



NAMA Student Marketing Competition 2022 University of Missouri - Columbia

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INTRODUCTION

A grain farmer's least favorite job is cleaning their grain bin. Not only is it a task they don't enjoy, it can also be fatal. Between 2011-2020, the U.S. averaged 30 grain bin entrapments per year¹. In the same period, the U.S. averaged 18 deaths per year². Despite the clear danger of getting into grain bins, farmers are not concerned about entrapment; after all, "It won't happen to me." Instead, they are more concerned about the inconvenience due to dust and high temperatures in small confined spaces. It doesn't have to be like that. Our team at Gerridae Industries has invented a revolutionary grain bin management tool that means farmers never have to step into a grain bin again. Our zero-entry mentality inspired us to invent the GerriRig. Our first-of-its-kind robot skims across the surface of grain breaking up crusts, feeding grain into extraction augers and preventing hot spots. The GerriRig will change grain bin management for generations to come, allowing farmers to work more conveniently, efficiently and safely.

MARKET ANALYSIS

The GerriRig grain management system is a game changer for farm managers. Our system helps to mitigate losses from grain spoilage, but most importantly we give farmers convenience and peace of mind by keeping them out of the dangerous and unpleasant conditions inside and around grain bins.

trends

- There are 13.5 billion bushels of on-farm grain storage nationally.³
- More than 750,000 steel grain bins have been built in the U.S. in the last 75 years.⁴
- Grain storage capacity has increased an average 349 million bushels per year.⁵

size & potential

According to the National Agricultural Statistics Service (NASS), grain storage is at an all time high – with on-farm storage holding 13.5 billion bushels and off-farm holding another 11.8 billion bushels³. Recent price movements have further incentivized storing grain with little regard for questionable moisture levels. This can create mold that leads to crusting and hot spots, which farmers must break to avoid further spoilage. This is the primary reason farmers risk entering grain bins. An increase in storage, therefore, accounts for higher risk of grain bin entrapments.

other key factors

One of the key factors driving farmer's willingness to accept the risk of entering a grain bin is a highly competitive and volatile market. The rise of on-farm grain storage throughout the past three decades has shifted the responsibility of managing grain quality from the elevator to the farm. Given the volatility of modern agricultural commodity markets, there is a greater incentive to take advantage of high prices by storing grain. In an increasingly competitive agricultural market, grain bin management has never been more important to the bottom line.

primary research

Gerridae Industries conducted primary research on the psychology of grain bin cleaning on 200 farms in the Midwest. In the study, farmers were asked to complete a survey rating farm tasks on a scale of 0-10, 0 being least enjoyable and 10 being most enjoyable. Tasks involving grain bins were consistently low. In fact, 87% of farmers ranked cleaning grain bins the least enjoyable farm task.

87% of farmers considered cleaning grain bins the least enjoyable farm task



COMPETITIVE ANALYSIS

The GerriRig is unique in that it is the first grain management system in the market that is an autonomous robot. This gives the GerriRig a unique opportunity to capitalize on the lack of true direct competition. With our cordless, battery operated design, the GerriRig is able to glide throughout the grain bin. The primary competitive advantage for the GerriRig lies in the fact that it completely eliminates the risk of entrapment (and potentially death), which is ever present for the farmer with a shovel, without compromising grain quality. With nothing else like this on the market, the GerriRig provides real value to farmers who prioritize health, safety, and stellar grain management.

our service

GerriRig Grain Management System



\$5000 total system cost
Zero-entry
Works autonomously
Battery charge lasts 2 hours
Multiple robots in one bin

direct competitors

<p>On-farm hire</p>  <p>Inexpensive Convenient Requires bin entry</p>	<p>Grain salvage company</p>  <p>Reactive Outsourced labor Convenient</p>
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indirect competitors

<p>Grain safety technology</p>  <p>\$115/Harness Manual safety gear Requires bin entry Promotes safety</p>	<p>Grain rescue technology</p>  <p>Manual rescue device Reactive Requires bin entry Reliant on fire dept.</p>
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STRENGTHS

- Zero-entry
- Prevents spoilage
- Battery charged
- Autonomous

WEAKNESSES

- Can't submerge
- Uncertainty in a brand new market
- Supply chain

OPPORTUNITIES

- Minimal competitors
- Saves lives
- Long term increase in bottom line

THREATS

- Inexpensive labor
- Resistance to technology
- Farmer pride

CUSTOMER SEGMENT

The GerriRig will be most beneficial and economical for larger row-crop farms, those with 2,000-10,000 acres. Our **primary audience** is farmers over the age of 35, as this demographic owns or leases 95.9% of the farmland in the United States⁶. Additionally, farmers over this age demographic combined with the amount of acres farmed are more likely to have hired employees and legacy children employed on the farm. Liability for employees in grain bins and concern for general safety gives incentive to keep their employees safe and out of grain bins. Our **secondary audience** is female decision makers as they are more conscious about the safety of their family on the farm⁷. Market research has determined that our audience is willing to bypass the technology adoption spectrum, from laggards to innovators⁸.

