

INTROCHANGEABLE SOLUTIONS

Automating Farms, Feeding the World

New Venture Baylor Business Plan competitors:

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Executive Summary

Company Introchangeable Solutions manufactures and sells Interchangeable Intelligent Controllers designed to disrupt industries. Introchangeable solutions has a NASA patent available for licensing (see patent schematics in Appendix A8). Our controllers have the potential to save farmers thousands of dollars from center pivot irrigation equipment maintenance issues and equipment downtimes. Our mission is to keep farmers competitive by equipping them with 21st century controllers for their center pivot irrigation equipment. Our controllers will save farmers money by detecting and preventing their irrigation equipment from going down, which will allow us to do our part in feeding the world.

Business Overview Technology innovation nowadays is automating processes that would normally require labor/manpower. With the current upward trend in technology innovation, it is becoming increasingly necessary for businesses to stay ahead of their competition by standardizing processes and reducing labor costs. Thanks to our NASA patented technology, our controllers are designed to disrupt the irrigation controllers market. They can be used as an alternative solution to monitor and control center pivot irrigation systems in industrial and family owned farms. Currently, standard industrial controllers often are damaged after prolonged use, requiring operators to bring engineers from distant locations who are unfamiliar with the current system programming. Technicians are forced to shut down the entire electrical system in order to reprogram a new controller, resulting in unnecessary downtime while also running the risk of inadequate programming resulting in even more downtime. This undoubtedly costs time, money and resources for farmers who rely on their controllers to monitor the statuses of farms. Our competitive advantage is that our controllers are standardized, customizable, and interchangeable. Our interchangeable controllers will allow companies to spend less on spares, and reduce unnecessary downtime of equipment by preventing and detecting irrigation equipment downtimes.

Problem Solved We are addressing two main problems: 1) Farmers spend about \$10,000 every year to check and to perform maintenance in their irrigation equipment. 2) Farmers on average lose out on \$30,000 in missed deliveries due to equipment downtimes. This is an average yearly cost of \$40,000. Furthermore, inadequate programming can lead to longer downtimes. Farmers only check on their irrigation equipment about once a week for maintenance issues. A farmer may spend about \$10,000 every year to check and to perform maintenance in their irrigation equipment. If farmers' crops are not irrigated for a full week due to malfunctions in their center pivot irrigation system, their crops can be adversely affected, farmers may lose up to about \$30,000 in missed deliveries, which costs farmers an average of \$200,000 by year 5 (See Appendix A5 to see the dollar savings calculations).

Products and Services Our solution offers farmers 7 controllers that are guaranteed to last at least 5 years. Each controller costs \$1000 and we offer a \$150 monthly subscription to our Condition Monitoring detection and prevention service. This translates to a yearly cost of \$3200, enabling us to offer farmers an average savings of \$26,800 from missed deliveries and irrigation equipment downtime (See appendix A5 to see the dollar savings calculations).

Market Overview The irrigation controllers market is worth \$805 million in 2019 and projected to be worth \$1.5 billion by 2023 (See Appendix A6). American farmers produce three-quarters of all food consumed in the U.S, and Global population is expected to increase to 9.5 billion by 2050. American farmers will have to grow 70% more food to be sustainable for the long haul. The increase needed for

food production in the coming years and the current trends of innovation in technology is making it increasingly necessary for farmers to automate their center pivot irrigation monitoring and control processes to reduce their costs. If these farms get left behind, American jobs will be outsourced to other countries and food prices will rise.

Business Model/Customer Profile Our business model consists of manufacturing and selling our Interoperable Intelligent controllers to farms necessary for controlling their irrigation equipment. Our revenue model consists of selling controllers at a price of \$1,000 each, in average an irrigation system has 7 controllers, and offering a monthly subscription service of \$150 to monitor the irrigation equipment of the farmers, we will send mobile alerts to the farmers to let them know when they have to replace their equipment as soon as possible so their crops are not affected due to lack of irrigation at the proper time and with the proper amount of water. Our customer is a 25-65 year old business minded farmer who is looking to stay competitive in the 21st century by controlling their equipment with intelligent controllers to reduce downtime and increase the useful life of their irrigation equipment.

Sales & Marketing In acquiring customers, we intend to conduct direct marketing and sales by attending trade shows, farmers’ co-ops, and directing leads to our sales staff. We will also hire a lead generator/consultant to help us automate 120 irrigation equipment in year 2. We will also establish a website and a call center in the months ahead. Once we’ve built a prototype, we will use our website for selling our controllers and social media platforms for advertisements (Facebook, Instagram, Pinterest) to conduct digital marketing/sales. We will also provide fully functional demonstrations to all our leads. Additionally after the sale customer service is our core sales strategy in as we will offer subscription access to access condition monitoring data to improve the efficiency of your technology.

Competitive Analysis Our competitors include irrigation equipment parts manufacturers such as Rain Bird Corporation and irrigation equipment manufacturers like Valley irrigation, Zimmatic, and Reinke. All of our competitors sell controllers that are unique and perform specialized tasks and are unable to learn new tasks. Introchangeable Solutions is the first company in the irrigation controllers market that sells interchangeable controllers. Our controllers are standardized and customizable and made to fit all irrigation needs, they “plug and play” because they are equipped to remotely download application specific software from database servers and learn new tasks, which allows for there to be less spares necessary for critical operations such as watering crops.

Capital Requirement We are seeking \$600,000 to develop a minimum viable product, three fully functional prototypes, space for our control room and servers, and 18 months of runway by covering 6 months of fixed expenses for year 2. This includes our R&D budget, marketing, sales employees salaries, insurance and other costs associated with starting up (see chart).

