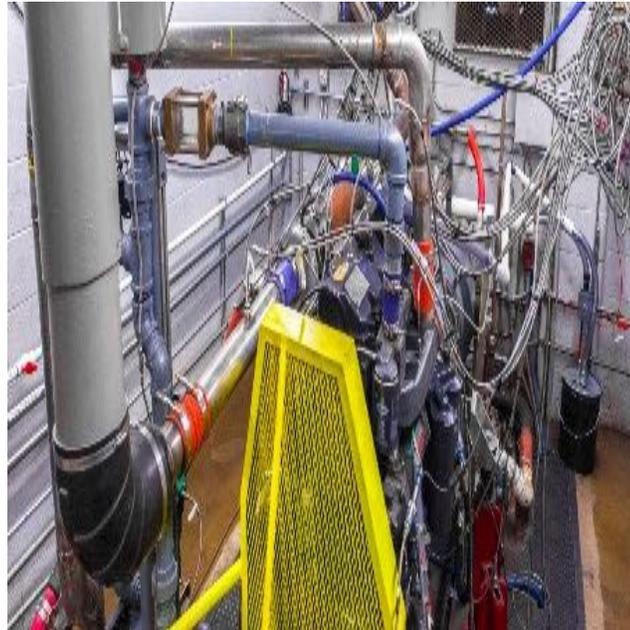


# Flexible Production Schedule for Engine Testing



## Company Name:

Intertek Automotive  
Research

## Product:

An engine assignment  
model and a digitized  
Engine Count form.

## The Problem:

Inefficient use of Engine  
Count form and a  
laborious style of manual  
job assignment to  
operators consumes a  
substantial amount of  
time and causes delays in  
engine testing.

## The Solution:

A portable integrated  
Engine Count form and  
a linear program model  
that assigns operators to  
a cluster of engines will  
allow for a decrease in  
the process time.

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## Background

Intertek Automotive Research, located in San Antonio, provides independent testing services for the automotive industries. This location has three laboratories that span over 750,000 ft<sup>2</sup>, making it one of the largest automotive and petrochemical testing facilities in the world. Intertek Automotive Research (IAR) Engine Lab runs 24 hours a day, year round.

## The Problem

Intertek has identified a problem faced on a daily basis: their current approach to assign test stands (e.g. engine) to operators is time consuming. Prior to each shift, the Lead Tech completes a handwritten Test Stand Count Form to document which of the 68 potential test stands are actively running. After this is completed, the actively running test stands are handwritten on a dry erase board and manually broken down into assignment(s) per operator. The goal is to create a more efficient way to automatically assign test stands to an operator based upon their qualifications and the distance of the test stands needed each day.

## The Solution

A model was developed using a Linear Program to successfully assign active test stands to present operators. The solution takes into consideration the location of the test stands and the qualifications of the operators. A functionality to print the Engine Count form was then generated to keep historical data. The integration of this system is crucial for the company as it will ultimately improve and optimize the Engine Lab assignment process by a decrease in time of roughly 50%.