

DETROIT WIRE COMPANY

# Business Plan

By Zack Hofbauer

**Company names and information have been removed to protect confidentiality and IP referenced in this plan**

# Executive Summary

The purpose of this business plan is to cover in detail a proposed company and production system capable of resolving a supply chain issue for the **Company A** seating **part** (Part# **XXXX**). The goal is to provide the necessary details to secure a partner to fund and support the development of this operation.

## Product

Detroit Wire Company will start its operations through manufacture of the **XXXX** part which has a demand of **x** million parts annually until 2028. This part is currently made by **Company B's** division located in **the USA** which supplies roughly **X%** of the US automotive seating **part** market. **Company B** are **x** years into the launch of the **XXXX** program, and it has shown they will not be able to meet production sustainably and profitably. **Company B** has expressed interest in outsourcing the part which is where DWC will offer to step in as a supplier to them for the **XXXX** to ensure the supply chain is stabilized.

## Solution Need

Resource shortages due to Covid-19, economic conditions, and geographical location have left **Company B** struggling to maintain the workforce necessary to reliably produce complicated parts. Their highly automated production equipment utilizes many moving parts and older plastic injection press systems. A well-staffed seasoned workforce must be continuously available to keep the complex equipment in a state of control, but this requirement is not feasible in today's climate and is unlikely to improve.

Due to these issues **Company B** will remain unlikely to meet future **Company A** production demands. If **Company B** can close the production target gap, it is very doubtful they will be able to produce the **XXXX** part profitably. Given the elevated material costs for **x** and **x**, the production facility must operate at high efficiency to stay profitable. This requires minimal workforce, scrap, and maximum throughput, all which **Company B** are deploying at sub-optimal levels.

## Solution

Geographical location and a highly capable production process are the key tools necessary for the stability of the US based seating **part** supply chain.

Detroit Wire Company will be located near Detroit, MI which is well-staffed in top tier automotive and automated manufacturing. This will mitigate the resource shortage issue currently being experienced by **Company B in their location**.

Our operation will consist of an exceptionally reliable production process enabled by statistically qualified equipment. The production system in this proposal was developed through deep knowledge of the current issues experienced by **Company B** and this new process has been designed to act on the lessons learned. It will also reduce the number of operators required by 3 to 5 times.

What makes DWC an attractive manufacturing startup is its potential for domination of the US market. Given the issues stated, this branch of **Company B** is likely operating at heavy losses. **Company B** has demonstrated eagerness to contract out their product lines that are resulting in

starvation to suppliers. DWC adoption of these lines will allow us to establish itself as the most reliable producer in the US. As DWC cements itself as the most trusted supplier, it would be able to acquire the entire **Company B part** division or **Company B** could purchase DWC.

## Partnerships

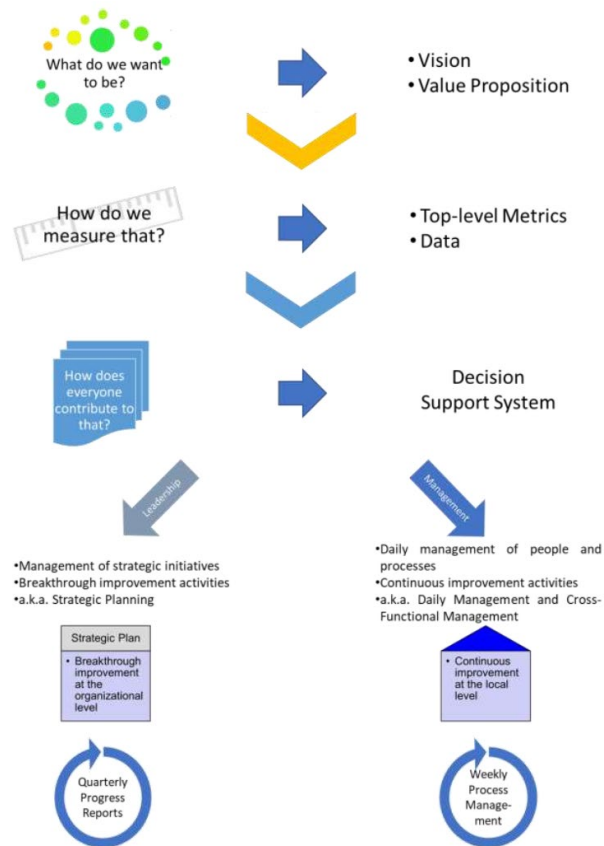
The current US supply of the **XXXX** part involves 3 key companies, **Company B** (Manufacturer) who is partnered with **Company C** (**International** OEM Sales Broker) to supply this part to **Company A** (Customer). All 3 parties need to be in agreement unless DWC is acting as a direct competitor to **Company B** / **Company C**. Though, without partnership, DWC will lose access to an established sales channel, existing manufacturing tooling, and an easy path to scalability through part outsourcing by **Company B**.

**Company C** requested and was delivered the Detroit Wire Company business plan. The original intention was to have them act as the investment company and sales facilitator. At this time **Company C** has rejected the proposal stating they do not have the bandwidth to partner in forming DWC. They are not able to dedicate resources to proper evaluation of the business strategy and financials, as well as lead negotiations for sales agreements between DWC, **Company B**, & **Company A**.

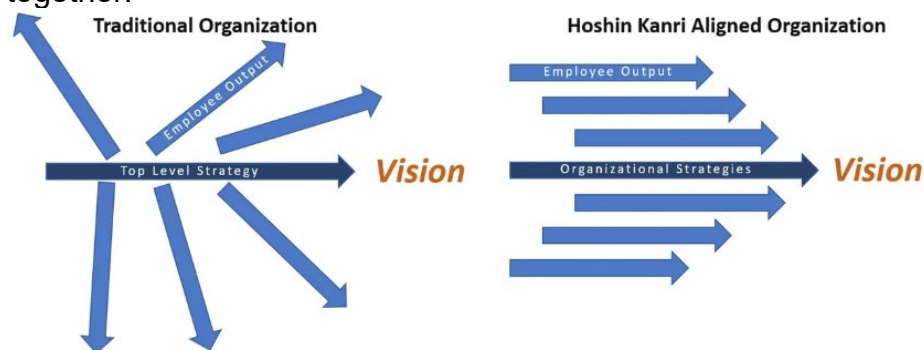
To secure the partnership and sales agreements necessary to fund and form Detroit Wire Company, a sales facilitator is required that can champion our business strategy as the best solution to solve the **XXXX** US supply chain crisis. This role may be filled by the partner company supporting the project or an outside resource can be brought in.

# Performance Excellence Method

Detroit Wire Company will follow the method developed by Steven M. Ouellette (Mr. Ouellette is a proposed advisor to the development of this company as well as its operation) [1].



The Performance Excellence model is founded on the principles of Hoshin Kanri (also known as Policy Deployment). It is a Japanese strategic planning process designed to align the entire organization to achieve a unified vision. The term in English translates as “Controlling the Compass” which signifies all employee work output pointing in the same direction. This process is implemented by deploying cascading financial and non-financial metrics throughout the organization. Through these measures, strategic and tactical plans will be developed and managed to ensure everyone moves the company towards excellence together.



