



# EmeraldMetrics

Precision agriculture technology for the cannabis industry

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Emerald Metrics

# CannaIntelligence™ Software for the Cannabis Industry

- ▶ Emerald Metric's SaaS provides enhanced software to deliver real-time information for cannabis growers



# The Market

## North America Legal Cannabis Market

Estimated CAGR

**25%**

Estimated market in 2021

**\$20.2b**

Source: ArcView Associates

This slide reflects management's current views with respect to future events based on third-party research and is subject to risks and uncertainties. This slide is meant for illustrative purposes and does not represent guarantees of future results, levels of activity, performance, or achievements.



Emerald Metrics

# The Problem

50-70% of California cannabis crops are contaminated\*

- ▶ Contaminated cannabis plants are dangerous-when heated, they can release life-threatening gasses such as hydrogen cyanide, which can compromise the ability to breath

\*According to Steep Hill Labs based on samples from three brick-and-mortar dispensaries in the Bay Area  
Business Insider, December 15, 2016



Emerald Metrics

# The Solution

Emerald Metrics helps protect consumers from contamination, & helps producers grow faster, better, smarter cannabis.

# The Technology

## CannaIntelligence™

- ▶ Using a combination of sensor data, spectral imaging, and a proprietary method for detecting anomalies in plant growth, Emerald Metrics provides actionable insights for cannabis grow operations

Improve Quality

Increase Yield

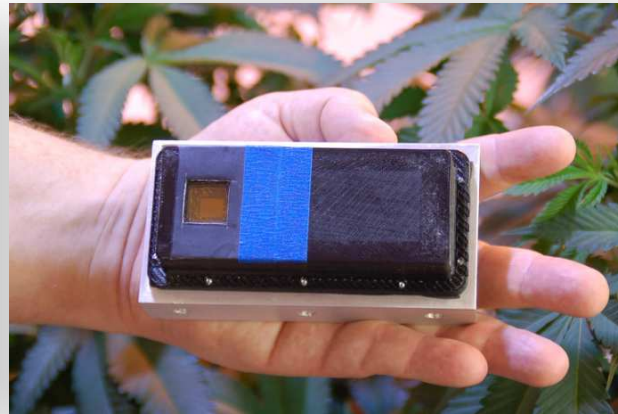
Reduce Cost

Reduce Risk



# The Technology

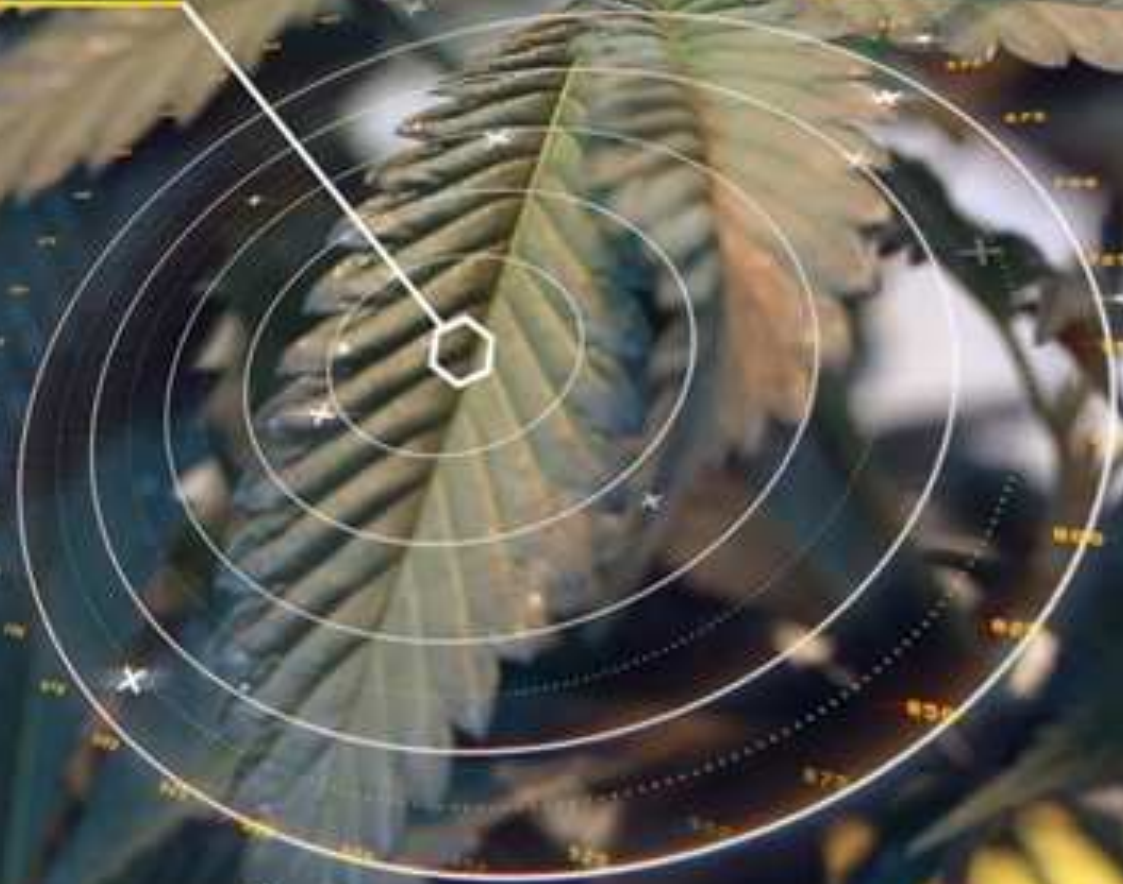
## Cameras and sensors:



