

Bridge12 Technologies, Inc.



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Company Profile

Industry Sector: Scientific Instruments

Company Overview: Bridge12 is a privately held small business in the greater Boston area. The company develops cutting-edge microwave and terahertz (THz) instrumentation for scientific research including magnetic resonance spectroscopy such as Nuclear Magnetic Resonance (NMR), Electron Paramagnetic Resonance (EPR) and Dynamic Nuclear Polarization (DNP). In particular NMR spectroscopy is heavily used in industry and academia to study small molecules and macromolecular assemblies. The company has industrial and academic customers in the USA, Korea and Japan.

Target Market(s): Magnetic Resonance Spectroscopy (academia and industry)

Key Value Drivers

Technology*: The inherently poor sensitivity of NMR can be boosted by DNP, a technique that requires a high-power microwave source (gyrotron) in addition to the NMR spectrometer. The method is very efficient, but current solutions are too expensive for most researchers (>\$2.4M) and require large lab spaces. Bridge12 has developed a compact, integrated DNP system that makes the technology affordable for a broader audience.

Competitive Advantage: Our patented technology requires no additional space and reduces the cost by 70% because its integrated gyrotron eliminates the need for a second expensive superconducting magnet.

Plan & Strategy: The integrated gyrotron is one of our cornerstone products; we plan on direct sales and OEM solutions to large NMR vendors such as Bruker BioSpin.

Management

Leadership: Lou Tarricone – Over 20 years of experience as managing director for Bearingpoint and KPMG; Thorsten Maly, Ph.D. – 18 years in magnetic resonance spectroscopy and instrument development; Jagadishwar Sirigiri, Ph.D. – 20 years of experience in high-power microwave and THz tube and instrumentation design; Darpan Gokharu – 28 years of experience in financial controlling, business administration and HR.

Scientific Advisory Board: Anne-Frances Miller (University of Kentucky), Professor of Chemistry and Director of NMR facility; Christian Kirsch – 20 years in B2B technology marketing; Felix Storm – 25 years in software and hardware development

Product Pipeline

Our vision is to develop innovative instrumentation for DNP and EPR spectroscopy. Bridge12's flagship product is a compact gyrotron that integrates directly into the NMR magnet, eliminating the need for a separate, expensive superconducting magnet and the long transmission line connecting both instruments. Other cornerstone products are a shoebox-sized 263 GHz EPR spectrometer and a 9 GHz Overhauser DNP system, which allows upgrades of standard X-Band EPR spectrometers for studying membrane proteins. Revenues are augmented by add-ons, such as probes, transmission lines and frequency measurement systems. All products are designed and fabricated in-house.