*To achieve success, we must define what success looks like*

## **Vision Statement (10 Years)**

“Detroit Wire Company will grow profitability and be the #1 trusted US based supplier in XXXX Seating”

## **Mission Statement (3 to 5 Years)**

“Bring stability to the Automotive XXXX Supply Chain by being the most reliable supplier for Quality and Delivery”

## **Customer Value Proposition**

“Provide our customers with On Time Supply, Improved Specification Conformance leading to Lower Total Costs in their operations”

## **Partnership Value Proposition**

Provide Company A with the opportunity to stabilize the supply chain and generate cash flow as a majority shareholder in Detroit Wire Company.

Company B's customer value proposition is a high throughput manufacturing process for low to mid complexity parts. Detroit Wire Company will be a complement to this by providing the same but for high complexity parts.

## **Strategic Differentiation**

Using Tracy and Wiersema's (1993) categories for business strategic differentiation (Product Leadership, Operational Excellence, or Customer Intimacy); Detroit Wire Company will relentlessly focus on Operational Excellence. We will maintain parity in the other two Categories since the gap closure needed by the customer is not Product Leadership or Customer Intimacy.

## **Construct Analysis**

Source	Construct	KPI or Nonfinancial Indicator
<i>Vision</i>	Growth	Market Share
	Profit	Capital Employed
		Return on Capital Employed (ROCE)
		Profit (EBIT)
<i>Mission</i>	Quality	Yield
	Quality	Inline and EOL Capability Indices
<i>Value Prop.</i>	Delivery	Orders shipped complete and on time (OSCOT)
	Cost	Price Gap

# Product

Company A

Seating Part

Part Number: XXXX

**Pictured Removed**

## Volume / Pricing

2023 Demand of x million Parts

2024 Demand of x million Parts

Detroit Wire Company will sell to Company B who will then sell to Company A. For a higher quality and more reliable process, Company A should be willing to pay more for the part. Given the current production issues at Company B they may be willing to contract out the part with no margin, so they do not have to continue making a part that is causing heavy losses. This would increase the below ROI to 20%.

B to A Sale Price:	B to A Sale Price Margin:	DWC to B Sale Price:
\$2.00 / Part	0.20 Cents	\$1.80 / Part

## Profit & Enterprise Value Snapshot

Profit Snapshot	Price / Part	Demand	Production Output	Gross Income /	Net Profit / Year	EV EBITDA	ROI	Startup Cost Payback (yr)
	\$1.80	x,xxx,xxx	x,xxx,xxx	\$x,xxx,xxx	\$1,536,000	\$6,144,001	20%	5.0

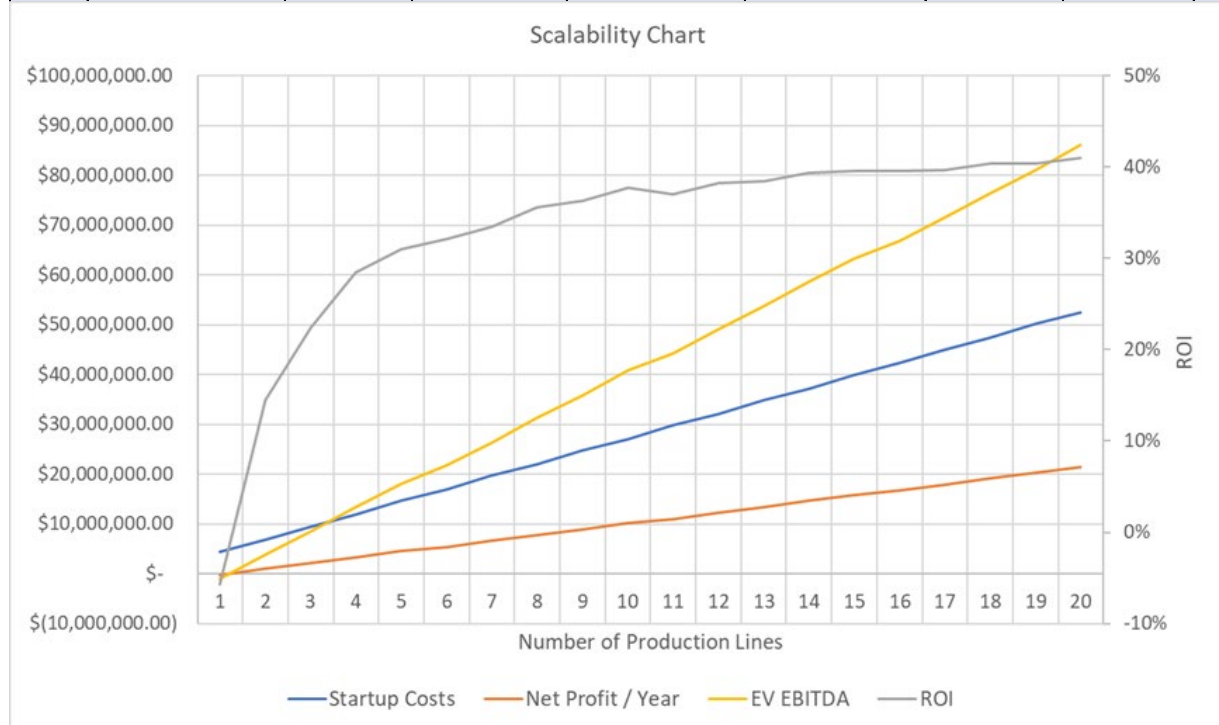
Assumptions:

- 2 CNC Benders and 2 Mold/Press Systems generating X parts per hour
- 326 Working Days / Year
- 85% Equipment Availability
- \$7,630,869 in Startup Costs
- \$3,684,800 in Annual Operating expenses (most significant cost is materials):
  - 1093 tons of x / Year at \$1,827 / Ton
  - 262 Tons of x / Year at \$2,700 / Ton

## Scalability ROI Table and Graph

These projections assume similar annual demand and price/part of the XXXX. While these assumptions are unlikely to be true for other product lines added, the below projections show how scaling is beneficial towards DWC Profitability, Enterprise Value, & ROI.

