

Title (rename tab)

| Automation System Investment                |                   |
|---|-------------------|
| Total System Cost                           | \$ 310,000 [1]    |
| If using Line Items below, enter "0" above. |                   |
| System Engineering                          | \$ -              |
| Robot                                       | \$ -              |
| End-of-Arm Tool                             | \$ -              |
| Fixturing                                   | \$ -              |
| Vision & Inspection                         | \$ -              |
| Controls                                    | \$ -              |
| Physical Barriers                           | \$ -              |
| Other Peripherals                           | \$ -              |
| Integration                                 | \$ -              |
| Shipping & Installation                     | \$ -              |
| System Training                             | \$ -              |
| <b>Initial Investment</b>                   | <b>\$ 310,000</b> |

| Automated Equipment Annual Operating Costs |              |
|--|--------------|
| Electricity                                | \$ 2,000 [2] |
| Maintenance                                | \$ 900 [2]   |

Increased production enables more product sales.  
Optional, but likely significant.

|   |               |
|---|---------------|
| <b>Additional Profit from Increased Annual Product Throughput</b> | \$ 55,000 [3] |
|---|---------------|

|                   |
|-------------------|
| <b>ROI</b><br>[6] |
| <b>1 YR 3 MO</b>  |

Labor savings have significant impact on ROI.  
Complete section as accurately as possible.

| Annual Labor Costs          | Manual Process    | Automated Process |
|-----------------------------|-------------------|-------------------|
| Shifts per Day              | 2                 | 2                 |
| Employee(s) on a Shift      | 2                 | 0.2 [4]           |
| Employee Total Compensation | \$ 45,000         | \$ 45,000         |
| Human Resources             | \$ 12,000         | \$ 1,200 [5]      |
| <b>Labor Costs</b>          | <b>\$ 192,000</b> | <b>\$ 19,200</b>  |

|                                  |
|----------------------------------|
| <b>Cumulative Cash Flow in</b>   |
| 5 years:<br><b>\$ 949,758</b>    |
| 10 years:<br><b>\$ 2,303,112</b> |
| 15 years:<br><b>\$ 3,759,802</b> |

Reasonable estimates will yield more accurate output,  
but use of this section is optional.

| Annual Additional Costs | Manual Process   | Automated Process % Savings → | Reduced Cost     |
|-------------------------|------------------|-------------------------------|------------------|
| Downtime                | \$ 20,000        | 75%                           | \$ 5,000         |
| Material                | \$ -             | 0%                            | \$ -             |
| On-going Training       | \$ -             | 0%                            | \$ -             |
| Safety                  | \$ -             | 0%                            | \$ -             |
| Scrap & Rework          | \$ 10,000        | 50%                           | \$ 5,000         |
| <b>Additional Costs</b> | <b>\$ 30,000</b> | <b>67%</b>                    | <b>\$ 10,000</b> |

[1] Line items show examples of costs that could be included in the total. Without an estimate, this value can be tweaked to discover what maximum investment you can make and still achieve ROI within a desired timeframe.

[2] Rough annual costs of \$3000 for electricity and \$1500 for maintenance are for a medium-sized robot. Costs will vary depending on equipment. Costs are for automated equipment that would not be part of a manual process.

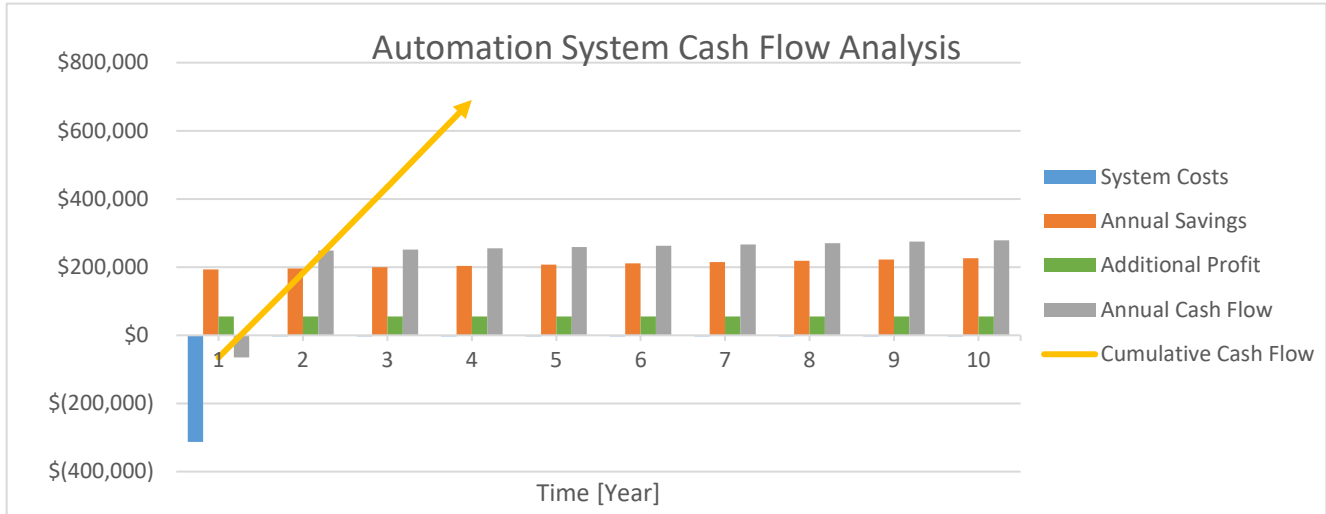
[3] Automation usually allows more product to be produced than a manual process. If the market will support sales of the extra product, estimate the profit from these sales. Consider: (1) automation can work at a faster pace than an operator, (2) manual labor breaks and other downtime are eliminated, (3) adding or removing shifts affects productivity.