customer profile

primary audience



John, a 67-year-old farmer, has been working on his family's century row crop farm in central Illinois since he could turn a shovel. Today, he owns and operates his 3,000 acre farm with the help of his wife and two sons. With an, "if it ain't broke, don't fix it," attitude, John is often reluctant to change his farming practices. However, John has had his fair share of dangerous situations on the farm. As he prepares to pass down the farm to his sons, he wants to ensure their safety and success in the future.

secondary audience



Martha is a 52-year-old mother of four. Her husband Jeff, 56, works full time as a row crop farmer in south-west Iowa. She is employed as a loan officer and also works as the primary financial manager on the farm. Martha and Jeff work hard to ensure their children are involved on their diversified feeder cattle and row crop farm, but also knows that the farm can be dangerous. Martha is always looking for new technology that make everyday farm activities safer for her loved ones.

BUSINESS PROPOSITION

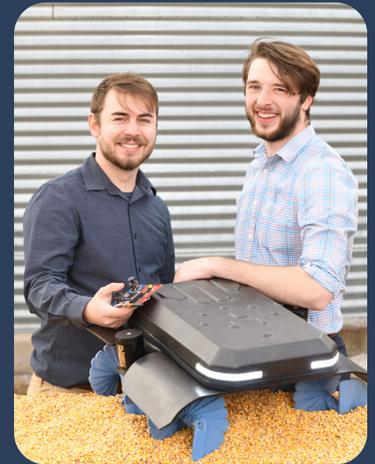
The purpose of the grain management system is to eliminate risk while ensuring quality by autonomously: 1) managing and preventing the surface of the grain from crusting or piling up with dangerously steep slopes; 2) preventing hot spots deep in the grain; and 3) maintaining grain quality in high moisture settings. The three components of the grain management system, the GerriRig (robot), the GerriMander (broom) and the GerriCarry (system) collaborate to ensure efficient grain bin management for a high quality product.

Our first of its kind robot, the **GerriRig**, is designed with two independently controlled, electronically powered augers for both propulsion and grain agitation. It communicates with optical, 3-D imaging and thermal sensors placed near the peak of each bin. Upon entry, the GerriRig syncs with the sensor via a Bluetooth connection. After the two are connected, the data from the sensor sends directions to guide the GerriRig across the surface of the grain to either level the pile or disturb a crust.



As grain gets close to the bottom of the bin, our robot moves grain which can't be reached by the auger. The **GerriMander** is an attachment with tracks and an outward spinning broom which pushes the remaining grain into the sump. It manually attaches to the base of the GerriRig, replacing the augers. A lock system secures the attachment and automatically syncs with the Bluetooth system to communicate which attachment is being used and therefore which function can be performed.

Finally, the **GerriCarry** is a closed loop winch and cable system (includes the sensor mentioned above) which carries the GerriRig in and out of the grain bin. The winch can be attached to the cable by the user. After the docking station is attached, the GerriRig is carried swiftly and effortlessly into the bin, where it pairs with the camera, dismounts, and begins its work. The mobile docking station detects the height of the grain and communicates with the robot via the sensor when it needs to return for charging. The GerriRig grain management system will be ordered through our website and regional salespeople.



strategy statement

The primary objective of the GerriRig grain management system is to enhance farmers' lives by creating a product that automates unsafe and unpleasant tasks. We aim to provide farmers with a safe, efficient and convenient alternative to entering the grain bin when crusting or dangerous sloping develops. Our innovative technology will change the way farmers think about grain management.

goals

- Obtain 85% **Customer Satisfaction** after year 1.
- Generate \$25 million in **Gross Sales** by year 3.
- Brand Recognition** in target market of 20% paid media and 7% unpaid media by year 3.

key planning assumptions

- The GerriRig is patent pending and Combustible Dust and Hazard Analysis (DHA) approved.
- Gerridae Industries has a partnership with Farm Bureau Insurance.
- Gerridae Industries has a three-year manufacturing partnership with Agrobot, the assembler and manufacturer of the GerriRig and the GerriMander.



return on investment

The potential return-on-investment for the future owners of the GerriRig grain management system is realized both through time savings and reduced spoilage. Ideally, the GerriRig would never be used inside of a grain bin however, such conditions are rarely found. When a situation does arise where there is excessive grain moisture or crusting, a person may feel pressured to enter the filled grain bin. Regular operation of the GerriRig can eliminate the need for the operator to enter the bin. A regular agitation schedule can prevent a spoiled crust from forming on top of the grain or hot spots below.