Startup/Development Costs	Year 1	Year 2
Engineering (\$110/hr for 6 weeks)	\$ 26,400	\$ 26,400
Coding (100/hr months)	\$ 100,000	\$ 100,000
Prototypes (3 x \$2000)	\$ 6,000	
Software Development	\$ 60,000	\$ 60,000
Office space	\$ 36,000	\$ 36,000
Living wage for 4 entrepreneurs	\$ 80,000	\$ 160,000
Marketing & Travel	\$ 20,000	\$ 120,000
Database server	\$ 10,000	\$ 10,000
Legal allocation	\$ 5,000	\$ 25,000
Employees		\$ 100,000
24/7 Customer Support \$15/hr		\$ 86,400
Total	\$ 343,400	\$ 723,800

Business Description

Our business is to automate farms by controlling and monitoring irrigation equipment with our NASA patented standardized and customizable interoperable controllers. Our business purpose is twofold:

1. We save farmers time and money with our controllers. “I have issues with my equipment all the time. They get stuck on the fields, floods occur, and crops go unwatered costing us anywhere from \$100 to \$30,000 depending on the size of the issue” - Michael Stone, Michael Stone Grass Farms. We want to help Michael Stone by automating his irrigation system so that he can stay competitive in the Sod grass industry (Appendix A4 has additional customer validation quotes).
2. To feed the world. Our second mission is one of purpose. We want to make a difference in the world. We want to make sure that we are doing our part in feeding the world. After reaching \$1,000,000 net profit, we pledge to donate 3% of our profits to charitable organizations that deliver food to hungry families, such as the Houston Food Bank. We want to do our part in preventing hunger in the world while meeting the demands of irrigation equipment.

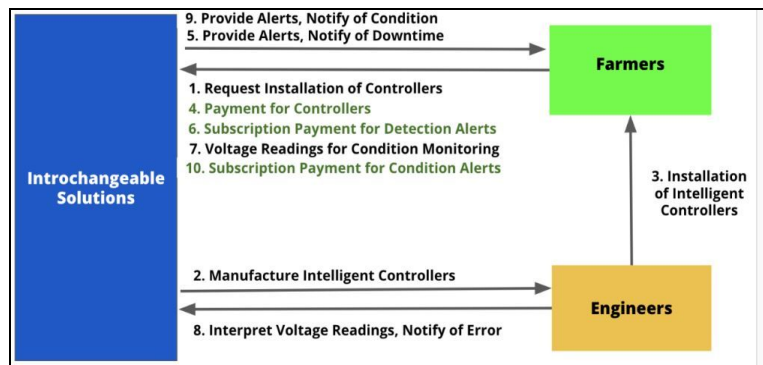
Center pivot irrigation systems is a \$3.1 billion industry (MarketResearch). Farmers have no choice but to deal with their equipment manufacturers when conducting equipment maintenance, which undoubtedly results in significant equipment downtimes. Controllers currently in the irrigation equipment market perform specialized tasks and are unable to learn new jobs like our controllers. If a controller malfunctions, technicians are forced to shut down the entire electrical system to reprogram a new controller, resulting in unnecessary downtime that costs farmers valuable time and money (see Appendix A5 for competitive analysis).

Business Mission and Vision

Our vision is that farmers will have more time on their hands and prepare more food to meet the food demands of the 21st century. Our mission is to provide farmers the controllers they need to prevent downtimes of their center pivot irrigation equipment and increase their food production and profitability. We want to affect farmers bottom lines and want them to have more time to spend with their families while producing more food for the world.

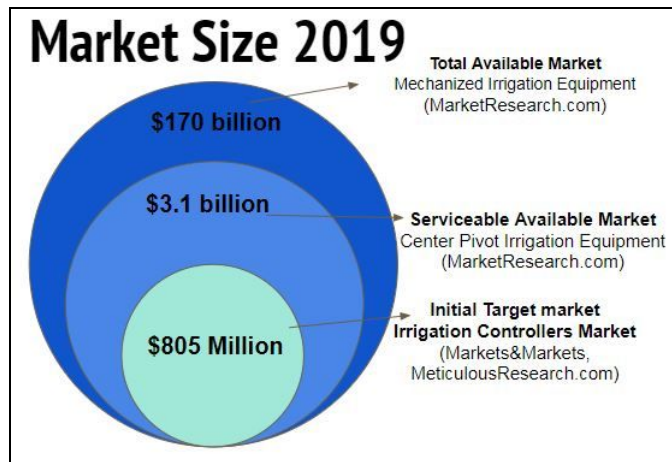
Business Model/Sales Cycle

We sell NASA patented controllers and a subscription to sign onto our detection and prevention service called Condition Monitoring. Our sales cycle starts with us educating farmers about interchangeable controllers through publications and demonstrations. After educating farmers we direct them through our SPIN sales cycle: 1) farmers request installation, 2) we manufacture controllers, 3) our engineers install them, 4) we receive payment for the controllers, 5) we provide alerts of downtime, and the same steps can be followed for our Condition Monitoring service.



Market Analysis

Target Market Profile We are targeting the Irrigation Controllers market, which is projected to be worth \$805 million in 2019. Moreover, the irrigation controllers market is projected to grow at a compounded annual growth rate of 16% reaching nearly \$1.5 billion 2023 (See Appendix A6 for market trend data). The Mechanized Irrigation Equipment industry produces 170 billion in total demand annually (MarketResearch.com). Our total serviceable market profile consists of all center pivot irrigation systems. Irrigation equipment control systems make up 15% of the overall central pivot irrigation systems industry, making the center pivot irrigation systems a \$3.1 billion dollar market value. Though the central pivot irrigation control systems market can cover a wide demographic, Introchangeable Solutions has chosen to initially service Turf and Sod grass farmers in Wharton, Texas and Matagorda County, Texas to initially field test our controllers.