Lines	Annual Part Output	Price / Part	Startup Costs	Operating Costs	Gross Income/Yr	Net Profit/Yr	EV EBITDA	ROI
1	X,XXX,XXX	\$ 1.60	\$ 4,463,408.00	\$ 2,578,351.45	\$X,XXX,XXX	\$ (253,371.61)	\$ (1,013,486.46)	-6%
2	X,XXX,XXX	\$ 1.60	\$ 6,760,369.00	\$ 3,671,127.42	\$X,XXX,XXX	\$ 978,832.26	\$ 3,915,329.02	14%
3	X,XXX,XXX	\$ 1.60	\$ 9,538,330.00	\$ 4,838,903.39	\$X,XXX,XXX	\$ 2,136,036.13	\$ 8,544,144.51	22%
4	X,XXX,XXX	\$ 1.60	\$ 11,835,291.00	\$ 5,931,679.36	\$X,XXX,XXX	\$ 3,368,240.00	\$ 13,472,959.99	28%
5	X,XXX,XXX	\$ 1.60	\$ 14,613,252.00	\$ 7,099,455.33	\$XX,XXX,XXX	\$ 4,525,443.87	\$ 18,101,775.47	31%
6	X,XXX,XXX	\$ 1.60	\$ 16,910,213.00	\$ 8,518,231.30	\$XX,XXX,XXX	\$ 5,431,647.74	\$ 21,726,590.95	32%
7	X,XXX,XXX	\$ 1.60	\$ 19,688,174.00	\$ 9,686,007.27	\$XX,XXX,XXX	\$ 6,588,851.61	\$ 26,355,406.43	33%
8	XX,XXX,XXX	\$ 1.60	\$ 21,985,135.00	\$ 10,778,783.24	\$XX,XXX,XXX	\$ 7,821,055.48	\$ 31,284,221.92	36%
9	XX,XXX,XXX	\$ 1.60	\$ 24,763,096.00	\$ 11,946,559.21	\$XX,XXX,XXX	\$ 8,978,259.35	\$ 35,913,037.40	36%
10	XX,XXX,XXX	\$ 1.60	\$ 27,060,057.00	\$ 13,039,335.18	\$XX,XXX,XXX	\$ 10,210,463.22	\$ 40,841,852.88	38%



## **Intellectual Property Rights**

6S Operations created the design of the production process to be used by Detroit Wire Company. 6S Operations will request to maintain the intellectual property and patent rights for the manufacturing process. 6S Operations will request to license the usage of this process to Detroit Wire Company.

## **Legal Structure**

Detroit Wire Company will undergo proper legal structuring as deemed appropriate by shareholders.

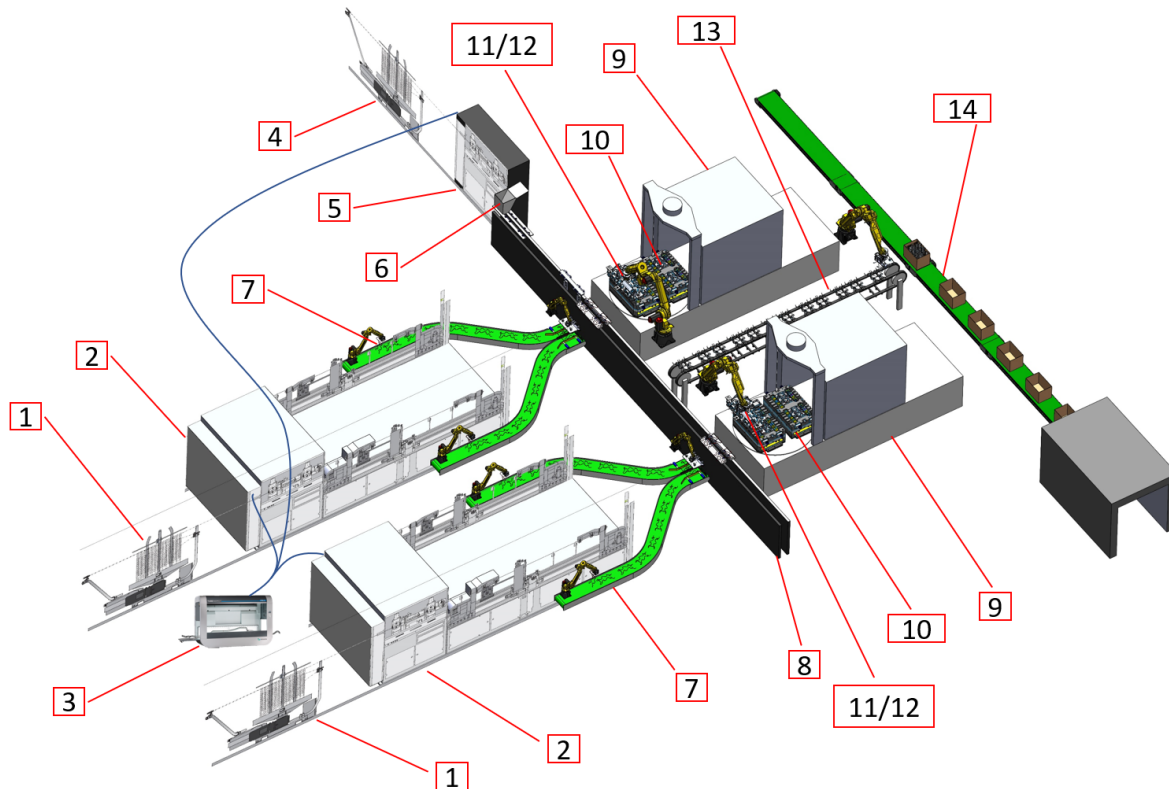
## **Regulations**

Detroit Wire company must meet all Federal and state regulations concerning industrial operations and waste management.



# Production Process & Equipment

## Draft Process Flow



	Description	Part Name	Manufacturer	Value Add
1	XX Coil Wire Feeder	BT 3.4	WAFIOS	Increased availability though long production runs of a continuous coil
2	CNC Automatic Wire Bender	BT 3.4	WAFIOS	Agile bending system for corrections and changeovers
3	Wire Bend & PAD Measure Station	TubeInspect P8.2	Accurex	Automatic measurement of 3D wire bend w/ feedback loop to bender. Also create a feedback loop for the <b>additional</b> Wire Straightener
4	XX Coil Wire Feeder	R 36	WAFIOS	Increased availability though long production runs of a continuous coil
5	Rotary Straightener and Cutter	R 36	WAFIOS	Increased availability though long production runs of a continuous coil
6	Hopper and Feeder System	N/A	Spectrum	Bins and feeds <b>additional</b> Wires for Pick and Place at the Presenter
7	Bender to Presenter Conveyor System	N/A	mk North America	Allows for LH/RH bender part offload and joins wires together so a pair can be picked up for placement at the presenter
8	Transfer Cart and Presenter System	N/A	PA Solutions	Allows 1 table to run 2 molds and only needs the cart to transfer <b>additional</b> wires
9	280 Ton Vertical Injection Mold Press	IN 1060H/280	Engle	Higher Quality manufacture as compared to <b>vendor</b> and lower vertical footprint
10	Existing <b>Company B</b> Mold	N/A	<b>Company B</b>	Improvements required
11	<b>Company B</b> End of Arm Tooling	N/A	<b>Company B</b>	Improvements required
12	Large Robot	R-1000ia / 80F	Fanuc	Improvements required
13	End of Line Fixture Conveyor	N/A	mk North America	Allows for repeatable EOL Pick for vision and automatic packaging
14	Automatic Packaging System	N/A	Pearson pkg	Reduces human capital expense