In a 48' diameter bin, common on many large Midwestern grain farms and elevators, the top 3" of grain which is susceptible to crusting and spoilage adds up to 363 bushels, a value of nearly \$2,200 given \$6.00 corn prices. Disregarding financial benefits resulting from savings of human capital, treatment of just three bins and prevention of a spoiled crust pays for the GerriRig system (valued at \$5,000) in its entirety.

For Gerridae Industries, the payback period on our \$14.6 million dollar initial investment, including R&D, production, infrastructure development and overhead, will be approximately 2.4 years based on product interest and preliminary sales projections.

ACTION PLAN

positioning

For farmers and their families who want to decrease risk while increasing grain quality, Gerridae Industries provides an autonomous and affordable system that addresses both of these pain points. In this respect, we set ourselves apart from competitors and will continue to do so through our quality-of-life obsession, passion for innovation, and commitment to customer satisfaction.

price

The total cost of a GerriRig grain management system is \$5,000, which is more than the cost of a shovel but less than the cost of a life or a bin full of spoiled grain. Each component can be ordered separately via our website or our salespeople to custom-fit your operation.

\$3,000 **GERRIRig**
\$1,500 **GERRIMander**
\$500 **GERRICarry**

promotion

events & community

Trade Show Promotions - We will attend the Farm Progress Show, National Farm Machinery Show, Commodity Classic, World Ag Expo, Western Farm Show, and the Minnesota Agriculture Expo. Our 10' x 10' booth set up allows attendees to test the GerriRig for themselves.

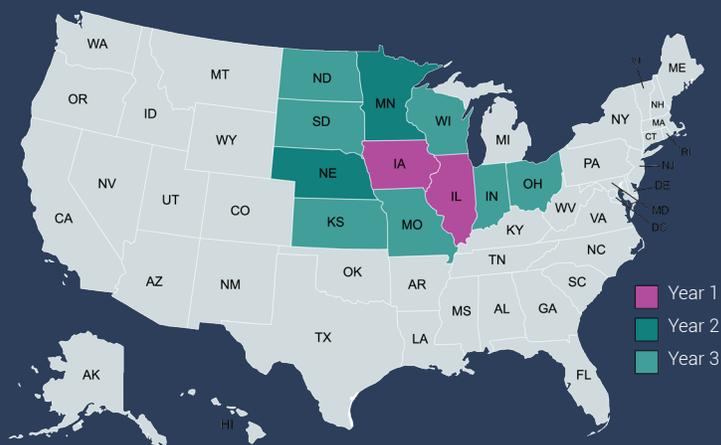
GerriRig Launch Party and Silo Screening - We will host a launch party near our headquarters at River Gulf Grain Company. We will show the feature film, Silo, and serve a dinner overlooking the Mississippi River. Illinois and Iowa elected officials, agriculture influencers, industry leaders, agriculture media and the founders of Gerridae Industries will be invited to attend.

National Grain Bin Safety Week Road Show - We will host a week-long campaign for National Grain Bin Safety Week in collaboration with Illinois Farm Bureau Insurance. We will travel to several rural towns in Illinois and host pop-up events. Here, regional high schools, community members and farmers can learn about grain bin safety. They can make a farm safety plan with their insurance agent and see the GerriRig in action. Farmers at any pop-up event can enter to win a GerriRig. At the end of the campaign, we will award two farmers who entered.

Zero-Entry Mentality Scholarship - We will create a scholarship fund in honor of the many young teenagers in the U.S. who have passed away due to a grain bin entrapment. We will host an essay contest about grain bin safety, in the five states with the most on-farm grain entrapment cases and fatalities to date. A winner from Illinois, Iowa, Minnesota, Nebraska and Indiana will each be awarded a \$1,000 scholarship.

place

Gerridae Industries is based in Rock Island, Illinois to take advantage of the high volume of grain, and consequently word of mouth, that moves along the Mississippi River. In our first year we will focus our marketing on Iowa and Illinois, which are the two states with the highest volume of on-farm grain bin storage. In year 2 we will expand our marketing efforts to Minnesota and Nebraska. Because of the high concentration of grain production and storage, we will expand our advertising to the greater Midwest in our third year.



paid media

Print Media - In **year 1**, we will place print advertisements in Iowa Soybean Review and Illinois Agrinews. In **year 2**, we will add Minnesota Agriculture. As there is no significant readership of a locally-owned magazine in Nebraska, we determined it would be in our interest to focus on other media. Finally, in **year 3** we will expand to national publications: Farm Journal, Progressive Farmer and Successful Farming. Advertisements will include a range of full and half page spreads reaching a combined audience of over 1.5 million people.