A sample of cameras and sensors used by the Emerald Metrics system to collect imagery and environmental information for analysis and reporting.

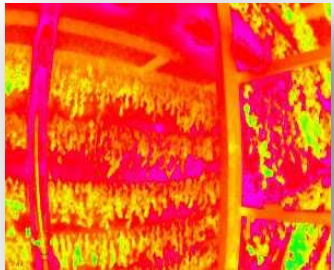


Scanning...

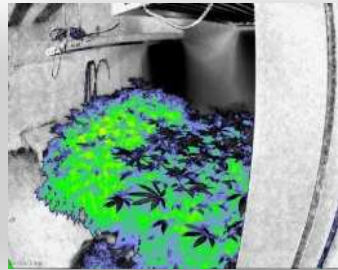


# The Technology

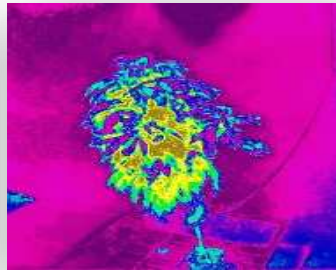
Identify plant & production problems, before the eye can see it.



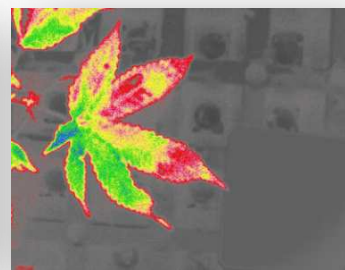
Moisture



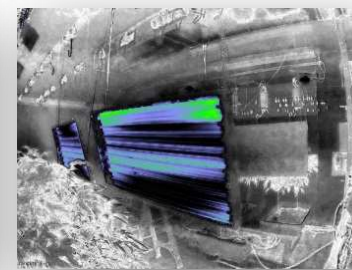
Pesticides &  
Toxins



Disease



Clone Health

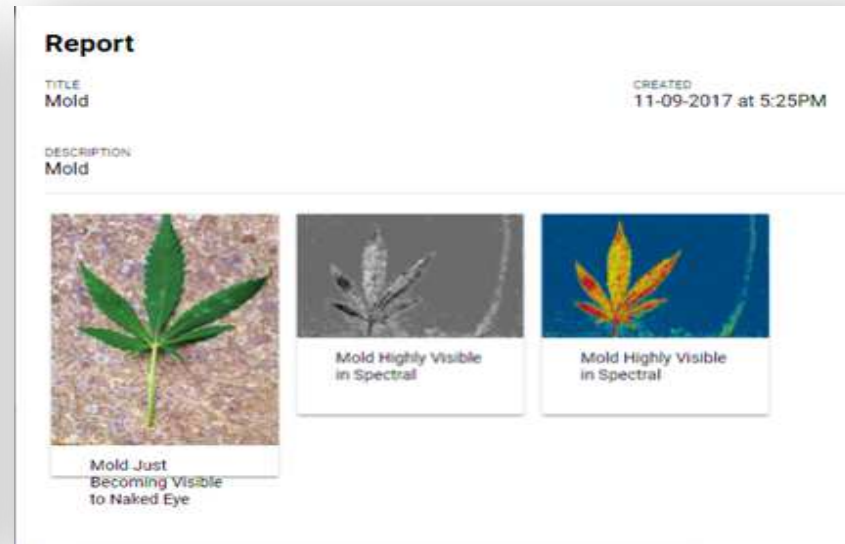
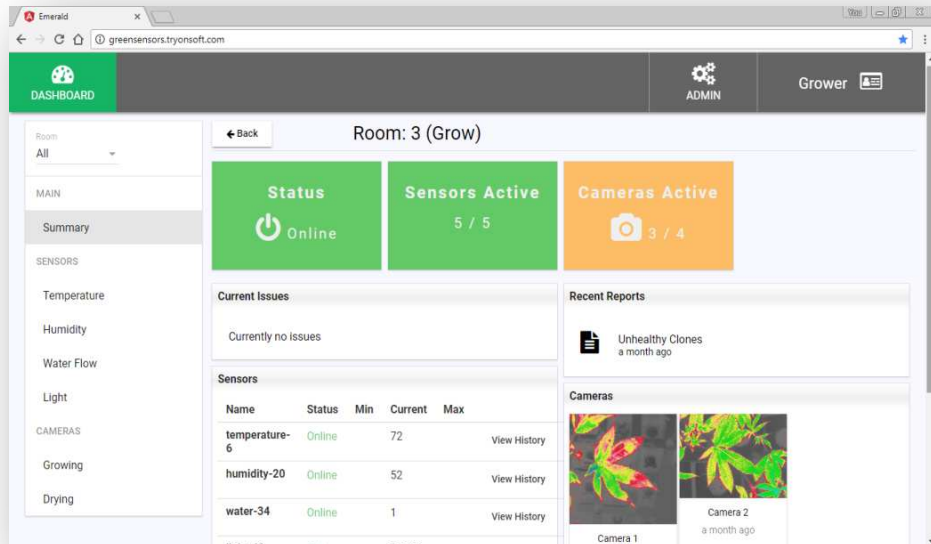


Light Degradation

The Emerald Metrics system uses sophisticated imaging technology to spot molds, pests, health, disease, and pesticides. In short, it takes the guesswork out of growing cannabis.

Note: Actual imagery from KGB Farms, Emerald Metrics test grower, Portland, Oregon

# The Results



- ▶ The system delivers actionable data directly to the dashboard
- ▶ Each dashboard shows actionable imagery and plant analytics for the grower

Note: Actual screenshot of the Emerald dashboard and Reports, with imagery from KGB Farms, Portland Oregon

# Test Results from KGB Farms, Portland, Oregon

Estimated increase in  
plant yields:

15%

Estimated increase in  
annual harvests:

66%

- ▶ Our tests increases plant yields by correcting growing techniques that were stunting plant growth and flowering capability at or near harvest.
- ▶ Our system identifies the healthiest clones for the grower to cultivate in their operation. Since only the healthiest plants are selected, KGB Farms increased the estimated number of annual harvests to 5 from 3, a 66% increase.
- ▶ Note: these results are for a 10,000 sq. foot, Tier 2 grower with the Emerald system fully implemented. Grower results may vary based upon operation size, system implementation, grower knowledge and techniques.



# Revenue Model

## One Time Fee for prospective customers:

Equipment and hardware \$ 5,500

Installation and calibration \$ 15,000

## Quarterly Subscription for prospective customers:

CannaIntelligence™ reports \$ 12,500

- ▶ Our revenue model is a quarterly subscription based upon the total square footage of the operation
- ▶ We have other potential revenue streams from equipment cost and consulting services that are charged to prospective growers.
- ▶ Current pilot testing with KGB Farms: projected payback for a 10,000 sq. foot operation ranges from 2 – 4 harvests