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Customer Profile Farmers who own center pivot irrigation systems who wish to automate their control processes and save money and be competitive 21st century farmer. Introchangeable Solutions provides the consumer an opportunity to achieve this goal. There is a growing worldwide demand for farmers to increase their agricultural output. Americans, in particular, want to ensure food shortages are a thing of the past, especially considering the continued growth of the American population. Introchangeable Solutions has chosen to focus on three target customers:

Soybean, Cotton, and Turf Farmers in Wharton, TX Male family farmers ages 25-65 who are looking to reduce labor costs and overhead on their farms. Examples include family owned farms such as Horizons Grass Farms, Rachunek Brothers Farm, Reynolds Farm Partnership, Hlavaty Farms, Jones Creek Farms, and many more. By serving the needs of local farmers, we will be able to establish a footprint in the market all the while field testing our product. we will All of our potential customers will be located within our local community. This will allow our team to enter the center pivot irrigation controllers market.

Future Markets Introchangeable Solutions has numerous markets it could enter after using intelligent controllers as a launching platform. Introchangeable Solutions will examine expansion prospects into other irrigation systems such as drip and flood irrigation. Introchangeable Solutions, targeted at an efficiency-minded and cost-conscious farmer dedicated to meet all of farmers needs. Introchangeable Solutions is a controller monitoring service, as farmers continue to automate processes, Introchangeable Solutions will adapt to the demands of farmers. Introchangeable Solutions will continue to seek new verticals that can be applied to the agricultural industry and beyond, as farmers require precision and expertise when operating equipment which have many unique functions. Our controllers and Condition Monitoring service will offer the precision and expertise demanded by farmers.

Major Competitors Introchangeable Solutions competitors include Rain Bird Corporation, an irrigation equipment parts and controllers manufacturer. There are also major center pivot irrigation

brands in the industry today that sell controllers designed to perform unique functions:

- 1) Valley Irrigation
- 2) Reinke
- 3) Zimmatic
- 4) Nichols Irrigation

The most similar product to Introchangeable Solutions Intelligent Controllers is Valley’s BaseStation3, which remotely manages central pivot systems and sends push notifications



to farmers. However, Valley’s controllers are not interchangeable, so if their controllers malfunction, their customers are stuck having to replace that controller with Valley irrigation, which means that their technician is going to have to come out and reprogram a replacement, causing unnecessary equipment downtime.

Nichols Irrigation, in El Campo, TX, is aimed closest to the Introchangeable Solutions target market of farmers in Wharton, Tx. However, Nichols does not have value driven intelligent controllers with monitoring prevent and detect service designed to save farmers from equipment downtimes. Additionally, Nichols does not have a 24/7 engineering customer support line. We also have indirect competition from various other “authorized irrigation equipment dealers”, as they are selling irrigation equipment and parts for our main competitors.

Competitive Advantages Introchangeable Solutions has found a niche in the irrigation controllers market, in which we are the first ones to sell interchangeable controllers. Our controllers interchangeable, so they are “one size fits all”, easy to install and replace without having to shut down the electrical equipment for hours, potentially missing deliveries or crops failing due to not being irrigated properly (See Appendix A5 for dollar value in savings). Introchangeable Solutions differentiates itself from its competitors and by positioning itself as a value driven center pivot irrigation controller retrofitting company established on the foundation of superior customer service.

Moreover, Introchangeable Solutions will be a service, quality, and branding outlier. Though irrigation manufacturers have attempted to incorporate detection system services into their irrigation equipment, no competitor has included both Condition Monitoring detection and prevention and 24/7 engineering customer support. Introchangeable Solutions has a competitive advantage over our competitors because they do not have interchangeable controllers and do not provide condition monitoring service for preventative maintenance. Interchangeable Solutions will provide both a high

Competitive Advantage			
Irrigation Systems	Interchangeable?	24/7 Technical Support?	Includes App Support?
Orbit B-Hyve	✗	✗	✓
Rachio Smart Sprinkler Controller	✗	✗	✓
BlueSpray	✗	✓	✓
IntroChangeable Solutions	✓	✓	✓

quality product and superior service to farmers requiring customer support, which has been traditionally unavailable to farmers in remote locations. Introchangeable Solutions has a strong market position directly interacting with farmers to give them the family experience they are used to. With its superior technology and value proposition, Introchangeable Solutions is saving farmers money so that they can feed families in the 21st century.

The Technology

Introchangeable Solutions does not just sell farmers controllers, we sell a subscription service to our Condition Monitoring prevent and detect equipment downtimes. Our controllers are meant to disrupt industries of the the 21st century, including the irrigation controllers market by saving farmers thousands of dollars from missed deliveries and failed crops due to irrigation equipment downtimes. Farmers benefit from our technology in 4 ways:

1. Our controllers acquire sensor data from our customers irrigation equipment.
2. Our controllers output information they learn to our control room via satellite for data analytics.
3. We notify farmers of any center pivot irrigation equipment downtimes and conditions of equipment through mobile text alerts.
4. Farmers perform required maintenance or call our 24/7 engineer customer support for help.

Our controllers are designed by our engineers to have the capability to communicate with our server in our control room to be able to download new software, learn new tasks, and be able to be changed out for another one of our controllers that is either sitting as a spare or performing other functions (See patent schematics in Appendix A8). Introchangeable Solutions collects data to analyze from farmers' equipment through our Condition Monitoring subscription service. We measure and track the quantity of voltage and other conditions that track an equipment's tendencies. After collecting data for 2 months, we specify an "optimal range" for the irrigation equipment to operate under ideal conditions.

Moreover, our controllers communicating with one another alert our control room and the farmer if a controller goes out, so a farmer can easily "plug and play" his spare controller through RFID, Bluetooth, or manual installation. Our controllers also communicate with our server housed in our control room. The server has a database of software applications for our controllers to be able to learn any irrigation equipment job and to be able to download the task stored in the control room and to perform it within a few minutes of download.

