



HEMO Research has designed plug-and-play hardware modules that greatly reduce the time and cost of developing electronics products by providing circuit modules for embedded systems.

## The Problem

- Custom electronics design, which is the predominant design model, is time-consuming and requires electronics designers with years of experience.
- This design process is prone to errors and involves multiple iterations that are susceptible to delays due to factors like tight supply chains.
- The pool of qualified designers is limited and shrinking.

## Our Solution

- Our plug-and-play hardware modules are supported by ready-to-use, free code libraries that contain all of the low-level development details.
- These libraries reduce market-ready design time to minutes and greatly accelerate firmware development.
- The modules and libraries are open architecture, so customers and third-party developers can create any peripherals they need.

## Marketing and Market Opportunity

For marketing:

- We are developing our website and online marketing campaigns.
- We are working with a major electronics firm to be added to their line card.
- We will present our modules at industry trade shows such as IoT Tech Expo North America and the Consumer Electronics Show.

Target markets include:

- The Internet-of-Things (IoT) – Projected to reach \$2.5 trillion by 2029.
- The Industrial-Internet-of-Things (IIoT) – Projected to reach \$135 billion by 2030.
- Automated test and measurement equipment.
- Electric motor controllers.

Also:

- The Total Addressable Market for our modules is estimated to be \$1.25 billion per year.
- The demand for connected devices in consumer, commercial, and industrial applications and equipment is growing.
- Our modules are applicable across multiple markets, which takes advantage of greater economies of scale during production.



## Production, Sales, and Revenue

Contract manufacturers will produce our modules, which will be sold by distributors such as Arrow, DigiKey, and Future Electronics. Customers use our modules to build their products, so the more products they sell, the more modules HEMO Research sells.

Example:

An average IoT product sells for \$55 per unit, so only 20 customers need to sell 2750 units each in the first year for HEMO Research to reach a Service Obtainable Market of \$3.025 million.

	Year 1	Year 2	Year 3
Gross Sales	\$3,025,000.00	\$13,400,750.00	\$38,862,175.00
Total Cogs	\$1,926,017.50	\$8,532,257.53	\$24,743,546.82
Gross Profit	\$1,098,982.50	\$4,868,492.48	\$14,118,628.18
Expenses	\$731,390.50	\$2,169,634.63	\$4,266,020.66
Profit/Loss	\$367,592.00	\$2,698,857.85	\$9,852,607.52

## Our Competition and Our Competitive Advantage

Our competition is these design models:

- Custom design – This requires experienced electrical engineers to create product designs from scratch, which is far more expensive, time-consuming, and problematic.
- System-on-module – Sold by companies such as Variscite, Phytex, and EmCraft, this model is overkill for the applications we target and also requires custom design.

Our competitive advantage includes:

- Our hardware and firmware architectures are open, but low-level design details and tribal knowledge are handled by our code libraries (which are free). This protects our customers' products and code from supply chain and component obsolescence.
- Dr. Hemmelman is a world-class educator who has trained hundreds of design engineers to do high-quality electronics design. He has an abundance of university level educational and training materials that make it easy to handle any learning curve associated with the HEMO Research plug-and-play hardware modules.

## The Team

**Dr. Brian Hemmelman,**  
Founder and CEO

NSF Graduate Fellow with  
25+ Years in Embedded  
Systems, Firmware, DSP,  
and AI/ML

**Tim Gack,**  
Senior Engineer

30+ Years in Embedded  
Systems, Firmware, and  
Software

**Charlotte Easterling,**  
Director of Marketing

25+ Years in Marketing,  
Graphic Design, and  
Advertising

**Eric Shipley, Director of**  
Technical Communications

25+ Years in Technical  
Writing, Training, and  
Instructional Design