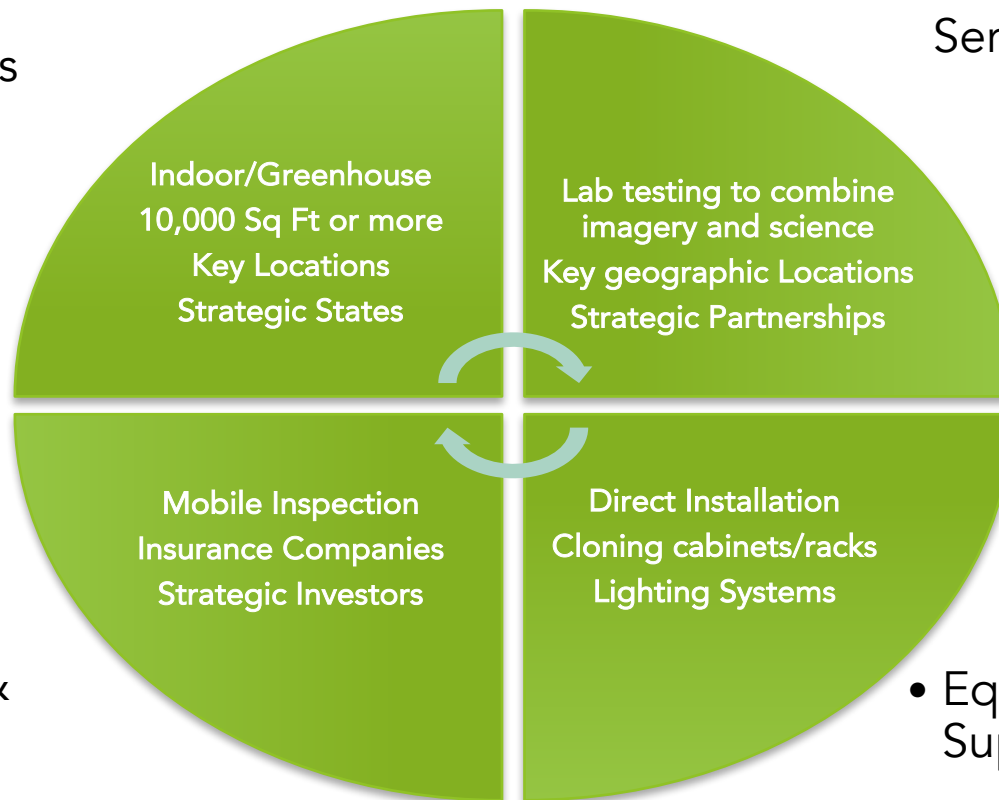


# Target Distribution Channels

Current ARR pipeline: **\$1.75 million**

- Growers & Wholesalers

- Lab Testing Services



- Insurance & Investors

- Equipment Suppliers

This current ARR pipeline reflects management's current views with respect to future events based on information currently available and is subject to risks and uncertainties. This figure is meant for illustrative purposes and does not represent guarantees of future results, levels of activity, performance, or achievements.

# Competitive Landscape

Competitor	Offering	Emerald Metrics Advantage
Huxly io	Virtual reality and visualization	Emerald Metrics provides an enterprise scalable system for commercial growers enabling them to monitor and measure their crop, 24/7.
Grownetics	Environmental sensors and reporting	Emerald Metrics is designed to optimize growing techniques, methods, and practices to increase yields and profits for growers.
HydroPods	Remote sensing to monitor and control growing environment, moisture, nutrients and lighting.	Emerald Metrics applies precision agriculture science to the cannabis market. Spectral analysis and crop analytics will enable growers, investors and regulators to actively view, manage crop yields and quality.

This table represents management's opinion. It does not represent the scope of competition in the marketplace, nor does it represent guarantees of future results, levels of activity, performance, or achievements.

# Future Projections

Projected revenue by 2021: **\$90 million**

	2018	2019	2020	2021
<b>Total Revenue</b>	\$2,807,710	\$21,094,450	\$39,977,194	\$90,004,031
<b>Cost of Goods Sold</b>	\$1,488,230	\$11,144,583	\$18,946,943	\$41,841,773
<b>Gross Margin</b>	\$1,319,480	\$9,949,868	\$21,030,251	\$48,162,259
<b>Percent</b>	47%	47%	53%	54%
<b>Total Expenses</b>	\$3,376,498	\$6,597,737	\$10,863,046	\$14,728,893
<b>EBITDA</b>	\$(2,057,018)	\$3,352,131	\$10,167,204	\$33,433,366
<b>Percent of Revenue</b>	-73%	16%	25%	37%

Note: System users are charged a monthly recurring fee to access the system and receive analysts reports. See slide 12 for detailed assumptions for the above projections.