Our Purpose

We have a twofold purpose: 1) We want to save farmers that we work with to thousands of dollars from equipment downtimes and be the most competitive farmers of the 21st century worldwide. 2) Since the global population is expected to increase to nearly 10 billion by 2050, farmers will have to grow



70% more food to feed the world’s population. The increase needed in food production inspires Introchangeable Solutions to find innovative ways to make a social impact by equipping farmers with the tools and technology they need to stay on pace to meet the world’s food demands.

Stages of Development

Phase 1 Product development. In the first 6 months, Introchangeable Solutions will have developed 3 prototypes, a minimum viable product and tested it for full functionality.

Phase 2 Field testing. In 6 months to 1 year, Introchangeable Solutions will field test our controllers in 30 selected irrigation equipment and collect data for detect and prevent Condition Monitoring service.

Phase 3 Ramping up sales. After 1-2 years, Introchangeable Solutions is going to devote significant resources into direct marketing and sales to meet our goal of servicing 120 irrigation equipment.

Barriers to Entry

1. We are not just in the business of selling controllers, we are driven by a mission of making farmers competitive and to do our part in feeding the world. Our purpose is a barrier for entry for most people simply wishing to make a profit.
2. Our technology is patented by NASA and it is available for us to license, so it will be a legal liability for any competitor to try to replicate our technology.
3. High start-up costs and having a first movers advantage in the irrigation equipment controllers market are also barriers to entry.
4. Irrigation equipment companies already have a large share of the controllers market so there is stiff competition

Product Features and Benefits We would like to highlight 3 features and benefits of our technology.

1. Our standardized and customizable controllers makes them easy to install and quick to replace saving farmers time and money from installation costs.
2. Our database of software applications housed in our control room allows for spare controllers to be reprogrammable to fit irrigation equipment needs, send mobile text alerts to farmers of equipment downtimes.
3. Condition Monitoring sends equipment condition alerts to farmers of any issues that can arise from irrigation equipment, like voltage abnormalities, so farmers can conduct maintenance.

Pricing Structure We have identified that 7 is the average amount of controllers an irrigation equipment can benefit from. Center pivot irrigation equipment typically operate with 6 controllers, and it is important to keep one spare handy incase a controller goes out. We also offer farmers Condition Monitoring service, which is a \$150 monthly subscription for detection and prevention.

Pricing structure	Amount	Year 1	Year 5
Controllers (5 year guarantee)	7	\$7,000	\$7,000
Condition Monitoring (\$150/month)	1	\$1,800	\$9,000
Each Equipment Served		\$8,800	\$16,000

Organization & Management

Management Team Maria Jose Vargas Uribe (CEO, top left), Luke Kubosh (CFO top right), Aurangzeb “Ozzy” Sheikh (CTO bottom left), and Madelin Umanzor (CMO bottom right) are a group of dedicated students in the #2 ranked Entrepreneurship program in the country, the Wolff Center for Entrepreneurship (WCE) at the University of Houston. At the WCE, we pride ourselves in developing businesses from technologies with our incredible group of professors, mentors, and advisors. All four co-founders are double majoring in the C.T. Bauer College of Business, and our fields of study include Entrepreneurship, Marketing, Finance, and Accounting. Our goal is to save farmers money and be equipped to feed the world into the 21st century. We want to make the farmers that we work with competitive worldwide.



Inventors Our NASA technology inventors are available to us to answer any technology related questions and to help us find possible applications for this technology.. See Appendix A9 for a technology demonstration video by our inventors.



Glen F. Steele



George A. Salazar

Glen Steele is a senior electronics and software

developer at the NASA Johnson Space Center, he graduated from Texas A&M with a Bachelor’s degree in Electrical Engineering and has been at JSC for over 33 years applying his skills of design and analysis (NASA.gov).

George Salazar is involved with the design of advanced telemetry, voice recognition and intelligent systems of which he has received various patents. His passion is sharing knowledge with students, reaching out to well over 16,000 students through speaking engagements, tutoring, and mentoring.



Advisors We also have 4 advisors, Mark Craig, CEO of OneStepPower, Sarah Whiteford, Principal Engineer at OneStepPower, Kraig Schulz, CEO of Autonomous Tractor, and Oscar Acosta, a Control Systems Electrical Engineer, all of whom have helped us in conceiving our business model. Mark and Sarah of OneStepPower helped us discover the benefits of offering farmers Condition Monitoring service to prevent equipment downtimes due to malfunctions. Kraig Schulz helped us learn about the irrigation equipment industry and agricultural farming in general. Oscar Acosta taught us how traditional controllers work and the point of differentiation between our controllers and traditional ones. (See Appendix A7 for photographs of our advisors).

Ownership Co-founders Maria Jose Vargas Uribe, Luke Kubosh, Aurangzeb “Ozzy” Sheikh, and Madelin Umanzor each have a 25% equity stake in the company.

Marketing & Sales Strategy

Go-to-Market Strategy We will acquire customers by directly targeting farms operating irrigation equipment. There are a number of family owned Turf, Cotton, and Soybean farmers in Wharton, TX and Matagorda County, TX that have indicated their interest in interchangeable controllers to us, and the challenges they are facing with their equipment downtimes. We will start field testing our controllers in 30 center pivot irrigation equipment in these farms after 6 months. We believe that these chosen farms will adopt our controllers and give us the data necessary and the publicity to ramp up our operations in year 2. We will also hire a lead generation consultant in year 2 who will provide leads to ramp up operations.