## WAFIOS BT3.4 CNC Bender

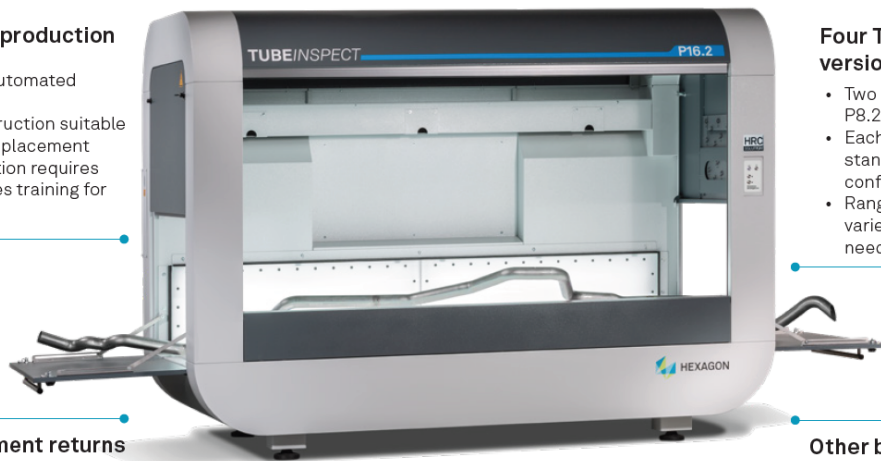
The BT3.4 CNC is a high throughput coil fed, wire bending system that allows for complex wire bending. Its estimated cycle time is **X** Wires per Hour with 90% Availability (these OEE metrics will be validated in the Statistical Startup process). Two 3D wires make up the final part so the estimated throughput per bender is **X Parts** per Hour. 2 bender units will be required to meet **X** Million **Parts** per Year.



*\*BT3.2 Shown here – BT3.4 is the same profile but has 2 additional bending heads on the backside*

*\*Reference the BT5.2 video to watch how this technology works: [https://youtu.be/mzMwPS\\_Pu5k](https://youtu.be/mzMwPS_Pu5k)*

The TubelInspect is the key piece of measurement equipment that gives Detroit Wire Company its strategic advantage. It creates a feedback loop with the BT3.4 bender to automatically control wire bending variation. CNC benders can have trouble bending to print due to wire material differences from coil to coil. Once a new coil is changed out, this allows the operator to quickly calibrate the bender to correct for any variation due to incoming material differences.



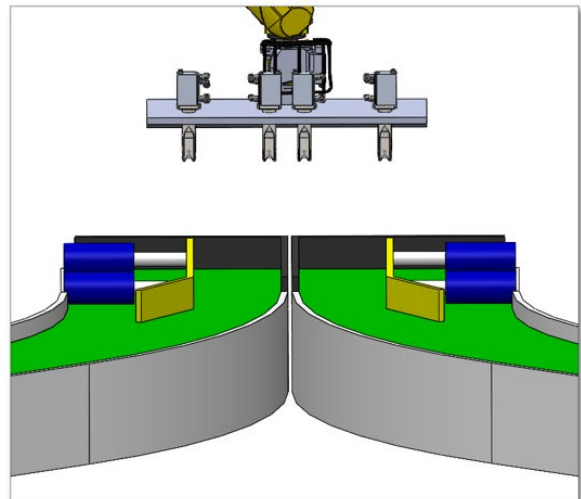
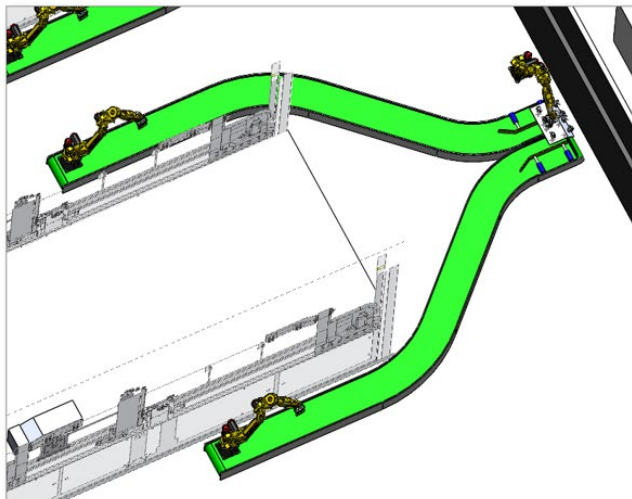
## Add-On Wire Rotary Straightener and Cutting

DWC plans to have the **additional** wire directly feed from coil into the process. We will use a rotary straightener and cutter system to create the **X** wire. Once cut, a hopper & feeder system will be used to locate wires for pickup by the Presenter Table Transfer Cart.



## 3D Wire Bender to Presenter Transfer Conveyor

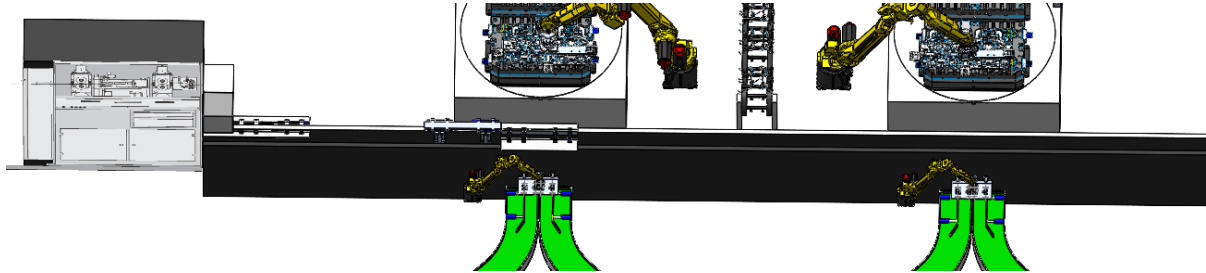
The WAFIOS bender offloads parts to the Left and Right-Hand side. A curved conveyor system (potential vendor is mk North America) will be used to offload parts from the bender and join them for pickup at the presenter. The system as shown here uses the conveyor belt to feed the wires until they touch a back-plate which will locate the wires lengthwise. Then guide-arms push the wires against a centered plate which locates the wires widthwise (1.2" apart). Then the pair of wires will be picked by either a robot or overhead gantry for placement at the presenter.



*\*Design shown here is for demonstration purposes only **Parts Hidden***

## Transfer Cart and Presenter System

This will be used to connect the wire bender conveyor, **additional** wire straightener, and mold robot pick and place. The basic technology will be the same as that is currently used at **Company B**. Key differences are the transfer cart only carries **additional** wires (not 3D wires as well) from the Straightener Hopper/Feeder, and the 3D Wires are loaded directly onto the Presenter Tables. The Presenter tables will be the same style as used by **Company B**.



