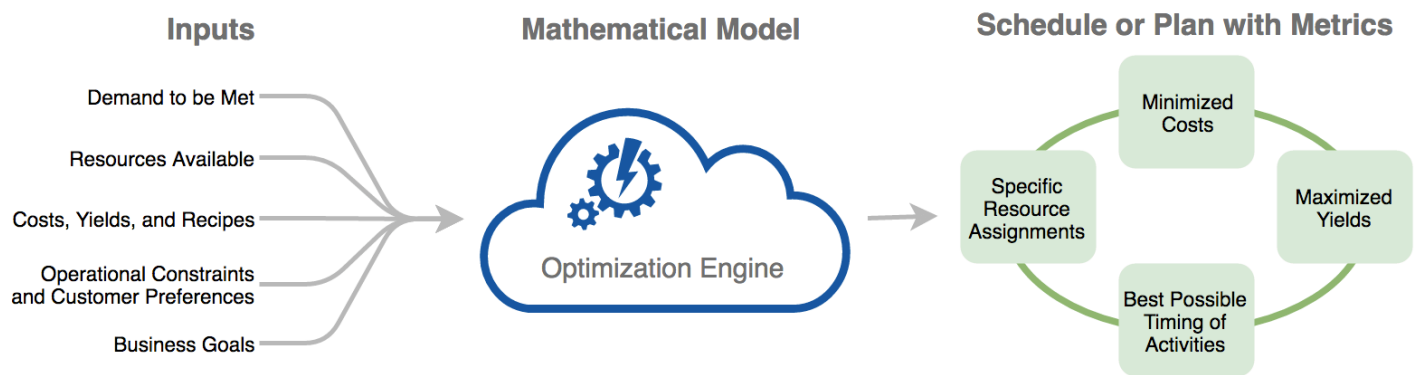


**Emprata's Resource Optimizer** is a simple yet powerful decision support tool that determines the optimal allocation of resources for complex, real-world scheduling problems. The software includes an intuitive, self-service interface that accepts data inputs from the user. Inputs include supply of available resources, demand to be met, business goals, and operational constraints. A sophisticated modeling engine transforms the inputs into a mathematical model, which is then solved to produce the allocation of resources that best meets the defined objectives. A dynamic data dashboard, consisting of graphs, tables, and a map, provides a visual representation of the optimal solution.



## Why Optimization

Optimization is an extremely powerful technique that provides decision makers with the best possible decision to complex problems. Optimization can enable businesses to reduce costs, improve profitability, reduce risks, and allocate resources effectively, among many other benefits. In addition, optimization can automate decision processes to improve speed of responses – allowing business managers to focus their attention on critical issues rather than routine matters.

## Problem Types

The Resource Optimizer solves virtually any type of resource allocation problem. Allocation types include:

- **Destination-Driven:** Resources are scarce (i.e. not enough resources exist to meet demand).  
Goal: Select the most worthwhile destinations for resources to visit.
- **Resource-Driven:** Sufficient quantities of resources exist.  
Goal: Select the resources that “best” meet business objectives.

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## BENEFITS

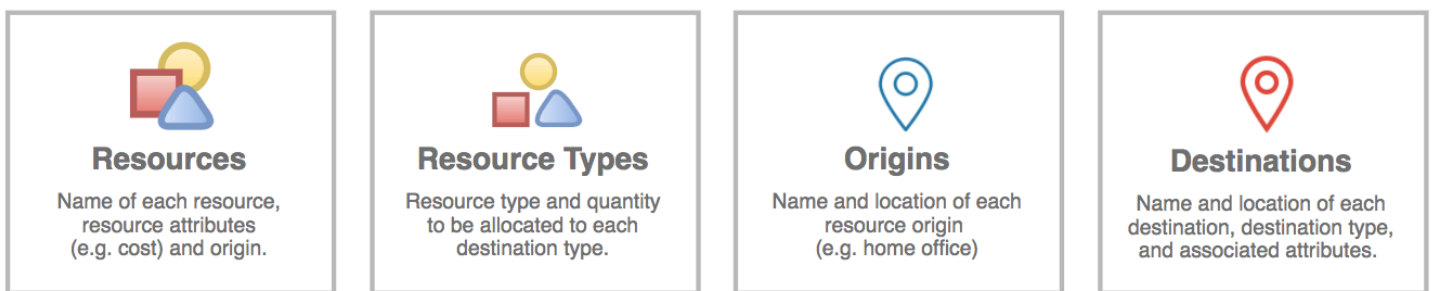
- Maximizes operational efficiency by improving the utilization of any type of resource (personnel, equipment, etc.).
  - Uncovers solutions to the toughest problems.
  - Considers trade-offs and explores alternatives rapidly.
  - Produces measurable return on investment (ROI).
  - Applications in virtually every industry.
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## Resource Optimizer

The Resource Optimizer is comprised of three primary modules that allow users to upload relevant data, define objectives and constraints, and visualize results. Collectively, these modules guide the user through a logical workflow.

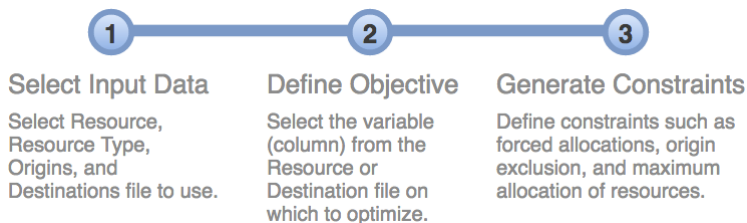
### Upload Data

The software requires the user to create and upload four simple, intuitive data files. Each file contains required data elements, and together serve as the foundation of the mathematical model.



### Create Schedule

In this module, the user selects the input files to use, defines the business objective, and creates operational constraints.



### Analyze Results

A filterable, interactive data dashboard provides a visualization of the result. The dashboard includes both an executive level and detailed summary of the result as well as a result download capability.



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### KEY FEATURES

- **Intuitive user interface** guides the user through the optimization process - from data ingest to visualization of results.
  - **Empowerment through self-service** places the power of optimization in the hands of the user.
  - **Versatility and flexibility** incorporates business objectives and operational constraints with ease.
  - **Visualization of results** provides graphs, tables, and maps to support understanding of results.
  - **Interactive tools** allow user to study outcomes based on variations in inputs through "what if" analysis.
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## Examples Across Domains

- Allocation of personnel to conduct audits or to investigate cases of fraud.
- Allocation of aircraft fleets to airport hubs based on demand patterns.
- Assignment of military personnel to exercises based on PERSTEMPO (time away from home).
- Assignment of patients to medical facilities based on specialty and location.
- Allocation of safety inspectors (food, pharmaceutical, etc.) to those facilities with the highest risk.
- Allocation of airplane mechanics based on type and maintenance requirements.

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### INDUSTRIES/DOMAIN

- Transportation
  - Logistics
  - Financial Services
  - Communications
  - Government
  - Health
  - Defense / Military
  - Fraud Detection
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### For More Information

Please contact us to learn how we can help you make better business decisions with data analytics, optimization, and visualization.



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