Promotions We will attend trade shows and feature demonstrations of our controllers functionality. With fully developed prototypes, we can use Raspberry Pis to showcase the functionalities and capabilities of our controllers. This will enable farmers to see how they can save time and money on dealing with irrigation equipment maintenance and downtime issues. Also, we will share our company purpose to inspire them in joining us in feeding the world, while saving money and allowing them to have more time for things they care about, such as being with their families. We will join Agricultural Organizations, which will enable us to talk to a variety of customers needs and discover their problems as we develop our product to fit their exact needs. This will also enable us to handout pamphlets and other marketing material to educate farmers on the benefits of controlling and monitoring their irrigation equipment.

Branding Introchangeable Solutions will portray a value proposition that will enable farmers to maximize efficiency from their equipment, cut cost, and reduce overhead by purchasing our product. We will create a website and establish brand awareness through social media marketing on Facebook, Instagram, Pinterest and Twitter. We will also seek features in agricultural and farmers magazines. We will feature YouTube links to demonstrations of our technology and how features of Interoperable Intelligent Controllers result in benefits of saving thousands of dollars from equipment downtimes.

Sales & Marketing Budget

Our total marketing budget is allocated 65% to publications, 25% to trade shows, 10% to Agricultural Organizations and 5% to farmers co-ops.

Sales & Marketing Budget	Year 1	Year 2	Year 3	Year 4	Year 5
Trade shows	\$ 5,000	\$ 25,000	\$ 37,500	\$ 50,000	\$ 62,500
Publications	\$ 12,000	\$ 60,000	\$ 90,000	\$ 120,000	\$ 150,000
Co-ops	\$ 1,000	\$ 5,000	\$ 7,500	\$ 10,000	\$ 12,500
Agricultural organizations	\$ 2,000	\$ 10,000	\$ 15,000	\$ 20,000	\$ 25,000
Travel	\$ 6,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
Sales					
Sales Manager				\$ 70,000	\$ 100,000
Sales Employees		\$ 100,000	\$ 200,000	\$ 400,000	\$ 500,000
Total	\$ 26,000	\$ 220,000	\$ 370,000	\$ 690,000	\$ 870,000

Capital Funding Seed Equity Investment

Introchangeable Solutions is seeking a \$600,000 investment for a 20% seed equity round. It will take Introchangeable Solutions approximately 6 months to fully develop a minimum viable product and deploy it for field testing in 30 selected center pivot irrigation equipment. After 1 year, we will ramp up sales by hiring two sales employees and developing our software and platform. The investment gives us a planned 18 month runway to get our operations up and running by covering fixed expenses through half of year 2.

Financial Statements Please review our pro forma financial statements below and see the appendix for our valuation model, startup costs, and exit strategy to see our financial picture (Appendices A1-3).

Introchangeable Solutions LLC Income Statement (Pro forma)					
	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues	\$ 228,000	\$ 1,056,000	\$ 2,200,000	\$ 4,400,000	\$ 8,800,000
COGS	\$ (27,300)	\$ (109,200)	\$ (227,500)	\$ (455,000)	\$ (910,000)
Gross Profit	\$ 200,700	\$ 946,800	\$ 1,972,500	\$ 3,945,000	\$ 7,890,000
Sales, General, & Administrative	\$ (342,400)	\$ (766,800)	\$ (1,000,000)	\$ (1,360,000)	\$ (1,540,000)
EBITDA	\$ (141,700)	\$ 180,000	\$ 972,500	\$ 2,585,000	\$ 6,350,000
EBITDA Margin		17.0%	44.2%	58.8%	72.2%

Cash Flows Statement (Pro forma)					
	Year 1	Year 2	Year 3	Year 4	Year 5
Cash Sources					
Sales	\$ 228,000	\$ 1,056,000	\$ 2,200,000	\$ 4,400,000	\$ 8,800,000
Capital Raise (Seed round)	\$ 600,000				
Cash Uses					
SG&A	\$ (342,400)	\$ (766,800)	\$ (1,000,000)	\$ (1,360,000)	\$ (1,540,000)
Variable Costs	\$ (15,750)	\$ (63,000)	\$ (131,250)	\$ (262,500)	\$ (525,000)
Dividends		\$ (18,000)	\$ (97,250)	\$ (258,500)	\$ (635,000)
Beginning Cash	0	\$ 469,850	\$ 696,050	\$ 1,764,800	\$ 4,542,300
Net Cash flow	\$ 469,850	\$ 226,200	\$ 1,068,750	\$ 2,777,500	\$ 6,735,000
Ending Cash	\$ 469,850	\$ 696,050	\$ 1,764,800	\$ 4,542,300	\$ 11,277,300

Balance Sheet end of year 2 (Pro forma)					
Assets		Liabilities		Equity	
Cash	\$ 582,300			Investor	\$ 600,000
Inventory	\$ 113,750			Retained Earnings	\$ 96,050
Total Assets	\$ 696,050	Total Liabilities and Equity:			\$ 696,050

Balance Sheet end of year 5 (Pro forma)					
Assets		Liabilities		Equity	
Cash	\$ 2,002,500	Accounts	\$ 75,000	Team	
Accounts Receivable	\$ 200,000	Payable		Investor	\$ 600,000
Inventory	\$ 225,000			Retained Earnings	\$ 7,852,500
Patents	\$ 100,000				
Investments	\$ 6,000,000				
Total Assets	\$ 8,527,500	Total Liabilities & Equity			\$ 8,527,500

Appendices

A1: Financial Modeling Our pro forma financial projections are dependent on our revenue and cost valuation models detailed below.