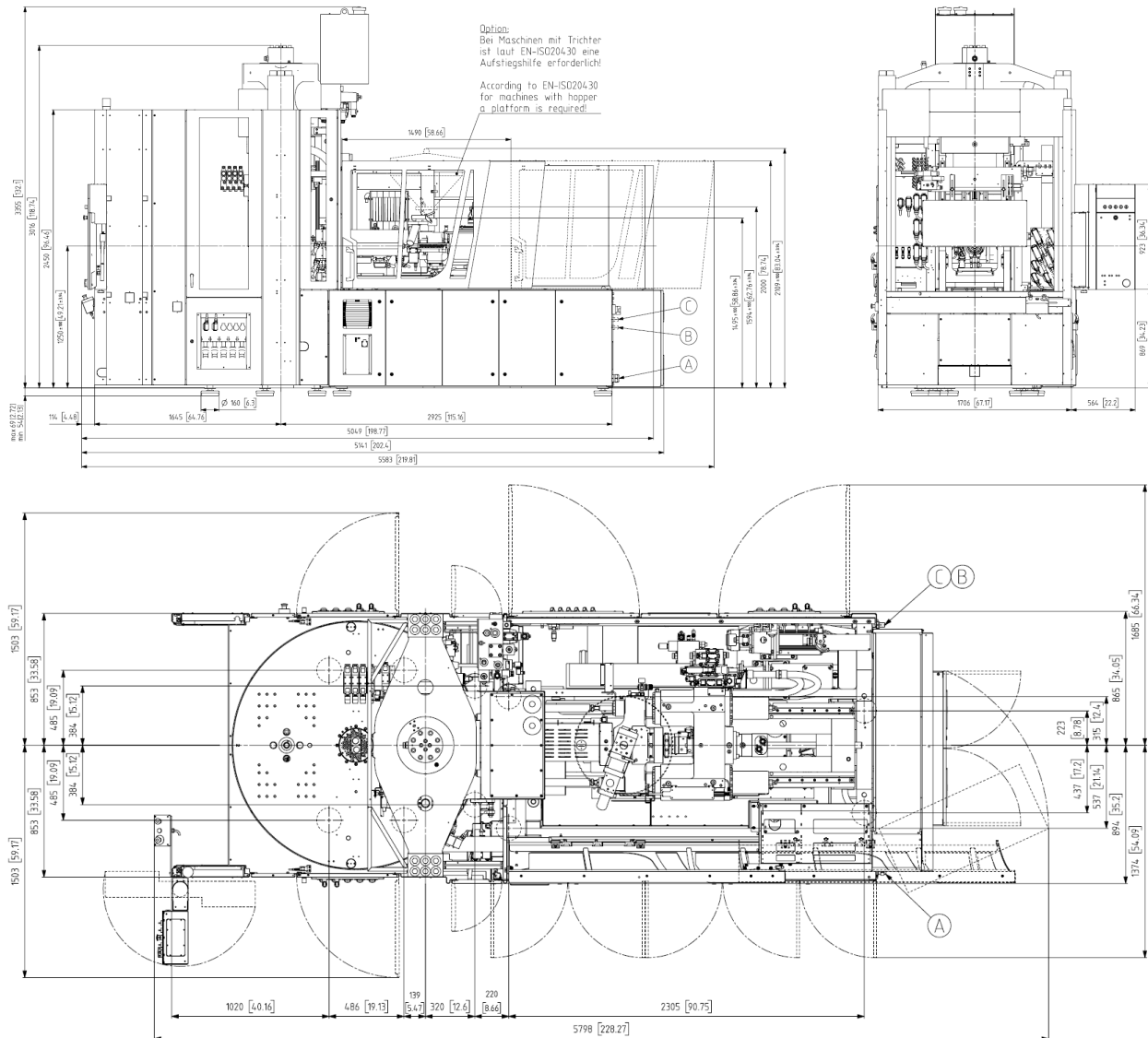
*\*Design shown here is for demonstration purposes only **Parts Hidden***

## Robotic System, End of Arm Tooling w/ **Scanner**

The existing Fanuc **Robot** model will be used along with End of Arm Tooling / **Scanner XXXX**. DWC plans to purchase some existing tooling from **Company B** to help keep start-up costs low and so they can recoup the depreciated value. The End of Arm Tooling will be sent to a Detroit local contract manufacturer to undergo improvement for known issues.

**Pictured Removed**

The **vendor** used by **Company B** has been shown to be a poor-quality piece of equipment. Engel has been selected as the press supplier due to their high-quality equipment and customer support. The 280-ton press has a lower vertical footprint compared to **the vendor** because the bulk of the components actuate horizontally to the rear of the equipment. This allows easier maintenance and 5S hose and cable management, which has been a significant issue with **the vendor**. This press system will be able to integrate with **Company B** existing tooling.



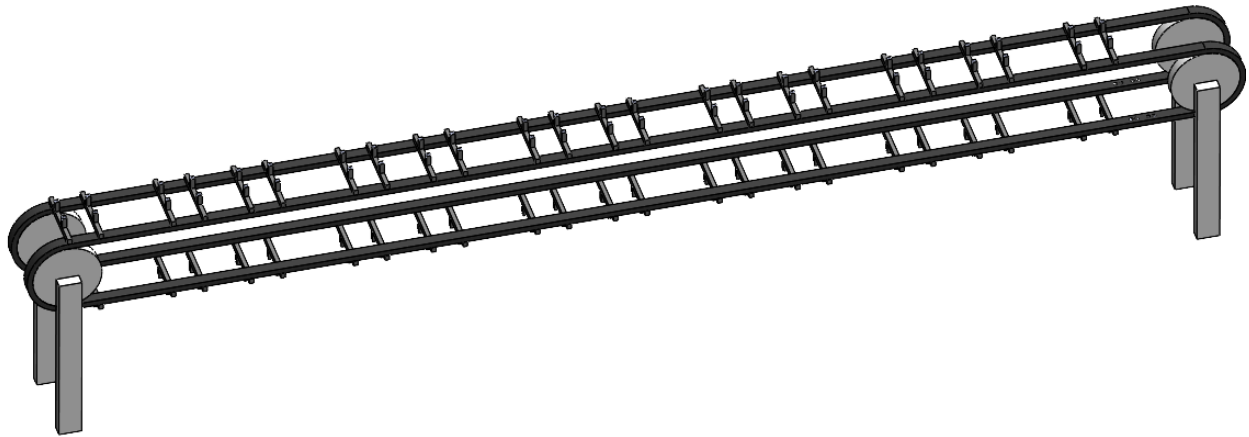
## Existing **Company B** Molds

The existing A and B side molds will be used to help keep the tooling costs low. DWC will work with a high-quality local mold tooling shop to repair and maintain them at their peak performance level. It is critical that DWC keep spare molds on hand so capable tooling is available and can be quickly changed out. Damaged tooling will be sent to the supplier for restoration.

**Pictured Removed**

## Fixture Conveyor

This conveyor will be used to allow the Mold Robot to repeatably place finished **Parts** onto locating fixtures which will then be transported for Vision Inspection and Automated Packaging.



*\*Design shown here is for demonstration purposes only*



# Pearson Automated Packaging System

Pearson pkg will be used to create an automated packaging system that will reduce the need for human capital resources. This system has a high upfront cost, but much of the equipment can be used for all production lines DWC aims to scale to. Forklift AGVs are also under investigation so after Palletizing the pallets can be automatically picked up and loaded onto trucks.



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## Critical Improvements

This Detroit Wire Company proposal exists because current production has difficulties that are not easy to overcome. These improvements are important to risk mitigation to ensure DWC can produce the same part safely and profitably while meeting or exceeding production demands.