[4] Personnel are still required for operation of an automated system. The labor time, however, can be a fraction of that necessary for a manual process. For example, if a manual process requires 2 employees per shift, but an automated process will require only 10% of that labor time per shift, enter 0.2. In effect, this means the automated process requires one operator for only 20% of each shift, allowing the operator to perform tasks outside of this process.

[5] Using \$3000 as an average HR cost per FTE (full time equivalent/employee). Override value in formulas, if desired.

[6] Time until the initial investment is offset by accumulated savings and profits. After this point, further savings are profit! Calculated as Initial Investment divided by sum of Annual Savings and Additional Profit.

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| Year | System Costs<br>Investment +<br>Oper. Costs | Labor Savings<br>[7]<br>Manual - Auto.<br>Costs | Additional<br>Savings<br>Manual - Auto.<br>Costs | Annual Savings<br>Labor Savings +<br>Add'l Savings | Add'l Profit<br>from increased<br>throughput | Annu. Cash Flow<br>Annu. Savings +<br>Add'l Profit<br>- System costs | Cumulative Cash<br>Flow |
|------|---|---|--|--|--|--|-------------------------|
| 1    | \$ (312,900)                                | \$ 172,800                                      | \$ 20,000  | \$ 192,800   | \$ 55,000                                    | \$ (65,100)  | \$ (65,100)             |
| 2    | \$ (2,900)                                  | \$ 176,256                                      | \$ 20,000  | \$ 196,256   | \$ 55,000                                    | \$ 248,356   | \$ 183,256              |
| 3    | \$ (2,900)                                  | \$ 179,781                                      | \$ 20,000  | \$ 199,781   | \$ 55,000                                    | \$ 251,881   | \$ 435,137              |
| 4    | \$ (2,900)                                  | \$ 183,377                                      | \$ 20,000  | \$ 203,377   | \$ 55,000                                    | \$ 255,477   | \$ 690,614              |
| 5    | \$ (2,900)                                  | \$ 187,044                                      | \$ 20,000  | \$ 207,044   | \$ 55,000                                    | \$ 259,144   | \$ 949,758              |
| 6    | \$ (2,900)                                  | \$ 190,785                                      | \$ 20,000  | \$ 210,785   | \$ 55,000                                    | \$ 262,885   | \$ 1,212,643            |
| 7    | \$ (2,900)                                  | \$ 194,601                                      | \$ 20,000  | \$ 214,601   | \$ 55,000                                    | \$ 266,701   | \$ 1,479,344            |
| 8    | \$ (2,900)                                  | \$ 198,493                                      | \$ 20,000  | \$ 218,493   | \$ 55,000                                    | \$ 270,593   | \$ 1,749,937            |
| 9    | \$ (2,900)                                  | \$ 202,463                                      | \$ 20,000  | \$ 222,463   | \$ 55,000                                    | \$ 274,563   | \$ 2,024,500            |
| 10   | \$ (2,900)                                  | \$ 206,512                                      | \$ 20,000  | \$ 226,512   | \$ 55,000                                    | \$ 278,612   | \$ 2,303,112            |
| 11   | \$ (2,900)                                  | \$ 210,642                                      | \$ 20,000  | \$ 230,642   | \$ 55,000                                    | \$ 282,742   | \$ 2,585,854            |
| 12   | \$ (2,900)                                  | \$ 214,855                                      | \$ 20,000  | \$ 234,855   | \$ 55,000                                    | \$ 286,955   | \$ 2,872,809            |
| 13   | \$ (2,900)                                  | \$ 219,152                                      | \$ 20,000  | \$ 239,152   | \$ 55,000                                    | \$ 291,252   | \$ 3,164,061            |
| 14   | \$ (2,900)                                  | \$ 223,535                                      | \$ 20,000  | \$ 243,535   | \$ 55,000                                    | \$ 295,635   | \$ 3,459,697            |
| 15   | \$ (2,900)                                  | \$ 228,006                                      | \$ 20,000  | \$ 248,006   | \$ 55,000                                    | \$ 300,106   | \$ 3,759,802            |

[7] Includes 2% annual inflation of labor costs.