Revenue Valuation Model	Year 1	Year 2	Year 3	Year 4	Year 5
Controllers sales price	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Controllers per irrigation equipment	7	7	7	7	7
Irrigation equipment serviced	30	120	250	500	1000
Detection/Prevention Subscription	\$ 600	\$ 1,800	\$ 1,800	\$ 1,800	\$ 1,800
Sales growth	300%	100%	100%	100%	
Controllers sales	\$ 210,000	\$ 840,000	\$ 1,750,000	\$ 3,500,000	\$ 7,000,000
Subscription sales	\$ 18,000	\$ 216,000	\$ 450,000	\$ 900,000	\$ 1,800,000
Total Revenue	\$ 228,000	\$ 1,056,000	\$ 2,200,000	\$ 4,400,000	\$ 8,800,000

Cost Valuation Model	Year 1	Year 2	Year 3	Year 4	Year 5
Variable					
Controllers (\$35 per)	\$ 7,350	\$ 29,400	\$ 61,250	\$ 122,500	\$ 245,000
Interface board (\$35 per)	\$ 7,350	\$ 29,400	\$ 61,250	\$ 122,500	\$ 245,000
Labor (\$40 per controller)	\$ 8,400	\$ 33,600	\$ 70,000	\$ 140,000	\$ 280,000
Packaging (\$10 per controller)	\$ 2,100	\$ 8,400	\$ 17,500	\$ 35,000	\$ 70,000
Casing (\$10 per controller)	\$ 2,100	\$ 8,400	\$ 17,500	\$ 35,000	\$ 70,000
Total Variable Costs	\$ 27,300	\$ 109,200	\$ 227,500	\$ 455,000	\$ 910,000
Fixed					
Sales & Marketing					
Direct Marketing	\$ 20,000	\$ 100,000	\$ 150,000	\$ 200,000	\$ 250,000
Salaries		\$ 100,000	\$ 200,000	\$ 400,000	\$ 500,000
Travel	\$ 6,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
Total S&M	\$ 26,000	\$ 220,000	\$ 370,000	\$ 620,000	\$ 770,000
General & Administrative					
Executive salaries	\$ 60,000	\$ 120,000	\$ 160,000	\$ 200,000	\$ 200,000
Sales manager				\$ 70,000	\$ 100,000
Database manager		\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
Office supplies	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Liability insurance	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
Office space	\$ 36,000	\$ 36,000	\$ 36,000	\$ 36,000	\$ 36,000
Databases	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Legal fees	\$ 5,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Customer Support		\$ 86,400	\$ 129,600	\$ 129,600	\$ 129,600
Miscellaneous	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
R&D					
Software Engineering	\$ 26,400	\$ 26,400	\$ 26,400	\$ 26,400	\$ 26,400
Coding	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Prototypes	\$ 6,000				
Software Development	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000
Mobile app development		\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Total G&A	\$ 316,400	\$ 546,800	\$ 630,000	\$ 740,000	\$ 770,000
Total SG&A	\$ 342,400	\$ 766,800	\$ 1,000,000	\$ 1,360,000	\$ 1,540,000

Appendices

A2: Startup Costs With a \$600,000 seed equity round, we plan to cover an 18 month runway for us to fully develop our product, field test it closely working with chosen farmers and to ramp up sales after 1 year of seed funding through direct marketing efforts.

Startup/Development Costs	Year 1	Year 2
Engineering (\$110/hr for 6 weeks)	\$ 26,400	\$ 26,400
Coding (100/hr months)	\$ 100,000	\$ 100,000
Prototypes (3 x \$2000)	\$ 6,000	
Software Development	\$ 60,000	\$ 60,000
Office space	\$ 36,000	\$ 36,000
Living wage for 4 entrepreneurs	\$ 80,000	\$ 160,000
Marketing & Travel	\$ 20,000	\$ 120,000
Database server	\$ 10,000	\$ 10,000
Legal allocation	\$ 5,000	\$ 25,000
Employees		\$ 100,000
24/7 Customer Support \$15/hr		\$ 86,400
Total	\$ 343,400	\$ 723,800

Appendices

A3: Exit Strategy We are looking to liquidate our shares in the company in between 5-7 years to bring our investors a return on their investment and to allow another investor to take the company to the next level. We want to ensure that our investors see a return on their money. Our exit strategy is to be acquired by either a major competitor like Rain Bird Corporation or an Irrigation Equipment company looking to stay ahead of the curve by standardizing their monitoring and control processes.

Typically, a company in its mature stage can have a valuation of 4x-6x its earnings as shown below, which gives investors a 847%-1270% return on investment.



Investor ROI:

Seed Equity Investment: \$600K	
Year 5 Earnings: \$6.4M	Investor ROI:
4x EBITDA: \$25.4M = \$5M+ return	847%
5x EBITDA: \$31.8M = \$6.4M return	1058%
6x EBITDA: \$38.1M = \$7.6M return	1270%

Appendices

A4: Customer Validation Quotes Farms in the local area have agreed to let us field test our controllers and agree that our controllers can result in huge savings for them.

“I have issues with my equipment all the time, they get stuck on the fields. This can cost us anywhere from \$100 to \$10,000 depending on the size of the issue” - Michael Stone, Michael Stone Grass Farms

“We have issues with our lateral move equipment everytime we run it; we have issues with our electrical parts... drive motors and power units” - Liam, Witting Grass Sales

“To be able to remotely check our equipment and receive alerts would be extremely valuable.” -Bud Grades Horizons Turf, Wharton, TX