### Wire Bending Improvements:

- WAFIOS Bender coupled with the Accurex TubeInspect system creates a feedback loop using capability indices (Cp & Cpk), to automatically monitor and control variability and targeting of our 3D bend geometry & Add-On Wire Straightness.
- Add-On wire to be coil feed, straightened, cut, and placed directly onto the presenter system

### Mold and Press System Improvements

- A higher quality press system to be supplied by Engle
- **No flash molding is a production requirement enabled by:**
  - Create a tooling supply chain through a high-quality Detroit based mold tooling shop
  - Dedicated shop to be contracted to maintain tool quality and advise on future mold designs
  - Capable spare mold tooling must be on hand to allow for quick changeover in the event of damage
  - **Mold PLC, which controls parameters, will have individual recipes to run for each B-Side Mold**
  - **Sensor** system will be part of the IIoT infrastructure to monitor mold quality
    - Investigating the potential to use the **Sensor** to Scan the A and B side molds to periodically check for damage
  - Investigating a feedback loop between the vision system and mold parameters to automatically adjust the process to signal for damage and change inputs
- Design changes that allow parts that fail rescan to be automatically removed without operator intervention

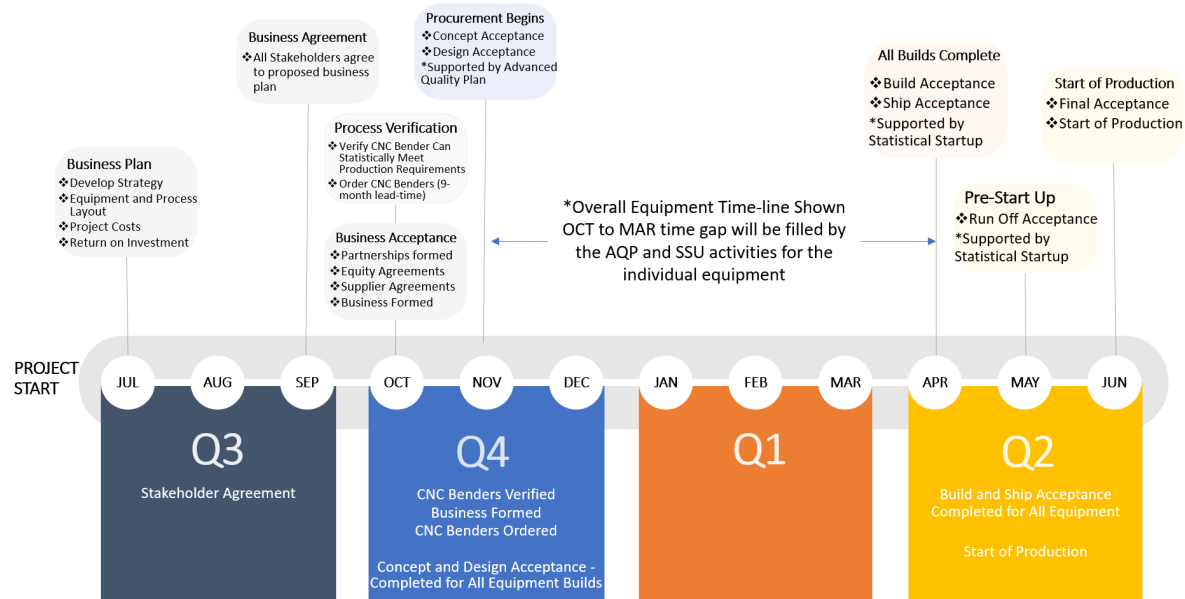
### Material Handling Improvements:

- A fully automated packaging line will be used to reduce the need for operators

### Data Acquisition and Visualization System Improvements

- IIoT / Industrial 4.0 systems will be utilized so we can optimize the “Hidden Factory”
- High quality measurement of Availability, Duty Cycle, Efficiency, & Yield will enable DWC to reach peak optimization in each of these categories
- Component level Cycle Time, MTTF/MTTR monitoring, and a CMMS will allow for predictive maintenance and eliminate the need for a wasteful reactive based system
- When Scaling an Activity Based Cost accounting structure will be utilized to understand true profit of the product mix
- CCTV systems in critical production areas to allow for root cause analysis
- All areas tie directly to meeting our Vision, Mission, and Value Propositions

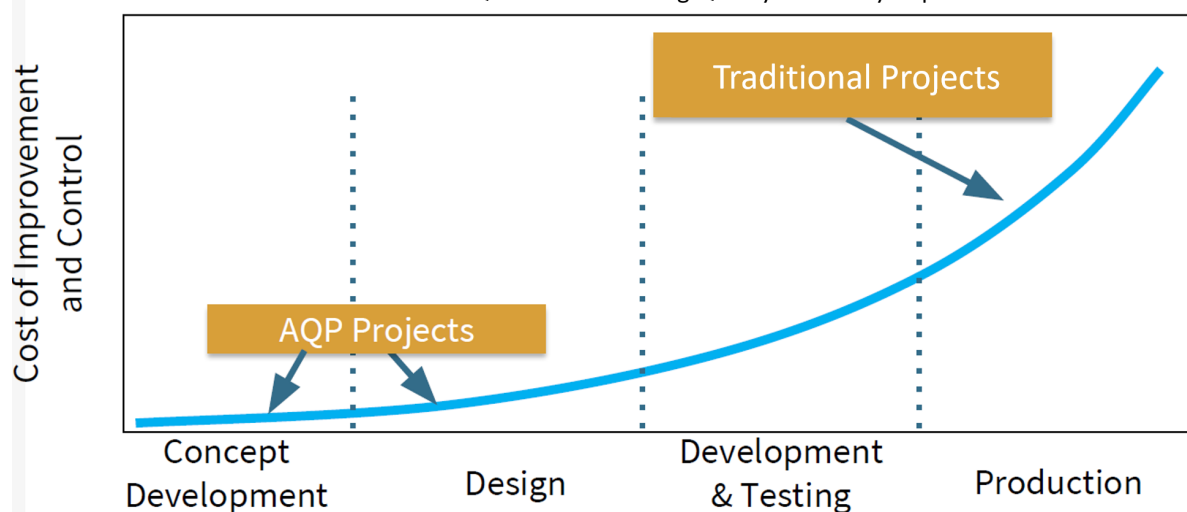
# Quality Plan Road Map



## Advanced Quality Planning (AQP)

Advanced Quality Planning is necessary in this business case as the situation involves a process that is not capable and needs redesigned. AQP will focus on the development of equipment and their performance of Critical to Quality (CTQ) variables. This process will ensure quality is built up front which will lead to exceptionally reliable equipment over time.

The “Advanced” in AQP refers to building Quality in as early as possible



Tools that will be used:

Reliability specifications and models	Reliability Testing
FMEA	Root Cause Analysis
Design Verification Testing	Maintainability Testing
Design Review	Design of Experiments

## Statistical Startup (SSU)

SSU is a process by which Advanced Statistical Methods are applied in a strategic and disciplined fashion to Critical Product Performance, Quality, and Defect requirements, as well as Critical Equipment Performance requirements. The purpose of this effort is to achieve statistical qualification or optimization for all the critical elements prior to the initiation of full-scale production.

