

JOINLOX

Innovative Joining Solutions



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Joinlox is an Australian company that developed a technology to connect a wide variety of objects. Our research into this company, that utilizes bioinspired 3D printing in the prototyping of some of its products, was based in part on conversations with its CEO John Pettigrew. The inspiration for Joinlox Technology arose from the ability of clams and other shellfish to forge a tight seal on rocks using only thin high tensile byssus threads. The company develops and licenses the use of a range of proprietary mechanical systems to innovative manufacturers around the world. It also pursues new markets with its own products where it identifies an opportunity to disrupt a static market seeking a better solution.

Joinlox Technology is suitable for almost any rigid or semi-rigid material, even joining dissimilar materials, and can be integrated into the design of the existing products or as an applied joining edge. In the past, this problem was solved by nuts, bolts, screws, and other permanent methods such as welding, soldering, or using adhesives. Joinlox's competitors include traditional fastening methods such as bolted flanges, screws, rivets, nails, and clips which are not only fiddly and expensive, but also only provide a 'point loaded' joint. Welding, soldering, and glues are hazardous, expensive, irreversible, and require a specialist operator.



CrateLox system

Research and development plays a key role in the success of Joinlox's products. The company is constantly working on a number of developmental projects at any given time. These may be internal projects for its own product development, or it may be for external clients' products incorporating some variation of the Joinlox technologies. In both instances, the ability to utilize 3D printing accelerates the development phase to advanced prototype stage faster, and it also provides the ability to reach optimized final designs more efficiently. Joinlox uses 3D printing in the advanced design and development stages to bring CAD models to life either to scale or full size, if the print dimensions allow. The company still does not use 3D printing for the manufacturing of final end use products because available materials used in 3D printing do not have the appropriate mechanical properties required by Joinlox. However, the company expects that the rapid advances in material technology will eventually allow it to expand the use of 3D printing from prototyping to manufacturing.

Since Joinlox is a privately owned company, revenue, profit, and financing information is not readily available to the public. However, in a few short years, Joinlox has been able to successfully grow and diversify into a range of new industries and markets by licensing applicable segments of its intellectual property portfolio to leading organizations with established products, reputation, and diversified distributions channels. This has enabled Joinlox to proportionately spend more in R&D than alternate business models that require high proportions of gross revenues to cover high fixed costs. This structure also enables Joinlox to act quickly when new opportunities arise for its clients.

Joinlox has encountered obstacles similar to all those that are faced by any technology-driven business. Availability of adequate funding and resources are at the top of this list. However, Joinlox does have many of the key points desired by investors. As a result, the company has been fortunate to fund its technical and business development strategies reasonably well. One specific challenge that stands out was convincing early adopters that the advantages and potential rewards of implementing the Joinlox systems were greater than the apparent risks of being the pioneers in their respective industries. An early adopter is more than just a customer. He is a foundation stone, a partner to your business who can help you set solid foundations upon which all things grow.

Joinlox continues to demonstrate the commercial viability of Biomimicry, by successfully transforming its original ideas and concepts into commercially compelling products and applications. From the first application of joining plastic, modular water treatment tanks, the patented Joinlox systems have now been successfully developed for applications as diverse as modular buildings and construction methods, cabinetry and flat-pack furniture, bridge and wharf rehabilitation, pipeline joints, mineral processing and mining equipment, electronics assemblies, air and surface transport, packaging, and logistics solutions. From its inception, the company positioned itself in the business of rapid assembly solutions, not just joints that are a possible alternative to fasteners, welds, or adhesives.

The company also continues to find new applications for the Joinlox technologies across different industries. The Joinlox design team is often engaged directly into its clients' R&D, Engineering, and Design Departments to help solve existing problem areas and develop exciting new products and applications. Already, the new business pipeline is made up of a ratio of around 50/50 percent of outside enquiries to in-house developments. That is, around half of the new solutions originate from outside organizations that contact Joinlox to investigate if there is a suitable Joinlox solution that can solve one or more problems in their respective markets. The balance comes from in-house development projects where Joinlox identifies specific industry problems that are awaiting an improved (and often disruptive) solution.

Joinlox' success stems primarily from the adaptability and scalability of its systems to provide points of differentiation in diverse competitive markets. Joinlox Technology enables unique advantages over traditional joining methods. This has been recognized by a number of leading global organizations that are working closely with Joinlox to help their own organizations reduce costs, improve their systems and products, streamline production processes, reduce their logistics loops, and, importantly, reduce their environmental footprint.

The firm feels that it has unlimited potential scalability with the right people and capital resources. Their forecasts indicate that sales growth will continue on a strong positive trend for the next 1-2 years as it penetrates new markets. Following this, the company anticipates a rapid spike upwards in the subsequent years as a number of long-term development projects reach the market and sales traction ramps-up simultaneously across a number of strategic global markets. In the next five years, the company aims for Joinlox Technology to

be ubiquitous in numerous applications across multiple industry sectors, displacing welding, fasteners, and even the toolkit.



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