Podcast/Radio Media - Target advertisements via podcast and radio shows like Brownfield Ag News, AgriTalk, Off the Husk Podcast (MNMF) and Farm 4 Profit places the importance of the GerriRig directly in front of desired target markets, reaching millions of listeners and over 500 radio stations.

GerriRig Social Media - Our Facebook, Instagram, YouTube and Tik Tok pages will feature the GerriRig. We will boost product demonstrations, farmer testimonials, and product information. Based on our market research, we chose to forgo sponsored content on Twitter due to the success of organic content experienced with our soft launch.

Influencers - The GerriRig will be featured by key influencers such as Zach Johnson, the Millennial Farmer (16 million followers); Kylie Epperson, the Grateful Farm Wife (30.3k followers); and Andy Patzor, #AndyClean (26.3k followers).

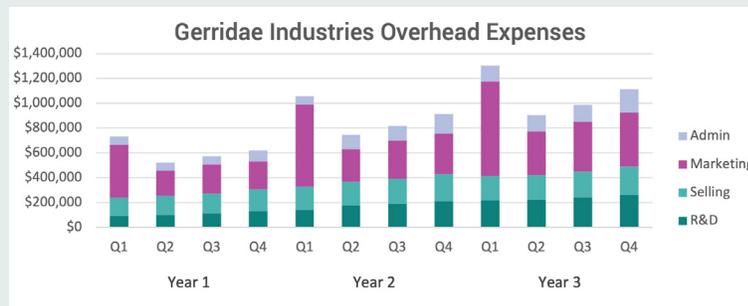
Product Website - Our website will allow customers to learn about the product, watch demo videos, review customer testimonials, connect with salespeople, and order straight from the website.

FINANCES

Gerridae Industries projects rapid initial growth of our market share, bolstering our \$6.5 million of gross sales in year 1. This rapid growth comes as a result of the pent-up demand for a life-saving solution for grain management. It's why we forecasted the sale of 1,135 units of our flagship GerriRig, 568 units of the GerriMander and 4,540 units of the GerriCarry. Following year 1, we expect word of mouth from our users to dramatically expand our market presence along with our mar-

keting team's dedicated efforts. Market expenditures will be primarily focused in Q1 of each year to coincide with trade shows and will account for approximately 19% of revenue in year 1, 11% in year 2, and 9% in year 3. Given our regionally based marketing strategy and coverage from popular agriculture media outlets, our revolutionary entry into grain bin management will be subject to phenomenal growth in years 2 and 3.

Marketing Budget	Year 1	Year 2	Year 3
Print Advertising	\$ 34,860	\$ 41,180	\$ 232,460
Iowa Soybean Review	\$ 11,460	\$ 11,460	\$ 11,460
Illinois Agrinews	\$ 23,400	\$ 23,400	\$ 23,400
Minnesota Agriculture		\$ 6,320	\$ 6,320
Progressive Farmer			\$ 72,800
Farm Journal			\$ 74,000
Successful Farming			\$ 44,480
Radio/Ag Podcasts	\$ 50,835	\$ 87,796	\$ 129,821
Farm 4 Profit	\$ 5,000	\$ 10,000	\$ 10,000
Brownfield Ag Media	\$ 26,860	\$ 40,290	\$ 60,435
Local Radio Stations	\$ 14,575	\$ 25,506	\$ 44,636
AgriTalk	\$ 4,400	\$ 5,500	\$ 8,250
Off the Husk Podcast (MNMF)		\$ 6,500	\$ 6,500
Social Media	\$ 115,481	\$ 152,930	\$ 166,520
Facebook/Instagram	\$ 43,464	\$ 56,746	\$ 61,020
Tik Tok	\$ 47,367	\$ 59,209	\$ 57,432
Youtube	\$ 24,650	\$ 36,975	\$ 48,068
Trade Shows/Outreach	\$ 152,145	\$ 290,585	\$ 320,893
Local events	\$ 35,000	\$ 62,500	\$ 70,000
Farm Progress Show	\$ 42,120	\$ 46,332	\$ 50,965
Commodity Classic	\$ 39,375	\$ 43,313	\$ 47,644
Minnesota Agriculture Expo	\$ 35,650	\$ 39,215	\$ 43,137
National Farm Machinery Show		\$ 37,550	\$ 41,305
World Ag Expo		\$ 40,250	\$ 44,275
Western Farm Show		\$ 21,425	\$ 23,568
Analytical services	\$ 26,400	\$ 29,700	\$ 33,413
Marketing Materials	\$ 31,750	\$ 36,000	\$ 51,000
Website Dev. & Maintenance	\$ 155,000	\$ 182,500	\$ 134,000
Travel and Meetings	\$ 39,000	\$ 84,293	\$ 94,976
Scholarship and Donation	\$ 10,000	\$ 10,000	\$ 10,000
Personell Expenses	\$ 475,020	\$ 644,830	\$ 779,967
Total Marketing Expenses	\$ 1,090,491	\$ 1,559,814	\$ 1,953,050
Marketing % of GSD	17%	10%	8%



