Xoralgo, Inc.

One-Sentence Summary of What You Do: Xoralgo, Inc. developed the next generation of patented computer storage technology that prevents data loss and dramatically reduces the cost of storing data.

Affiliated Institution: University of Arizona

Have you formed a company yet? Yes

Funding/Financing: Angel Funding (including Self or Friends/Family)

Please describe your company and the problem you are trying to solve: Xoralgo is a University of Arizona start-up whose technology was developed by founder and CEO, Marek Rychlik who is also a professor of mathematics, and his former graduate student, Mohamad Moussa. In May 2021, we were awarded a US utility patent (assignee: the Regents of the University of Arizona) with priority date January 24, 2017. In 2018 Xoralgo was formed to commercialize the technology through a licensing agreement with the University.

Xoralgo solves a problem of rapidly growing importance today, that of dealing with massive increase in quantity and cost of computer storage. We observe an explosion of the quantity of data due to COVID-19 effects, use of Big Data and demands of Artificial Intelligence. Industry analysts estimate that 8 ZB of stored data was added in 2021 alone, generally following an exponential growth pattern. This rate of growth would result in computer storage consuming all world's electricity in less than 2 decades.

Xoralgo technology called PentaRAID(TM) is a patented solution which will dramatically reduce the number of hard disks needed to store data, while at the same time vastly improving data protection and preventing data loss. A 30% reduction is an easy target, resulting in savings of billions of dollars if implemented on a large scale, such as a data center. The technology is designed as a drop-in replacement for RAID-6 which is used in storing most data. Xoralgo's solution works well with the current Erasure Coding technology touted by the industry

What is/was your go-to-market strategy? The total available market is estimated at $75 billion. The serviceable available market is estimated at $50 billion. The serviceable obtainable market is $30 billion. These estimates are rather conservative because COVID-19 is amplifying the demand for reliable and inexpensive computer storage. For instance, the use of Zoom for business, education and all kinds of social interactions is a big driver of the demand and is not yet reflected in the available data.

Xoralgo's first platform is an industry standard computer server. Xoralgo's added value is in the form of a software RAID solution. The platform has been in testing from 2017, and will be commercially released in 2022, following a new round of software development in 2021, in response to the USPTO's action of issuing of the utility patent. This is a boost to our strategy, as all claims of the original patent application were approved.

Xoralgo seeks partners amongst current software vendors and hardware manufacturers, as the current products have 90% of the necessary components for deploying Xoralgo's high-end offering, above and beyond that of a standard industry server.

Xoralgo's technology falls into the category of "unfair advantage", due to its uniqueness and strong patent protection. The core of the technology is its error correcting algorithm which leapfrogs current technologies. For example, a similar storage system without Xoralgo's technology may lose some data every 2 days on the average. The same hardware running Xoralgo's algorithm will not lose data for a hundred quadrillion years.

How will/do you generate revenue? The initial source of revenue is from the sales of Xoralgo software product running on an industry-standard computer server. We estimate that $1000-$2000 price point per unit sold is attainable. With millions of servers being sold each year, and the superiority of Xoralgo's technology over existing technologies, this will ensure Xoralgo's growth in its early phase. Also, it is possible to migrate existing industry servers from legacy software to Xoralgo's software.

Sub-licensing of Xoralgo's technology to software and hardware vendors is anticipated. For instance, existing RAID controller vendors, including Adaptec, Dell, Intell and others, can easily incorporate Xoralgo's technology into their existing controllers, which is an easy path to pursue for both parties. Xoralgo's technology will be implemented, with or without partners, as an add-on to operating systems, e.g. Linux and Windows. The pricing model is that of a software product, such as a backup program.

Xoralgo will provide hardware solutions in the course of 2-3 years. First, it will develop an FPGA based RAID controller, finally leading to an ASIC. The rationale is that the growing demand for extreme performance storage will increase. The driver is the increase in Artificial Intelligence and Big Data applications. For example, the maturing technologies such as self-driving car and robotic surgery will require massive quantities of fast, reliable and inexpensive storage. This will create demand for high-end implementations of Xoralgo's technology and will eventually be the leading source of income, due to numerous advantages that Xoralgo's algorithm has.

How will this showcase benefit your company or technology? The showcase will allow us to explain to investors the business opportunity that Xoralgo represents. The tangible benefits of the underlying algorithm and of the patent will be related to the "unfair advantage" that this creates.

Xoralgo is seeking an initial round of funding in the amount of $3-$6 million. Xoralgo looks at two paths to market with different capital needs. A less aggressive path for Xoralgo is to focus first on the Xoralgo software product, which requires less capital. The more aggressive path is to pursue both software and hardware development, which will require more capital, but has significantly higher revenue growth potential.

Xoralgo is looking for strategic industrial partners. The most valuable partners are hardware manufacturers who currently have a RAID controller product, or manufacture chipsets and motherboards for storage servers.

Also software vendors that provide entire operating systems (e.g. RedHat, Microsoft, Apple) or some components (e.g. a RAID driver, a file system or an object storage) are potential strategic partners.

Who are the members of your team and why is this the right team to get the job done?
- Marek Rychlik - CEO, founder, President
- Bradley Johns - an IBM veteran, business and marketing expert, volunteer
- Tim Reckart - patent and licensing attorney, manages the licensing agreement with the University of Arizona
- Quan Nguyen - patent attorney, managed the process of obtaining US utility patent
- Mohamad Moussa - coinventor of Xoralgo's technology (along with Marek Rychlik)
- Joseph Berger - general counsel
- Sindy Rychlik - business manager, accounting
- Thomas Harris - intern