The first focus of the SSU process will be to ensure the WAFIOS CNC bender is statistically capable of achieving the Critical Product and Equipment Performance requirements: 3D wire print specifications, throughput, yield, and a production uptime target of 85%. The acceptability of the equipment will be measured by Control, Cp, Cpk, & Cpm indices as well as historical reliability and availability (uptime) data from existing WAFIOS systems. This verification will be completed **BEFORE** the system ships. These same studies will take place in a measurement capacity for the Accurex Tube-Inspect. The capable performance of this equipment is critical as it is the main strategic advantage of DWC. This equipment ensures low wire forming variability which will prevent downtime issues at mold.

The SSU process will also be applied to the remaining equipment used in the proposed production process.

## Forward Looking Strategy

The central purpose of this business plan is to create a production system capable of producing high quality parts to stabilize the automotive seating **part** supply chain (DWC Mission). There are many other product lines that will also need our system to create sustainable production. DWC plans to absorb product lines from **Company B** that they are not able to be produced profitably. The DWC production system is based on equipment that can be quickly changed over so our lines will have agility in our product mix. We can use less lines to produce more parts. Our improved automated systems also make us robust to human resource shortages. These factors will allow DWC to easily scale its production to meet customer demand.

Prior to funding and forming DWC, agreements would be facilitated with **Company B** that scope which product lines we would adopt and when. This is critical to accomplish our Mission which guides our shorter term (3 – 5 year) goals. Our longer-term Vision will aim for **Company B's division** total market share. The future of this division is uncertain given it likely operates at a loss which would negatively affect **Company B's** profitability and public stock price. Detroit Wire Company will be a solution to **Company B's division** uncertainty. If we accomplish our Mission, we would be in a position to acquire the division or DWC could be sold to **Company B's**.

# Potential Location

DWC is considering a pilot site location in Canton, MI with 37,318 SF at \$4.5 SF/yr.

<https://friedmanrealestate.com/property-search/?propertyId=8462-ronda-drive-canton-lease>



## HIGHLIGHTS

Building SF:	37,318 SF
Available SF:	37,318 SF
Land Size:	2.5
County:	Wayne
Cross Streets:	N/A

## SITE

Land (acres):	2.5
Parcel Number:	71-005-01-0010-300
Zoning:	Light Industrial

## GENERAL

Parking Spaces:	35
Parking Type:	SURFACE - ADDITIONAL PARKING AVAILABLE AT ADJACENT BUILDING

## PRICING & AVAILABILITY

Lease Rate:	\$3.95 SF/yr (NNN)
Lease type:	NNN
Min Available SF:	± 37,318 SF
Max Space Available:	± 37,318 SF
Occupancy:	Immediate

## BUILDING INFORMATION

Type:	Industrial
Construction Type:	Metal
Year Built:	1977
Stories:	1
Lighting:	METAL HALIDE
Heating:	CAMBRIDGE AIR ROTATION
Sprinkler:	FULLY SUPPRESSED
Clear Height:	19'
Restrooms:	Men + Women
Cranes:	N/A
Electrical:	Heavy, 2000 AMPS Bus Duct
Elevators:	N/A
# Docks/Truckwells:	2
# Grade Level Doors:	1
Door Dimensions (HXW):	12' x 14'

# Risk Mitigation

Risk management should be in service to DWC and not at its expense. The future of the automotive market has many speedbumps ahead such as: employee shortages, increased vehicle asset utilization and life given electric engines, looming economic recessions, global instability, and supply chain issues. DWC will continuously look towards the future to remain robust to risks and even use them as opportunities.

Direct project risks are mitigated through the Advanced Quality and Statistical Startup Plans. Strategic and operational risks are mitigated using Steven Ouellette as a process excellence advisor.

Given the current production numbers from **Company B**, they will not be able to sustainably produce parts until DWC start of production. It is recommended that, after project acceptance, DWC sends two Electrical-Mechanical maintenance staff to **Company B's location** to ensure stable production of the **parts**. The DWC team members would play a critical role in ensuring the production systems have the attention they need to maintain Up-Time and would return to Detroit in 9 months with expert knowledge of **the part** production.

The estimated cost to send 2 employees to **Company B's location** for 9 months is \$91,295 per employee. It should be reasonable that **Company B** pays for the hourly cost (\$52,800), bringing the total down to \$38,495 per employee. These numbers have been factored into the project financials.

# Financials (Smartsheet Export)

Profit Snapshot	Price / Part	Demand	Production Output	Demand Shortfall	Gross Income / Year	Net Profit / Year	EV EBITDA	ROI	Startup Cost Payback (yr)
	\$1.80	X,XXX,XXX	X,XXX,XXX	0	\$X,XXX,XXX	\$1,536,000	\$6,144,001	20%	5.0

Startup Costs	Cost	Quantity	Rate	\$7,630,869	Lead Time
<b>Administrative / General</b>				<b>\$379,090.00</b>	
Licenses					
Permits					
Insurance					
Legal	\$300.00	50	Hourly	\$15,000.00	
BPE and Risk Mitigation Advisor	\$375.00	100	Hourly	\$37,500.00	
6S Operations Project Lead	\$12,000.00	12	Monthly	\$144,000.00	
Electro-Mechanical Maintenance Support/Training	\$91,295.00	2	Person per 9 Month	\$182,590.00	
Housing	\$3,000.00	9	Monthly Per 2 People	\$27,000.00	
Food	\$100.00	235	Daily Per 2 People	\$23,500.00	
Vehicle Depreciation	\$2,000.00	2	9 Month Value Per 2 People	\$4,000.00	
Car Insurance	\$200.00	9	Monthly Per 2 People	\$1,800.00	
Fuel Cost	\$8.00	235	Daily Per 2 People	\$1,880.00	
Air Fair	\$750.00	9	Monthly Per 2 People	\$6,750.00	
Regular Work Hours	\$50.00	1320	Hourly Per 2 People	\$66,000.00	
Overtime Work Hours	\$150.00	264	Hourly Per 2 People	\$39,600.00	
Health Insurance	\$840.00	9	Monthly Per 2 People	\$7,560.00	
Workers Comp Insurance	\$500.00	9	Monthly Per 2 People	\$4,500.00	
<b>Equipment</b>				<b>\$7,176,779.00</b>	
WAFIOS BT3.4 CNC Bender	\$826,095.00	2		\$1,652,190.00	40 Weeks
Induction Annealing Station	\$30,000.00	4		\$120,000.00	
Accurex Tube Inspect	\$169,900.00	1		\$169,900.00	12 Weeks
Add-On Wire Straightening System	\$175,000.00	1		\$175,000.00	32 Weeks
Add-On Wire Hopper/Feeder	\$51,457.00	1		\$51,457.00	16 Weeks
Press System	\$368,000.00	2		\$736,000.00	28 Weeks
Engel IN 1060H/280 US ton Rotary	\$340,000.00	2		\$680,000.00	
10 ton air cooled chiller for mold and machine	\$17,000.00	2		\$34,000.00	
Material loading equipment	\$11,000.00	2		\$22,000.00	
Automation Company Material Handling Systems	\$695,430.00	1		\$2,010,500.00	40 Weeks
Fanuc 6 axis robot M-800iA/60 60kg payload 2050 mm reach -CNC Bender to Conveyor	\$85,000.00	4		\$340,000.00	
CNC Bender to Conveyor Wire Transfer EOAT	\$45,000.00	4		\$180,000.00	
Fanuc 6 axis robot M-800iA/60 60kg payload 2050 mm reach - Conveyor cart	\$85,000.00	2		\$170,000.00	
Conveyor cart - EOAT	\$50,000.00	2		\$100,000.00	
Centering crowder tables	\$40,000.00	2		\$80,000.00	
Fanuc 6 axis robot M-710iC/70 payload 70kg - overmold transfer	\$85,000.00	2		\$170,000.00	
Overmold Transfer EOAT	\$55,000.00	2		\$110,000.00	
Vision inspection and integration	\$105,000.00	1		\$105,000.00	
robot integration (robot programming, PLC programming, offline programing, riser, dress	\$60,000.00	8	Per Robot	\$480,000.00	
MCP/PDP	\$85,000.00	1		\$85,000.00	
Mechanical design, Simulation	\$85.00	1200	Per Hour	\$102,000.00	
Robot Programming	\$125.00	240	Per Hour	\$30,000.00	
PLC Programming (Field)	\$125.00	240	Per Hour	\$30,000.00	
Project Management	\$95.00	300	Per Hour	\$28,500.00	
LMI Gocator 2170	\$15,866.00	2		\$31,732.00	8 Weeks
Spare Parts Area	\$50,000.00	1		\$50,000.00	
CCTV System	\$10,000.00	1		\$10,000.00	
Automated Packaging System	\$840,000.00	1		\$840,000.00	26 Weeks
Installation and Training	\$90,000.00	1		\$90,000.00	
CE25-T Case Erector	\$87,500.00	1		\$87,500.00	
Packaging Robot	\$400,000.00	1		\$400,000.00	
CS-15T Case Sealer	\$87,500.00	1		\$87,500.00	
RPC-C Robotic Palletizer	\$87,500.00	1		\$87,500.00	
Stretch Wrapper	\$87,500.00	1		\$87,500.00	
Forklift AGV	\$30,000.00	1		\$30,000.00	
Spares	\$300,000.00	1		\$300,000.00	
Tooling	\$1,000,000.00	1		\$1,000,000.00	
<b>Contractor Fees</b>				<b>\$75,000.00</b>	
Quality Process Development and Management	\$75.00	600	Hourly	\$45,000.00	
Beet Software and Hardware Installation	\$30,000.00	1		\$30,000.00	