Income Statement	Year 1	Year 2	Year 3
Gross Sales Dollar (GSD)	\$ 6,526,250	\$ 15,698,500	\$ 24,923,425
GerriRig (GSD)	\$ 3,405,000	\$ 7,962,000	\$ 12,345,925
GerriMander (GSD)	\$ 851,250	\$ 2,008,500	\$ 3,217,500
GerriCarry (GSD)	\$ 2,270,000	\$ 5,728,000	\$ 9,360,000
Cost of Goods Sold	\$ 4,218,228	\$ 9,881,980	\$ 15,500,020
Gerririg (unit costs)	\$ 1,816,000	\$ 4,201,922	\$ 6,492,121
Gerrimander (unit costs)	\$ 468,188	\$ 1,104,675	\$ 1,690,153
Gerricarry (unit costs)	\$ 1,589,000	\$ 3,750,600	\$ 6,012,000
Gross Margin	\$ 2,308,023	\$ 5,816,520	\$ 9,423,405
GM%	35%	37%	38%
Research and Development	\$ 433,641	\$ 719,931	\$ 945,535
Selling expenses	\$ 636,601	\$ 792,843	\$ 827,942
Marketing Expenses	\$ 1,090,491	\$ 1,559,814	\$ 1,953,050
Management and Administration	\$ 284,400	\$ 462,819	\$ 579,711
Operating Expenses	\$ 2,445,133	\$ 3,535,406	\$ 4,306,237
EBITDA	\$ (137,111)	\$ 2,281,114	\$ 5,117,168
Depreciation Expense	\$ (31,750)	\$ (47,583)	\$ (49,332)
Interest Expense	\$ (14,000)	\$ (14,000)	\$ (14,000)
EBT	\$ (182,861)	\$ 2,219,532	\$ 5,053,836
Taxes	\$ (131,134)	\$ (748,148)	\$ (1,684,045)
Net Income	\$ (313,995)	\$ 1,471,384	\$ 3,369,791
Net profit margin (%)	-5%	9%	14%

MONITORING AND MEASURING

measurement	if goal is less	if goal is more	stakeholder communication
GOAL - Obtain 85% Customer Satisfaction by year 3.			
Survey customers; evaluate service reports; monitor and track data on product usage.	Obtain customer testimonials for marketing materials, increase influencer partnerships and expand production.	Implement root-cause analysis and evaluate product complaints.	Gerridae Industries will use customer satisfaction as a measure to achieve our ultimate objective of keeping all grain bin management operations safe.
GOAL - Brand Recognition in target market of 20% paid media and 7% unpaid media by year 3.			
Survey social media engagement; ensure website information is on all paid media; survey current customers; survey at trade shows.	Expand marketing dollars further geographically and capitalize on market share.	Re-evaluate promotion and outreach efforts with both current potential customers.	Gerridae Industries will use the insights and surveys to ensure our marketing expenses are generating maximum profit.
GOAL - Generate \$25 million in Gross Sales by year 3.			
Track monthly, quarterly and yearly sales reports; analyze trends in sales data.	Invest back into R&D, company inventory, and consider expansion in marketing efforts.	Evaluate price structure, target market, marketing strategies and sales data using keyhole analytics.	Gerridae Industries will be able to use the sales analytics to further penetrate the state, regional and national market.

CONCLUSION

Gerridae Industries is well-positioned to be the leader in grain bin management. We are not only helping farmers to be more sustainable in their bottom line, we are also keeping their families safe for generations to come. We are confident the GerriRig will provide the added value farmers need, while being a profitable opportunity for Gerridae Industries.

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