This slide represents hypothetical, estimated growth based on management opinion and estimates. It does not represent current market penetration, and is meant for illustrative purposes. It does not represent guarantees of future results, levels of activity, performance, or achievements.



# The Team

## Experienced team with proven track record.

- ▶ In 2015, Chris and Mark worked with a team\* to launch an enterprise scale spectral imaging system for CHS, the largest corn, wheat, and soybean co-op and a Fortune 100 company
- ▶ The Emerald Metrics team comes from diverse professional backgrounds such as government service, law enforcement, software development, commercial banking and public accounting

\*Chris and Mark both worked as contractors.

Mark Garrison,  
Co-Founder



Chris Rushing,  
Co-Founder



Rob Mccorkle,  
Co-Founder



# Appendix

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# The Founders

- ▶ **MARK GARRISON**  
CO-FOUNDER  
With over 30 years of experience in financial services and high technology companies, Mark has led companies to high growth levels, increased profitability and investor exits. In both CFO and COO roles, Mark managed the financial and HR functions for four previous startups with exits.
- ▶ **CHRIS RUSHING**  
CO-FOUNDER  
Chris spent a career with the U.S. Air Force with experience in unmanned systems technology, intelligence, and presidential service. Upon exiting, he created and sold the first and highly profitable unmanned systems services company, and as President managed over 200 deployed personnel and multiple government and commercial contracts. Most recently, Chris was contracted through Paradigm to manage a commercial agriculture intelligence operation for CHS Inc., a Fortune 100 agriculture co-op, including air, ground, design, and software functions.
- ▶ **BRENDAN JOYCE**  
CO-FOUNDER  
Brendan has been working with hardware and software since 1985. He ran his own consulting company until 1993 when he took a position at Symantec Corporation. Brendan is currently President of Tryon Creek Software where he has led projects for many mission critical applications. Brendan was instrumental in the success of the mainstream agriculture project prior to joining Emerald Metrics.
- ▶ **ROB MCCORKLE**  
CO-FOUNDER  
Rob is a Managing Member of a Tier 2, 10,000 sq. ft. indoor hydroponic cannabis producer in Oregon. Rob's experience on the legislative and law enforcement side as well as his extensive experience in the growing and distribution of cannabis makes him uniquely qualified to understand and address the concerns that are unique to this burgeoning new industry.



# Mark Garrison's company exit history as CFO:

## **Former CFO at Rosetta Technologies**

Purchased by a strategic buyer in 1998 for \$25.5M,

<https://www.thefreelibrary.com/EAI+Announces+Acquisition+of+Rosetta+Technologies%2C+a+Leading+Product...-a019933958>

## **Former CFO at Extensis Corporation**

Recognized as the 53rd fastest growing technology company in 1999. Extensis and its parent company CreativePro.com were sold to ImageX.com (NASDAQ: IMGX) in 2000 for \$41M;

<http://whattheythink.com/news/11734-imagexcom-closes-acquisition-creativeprocom/>

## **Former CFO at Ateq Corporation**

Acquired by Etec Systems in 1991 for an undisclosed sum. The combined company was acquired by Applied Materials in 2000 for \$1.77B.

[http://articles.latimes.com/1991-11-23/business/fi-204\\_1\\_chip-equipment](http://articles.latimes.com/1991-11-23/business/fi-204_1_chip-equipment)

<https://www.wsj.com/articles/SB947732631232766895>

## **Former CFO at Willamette Broadband, Inc.,**

Acquired by Wave Communications in 2008.

<https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=2571977>



# Future Projections (Assumptions)

	2018	2019	2020	2021
Number new Growers	40	230	300	430
Incremental number of harvests	0	1.00	0	0.50
Est Ave # of annual harvests	3.50	4.50	4.50	5.00
Average Grower, total square foot	10,925	13,656	17,753	24,854
Ave Subscription, per square foot	\$ 5.50	\$ 6.00	\$ 7.00	\$ 8.00
Cumulative, Total Global Square Feet	437,000	3,577,938	8,903,875	19,591,256

These assumptions are material to the financial projections and may vary based upon actual results. These assumptions represent management's opinions. They do not represent guarantees of future results, levels of activity, performance, or achievements.