Operating Expenses		Cost	Quantity	Rate	\$3,684,000
Location / Office					\$176,200.00
Space Rental / Lease		\$175,000.00	1 Annual		\$175,000.00
Internet		\$100.00	12 Monthly		\$1,200.00
Waste Management					\$0.00
Water					\$0.00
Electricity					\$0.00
Gas					\$0.00
Other					\$0.00
Other					\$0.00
Human Resources					\$752,500.00
Operations Lead		\$150,000.00	1 Annual Per Person		\$150,000.00
Shipping and Receiving		\$30,000.00	1 Annual Per Person		\$30,000.00
Machine Operator		\$35,000.00	4 Annual Per Person		\$140,000.00
Electro-Mechanical Maintenance		\$50,000.00	2 Annual Per Person		\$100,000.00
Mechanical Engineering Contractor		\$50.00	500 Hour		\$25,000.00
Quality Contractor		\$75.00	500 Hour		\$37,500.00
Controls Engineer Contractor		\$100.00	500 Hour		\$50,000.00
HR Contractor		\$60.00	200 Hour		\$12,000.00
Finance Contractor		\$60.00	200 Hour		\$12,000.00
Overtime		\$25,000.00	2 Annual Per Person		\$50,000.00
Insurance		\$5,000.00	8 Annual Per Person		\$40,000.00
Training		\$1,000.00	6 Annual Per Person		\$6,000.00
Supplies					\$0.00
Tooling Maintenance		\$200.00	500 Hour		\$100,000.00
Other					\$0.00
Software Solutions					\$45,300.00
Microsoft Office		\$300.00	1 Annual		\$300.00
CMMS		\$20,000.00	1 Annual		\$20,000.00
ERP		\$5,000.00	1 Annual		\$5,000.00
Beet Software Tracking		\$20,000.00	1 Annual		\$20,000.00
Raw Materials					\$2,703,999.82
X Coil for the Spring Wire		\$1,800.00	798 Annual Tons		\$1,435,883.03
X Coil Steel for the Add-On Wire		\$1,900.00	295 Annual Tons		\$560,668.91
Material for the Injection Molding		\$2,700.00	262 Annual Tons		\$707,447.88
Administrative / General					\$6,000.00
Licenses					
Potential - 6S Operations Patent Usage on the Manufacturing Process					
Permits					
Insurance					
Legal		\$300.00	20		\$6,000.00
Other					
Other					

Operational Factors									
Weeks in a Year	52	X wire length (in)	98	X wire length (in)	21	X Weight (lb/Part)	0.16		
Work Days in a Week	6.5	X Steel lb/in	0.005	X mm Steel lb/in	0.009	Parts Per Year	X,XXX,XXX		
Work Days Per Year	338	Parts Per Year	X,XXX,XXX	Parts Per Year	X,XXX,XXX	X Tons / Year	250		
Federal Holidays	12	Wire Tons / Year	753	Wire Tons / Year	278	Scrap Rate	5%		
Possible Working Days	326	Coil Loss Rate	1%	Coil Loss Rate	1%	X Annual Ton Demand	262		
Work Day Hours	23	Bender Scrap Rate	5%	Bender Scrap Rate	5%				
Total Working Hours	7498	3.8mm Annual Ton Demand	798	5.0mm Annual Tc	295				
Availability	85%								
Annual Run Time (hours)	6,373								
Parts / Hour		Parts Per Year	Scrap Rate	Scrap	Total Parts				
XXX		X,XXX,XXX	5%	XXX,XXX	X,XXX,XXX				

Financial Projections	
	Financial Breakdown
Gross Income / Month	\$435,000.00
Less Expenses / Month	\$306,999.98
Net Pre-Tax Cash Flow / Month	\$128,000.02
Less Debt Service / Month	\$0.00
Monthly Net "Pre-Tax"	\$128,000.02
<b>Yearly Net "Pre-Tax"</b>	<b>\$1,536,000.18</b>
Estimated Yearly Depreciation (10% / Year over a 10 Year Design Life)	\$717,677.90
<b>Return on Investment "ROI"</b>	<b>20%</b>
<b>Gross Income / Year</b>	<b>\$5,220,000</b>
Total Expenses / Year	\$3,684,000
<b>Taxable Income "Per Year"</b>	<b>\$818,322.28</b>
Estimated Tax Rate Per Year	32%
<b>Estimated Cashflow Per Year</b>	<b>\$1,274,137.05</b>
Operating Profit / Year	\$818,322.28
Loan Interest / Year	\$0.00
Depreciation	\$717,677.90
<b>EBITDA</b>	<b>\$1,536,000.18</b>



## Appendix

[1] Steven M. Ouellette. Galileo's Telescope: How to Create Integrated Metrics And a Realistic Strategic Plan Across a Business. Alliance Press; 2nd edition, 2020.