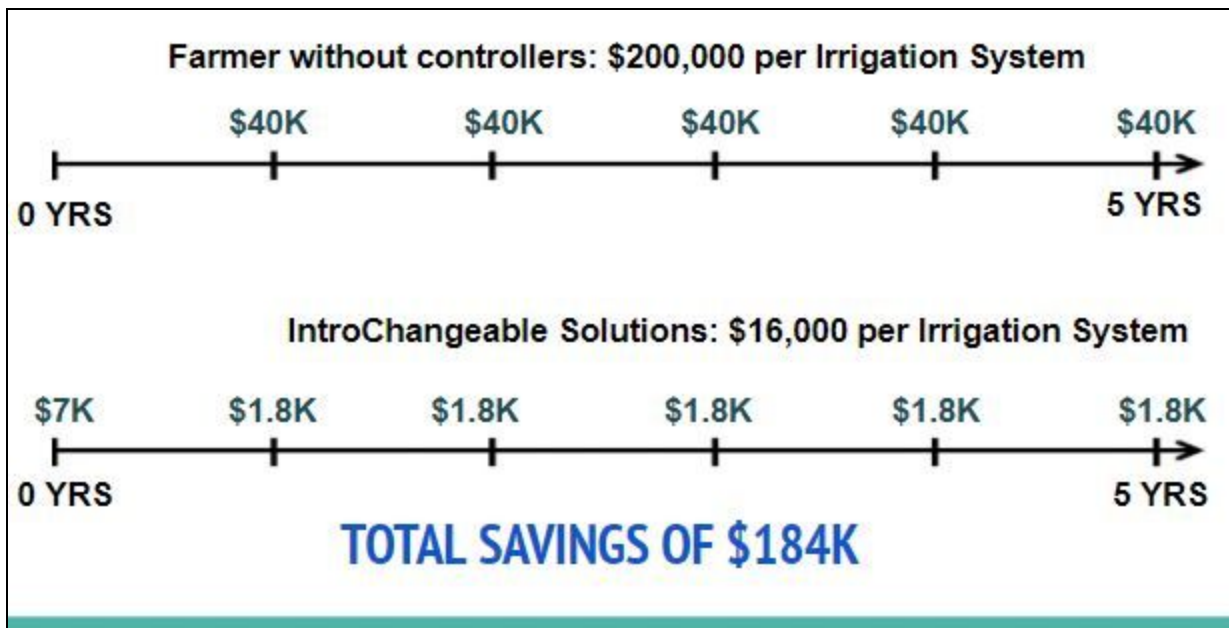
“I want a Center pivot irrigation system that is totally controlled through phone and I don't have to visually observe the equipment myself”- Lee Sanders, Gulf Coast Turf Farms

Appendices

A5: The Problem and our Competitive Advantage Equipment downtimes result in failed crops and missed deliveries, there are huge inefficiencies in the way irrigation equipment are controlled and monitored today.

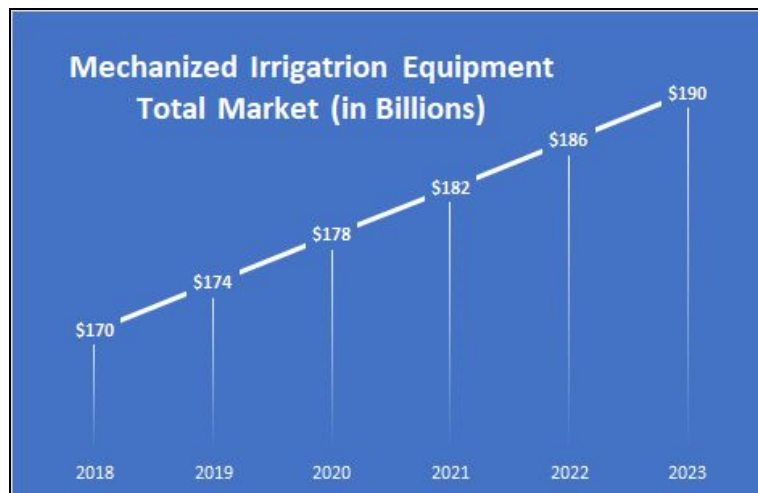
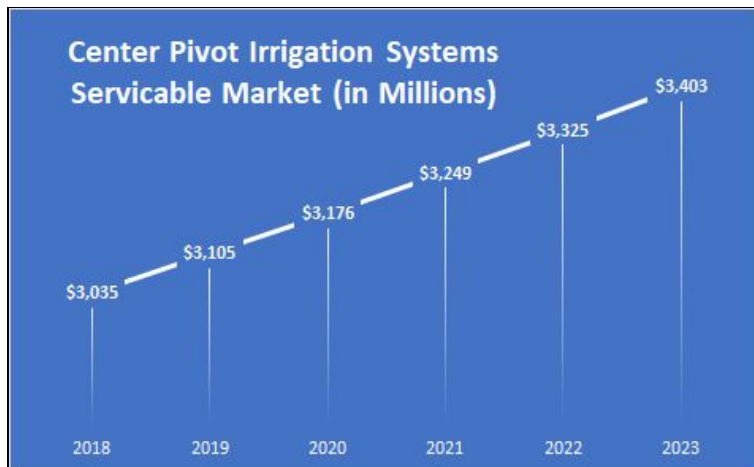


Competitive Advantage



Appendices

A6: Market trends Irrigation Controllers target market grows at a compounded annual growth rate of 16%, Center Pivot irrigation equipment and all mechanized irrigation equipment are also growing at a compounded annual growth rate of 2.3% growing market.



