



## ***Project Feasibility Study***

By

***Automation Dynamics, LLC***

***Confidential***



*"Developing Automation at  
the Speed of Technology"*

**To all who review this document,**

Automation Dynamics is pleased to present this Project Feasibility Study. Our objective is to create what we call "Intelligent Movement". Intelligent movement specific to your plant that will create labor and material savings based on a study of your production data and processing methods.

This study focuses on the customer's request to benefit the current conditions. We review current conditions and do on site inspections to become familiar with current methods. From this, we propose changes by taking into consideration: space and utility requirements, production goals and return on investment goals. This study will be limited to the area our equipment and controls will affect most, depending on the project request and equipment recommendations.

Accompanying documents and drawings will need to be reviewed.

Production data and other numbers used are from your staff. On site visits from Automation Dynamics project managers are to learn and analyze current methods. This information is and will remain confidential and for the sole purpose of researching the value of automating certain processes.

**Again, thank you for giving us this opportunity.**

## **Project Request**

### **Project Request**

The request is for a pneumatic station to transfer small piece goods across the plant to a dumping station located on the dock. Also, to control the dump by weight and communicate between the pickup station and the dumping station the change of product types so the receiving cart can be changed out.

### **Current Functionality to be Improved**

Currently, the small piece items, mostly napkins, are manually transferred into carts down on the floor and across the plant. This is not efficient considering the physical locations of the pickup and deliver areas and the time it takes to travel this distance. Pushing carts is difficult due to the lack of space which often impedes personnel movement.

### **Current Production Load**

**There are 5 to 6 carts full of small piece transported daily.**

### **Current Production Rate**

It takes an estimated 40 to 50 minutes per cart to transport. 5 carts a day or 20 carts a week equals 15 hours a week or 780 hours a year.

### **Current Production Cost**

At an average cost of \$15.00 per hour, times 780 = \$11,700.00 cost per year.

## **Study Findings and Proposed Functionality Changes**

### **Recommended Changes to Current System Functionality:**

Install a pneumatic station to transfer small piece goods across the plant to a dumping station located on the dock. Controlling the dump by weight and communicate between the pickup station and the dumping station the change of product types so the receiving cart can be changed out which we will do with a light system.

### **Increase over Current Production Rate**

A cart can be vacuumed and transferred in about 10 minutes per cart. This is 30 to 40 minutes less than it takes now.

### **New Production Cost**

The new estimated time is 10 minutes per cart to transport. 5 carts a day or 20 carts a week equals 3 hours a week or 156 hours a year.

### **Economic Justification:**

780 hours less 156 hours = 624 hours less labor and transfer times. At \$15.00 per hour x 624 hours = \$9360 net savings on labor.

## **Automation Equipment Recommend:**

### **Small Piece Bulk Transfer System**

#### **Pickup Station**

Suction Station Model TCSS-M1 is a single man station with a manually operated suction adaptor. This operator will move the adaptor up and down to suck the goods out of the cart.

#### **Bulk Vacuum Weigh Bin**

Stainless Steel Bulk Bin approx. 100lbs for each dump. System includes weigh scales and controls for auto dumping into a waiting cart. A set of lights on both ends will be used to identify when a different product is being transferred.

#### **Lint Control**

An on-board lint collector includes a stainless steel lint collector with dual filter bags. An 8" Lint Sock Poly Fiber for the inner bag to catch heavy particles and a 10" Cotton Outer Lint Sock for secondary to catch the lint getting through the first poly sock. This combination works well.

The exhausting air coming out of the fan and through the lint collector will need to be removed from the building area to remove the excess noise and particulates still in the air after filtering. (Does not include roof cuts or flashing or any type of roof work)

#### **PVC Piping**

With the cost of freight so high it would be more cost effective if the piping is purchased directly from a local supplier. AD has a national account with two very large distributors who have outlets in most cities.

#### **Benefits**

- Labor Savings
- Direct Material Delivery and Less Congestion
- Product Information
  - The weigh bin can give management information in pounds of product transported by the item and thus the poundage of rejects.

#### **Equipment Cost**

See attached documents

1. Sales Order# & Date

#### **Assumptions and other factors used in preparing this feasibility study:**

- All information used in preparing this Study has been provided by the Customer or their staff or others working on behalf of the Customer.
- Production rate estimates are based on averages compiled from current customers and are not a guarantee of your operators or the proposed system's performance in your plant.

We welcome and recommend all comments and the opportunity to evolve together with the understanding that each plant requires some form of customization. We look forward to sharing ideas with you.

Mike Frankeberger and Amy Ragland of Automation Dynamics, LLC prepared this Project Feasibility study. For additional questions or comments please contact either party at 816.461.8989, request extension by name, or check our web site at [adllc.com](http://adllc.com).

Thank you for your time and please let us know how we may help you further.