Appendices

A7: List of Advisors and NASA Inventors

INTROCHANGEABLE SOLUTIONS

Advisors



Kraig Schulz
CEO of Autonomous Tractor



Sarah Whiteford
Principal Engineer



Mark Craig
CEO of OneStep Power



Oscar Acosta
Control Systems Engineer

Inventors



Glen F. Steele
NASA Inventor

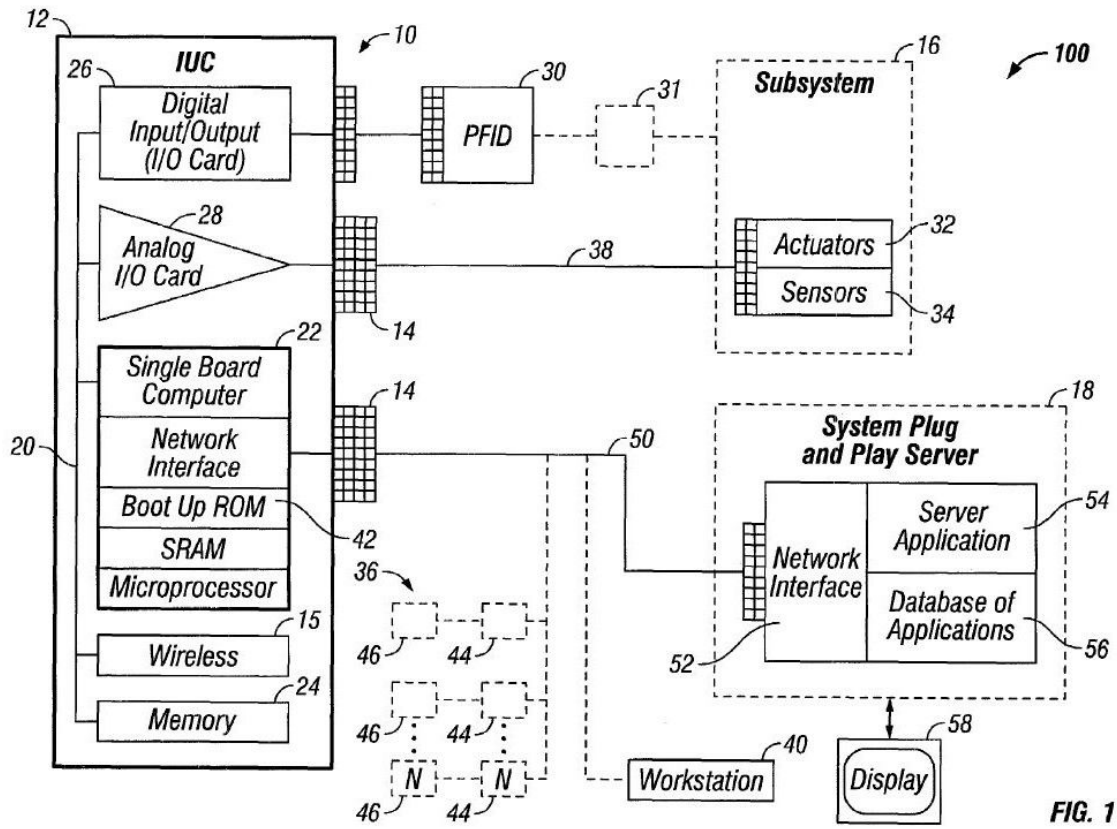




George A. Salazar
NASA Inventor

Appendices

A8: Patent Schematics These patent schematics are meant to illustrate patent protection and how intelligent controllers work.



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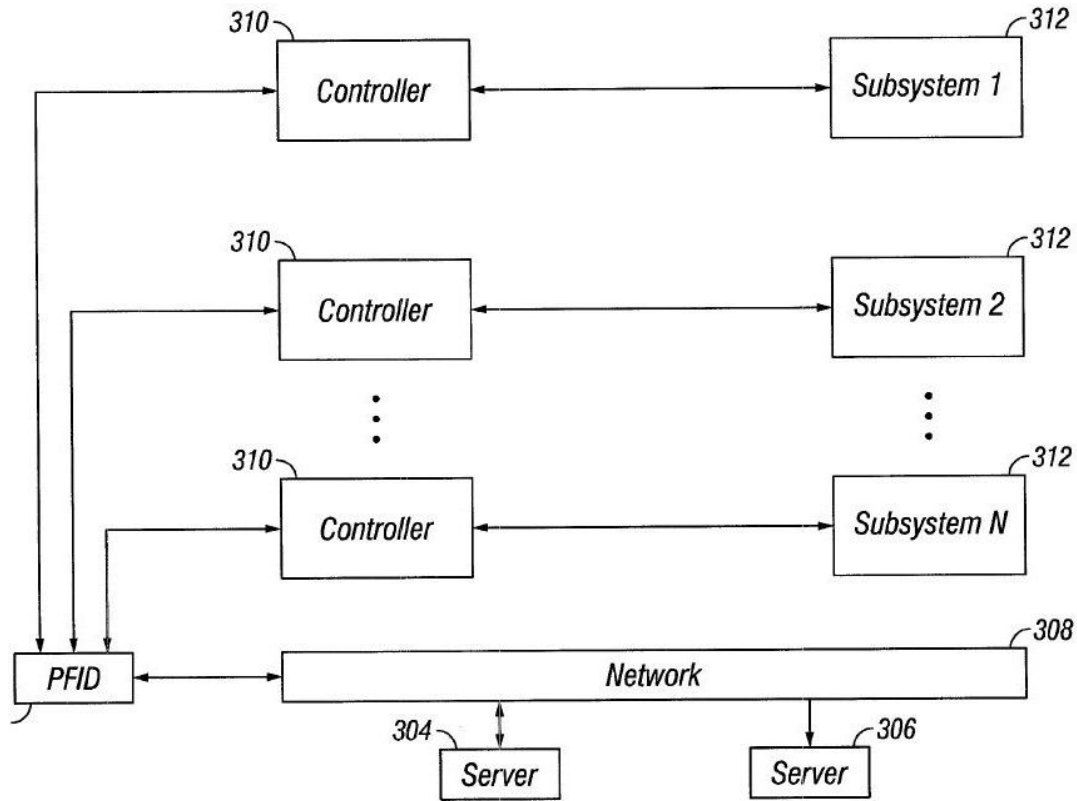


FIG. 3

Appendices

A9: Video demonstration of our NASA Patented technology by our inventors Glen Steele and George Salazar

<https://www.youtube.com/watch?v=88KrzDNqDmo>