

JANUARY 11, 2022: FIVE YEAR

Dear customers and friends,

Five years ago today, I jumped into starting my business, with the goal of helping innovators realize their product dreams while stoking my intellectual curiosity to collaborate and solve a variety of interesting problems. I wasn't sure how things would progress, but five years later I can say for sure that I'm enjoying it and it has been successful. Every year, every project, and every day brings new connections with creative and passionate people, fascinating learnings, and iterating to solve challenges.

Over the past year, I assisted almost twenty companies or individuals, each of which was unique and rewarding. [Fat Bike Skis](#) always keeps moving, and this year we designed and prototyped a [custom super fat bike](#) to excel in deep powder. The hands-free jogging stroller attachment from [StrollRunner](#) is now available for purchase after several years of development. Collaboration with individual inventors yielded a training device for disc-golfers, [guitar effects pedal](#) manufacturing, assistance with setup and programming of a new CNC lathe for making [Woodzies](#), an engine cylinder detonation test model, a custom bicycle crank/chainring spider, 3D CAD models for an active sitting chair, and more.

A wide variety of projects kept me engaged throughout the year, including design and prototyping of a new chair component for active sitting pioneer [QOR360](#), cost-saving redesign of an extruded aluminum component and problem troubleshooting/analysis for swim trainer manufacturer [VASA](#), design and CAD modeling of an automated assembly tool for olfactory virtual reality company [OVR Technology](#), helping excavator equipment distributor/manufacturer [Little Mule Equipment](#) reduce production delays, design input to [LogOX](#) on a new wood handling tool, and production design/drawing release of another new tool, design and prototyping of a new electronics enclosure to reduce cost and assembly time for IOT energy company [Packetized Energy](#), and assisting [Darn Tough](#) with a heat recovery system to reduce their energy footprint.

I continued sponsorship of [LaunchVT](#) by providing services to winners including Wylo Biosciences (at-home tick testing device design input and guidance/review for a University of Vermont student design team) and [Shiki Wrap](#) (reusable gift wrap manufacturing tool sourcing, research, and analysis), both of which are featured in [this article](#).

There were two big projects this year, both of which were new and impactful. Vermont company [MMIC](#) makes industry-leading temporary hospital facilities, and they needed outside resources to help them complete a cabinetry upgrade on time. Based on customer requirements, I designed, modeled, and created manufacturing drawings for new lightweight and durable cabinets that will go into Orbis International's [flying eye hospital](#). This retrofitted cargo airplane and crew fly around the world training eye surgeons and eye care professionals to prevent and treat blindness. The other big project was the design of a new machine for Accelerated Pavement Testing, an industry that I knew nothing about until this year. One of the original designers of a [20-year-old machine](#) that heavily loads a section of pavement for lifecycle testing needed design and CAD modeling assistance for contracted machine upgrades. The upgrades that we are designing now will enable researchers to create loading conditions that have never been possible before, and ultimately lead to more durable road surfaces. Once the design is complete, it will be manufactured here in Vermont, we will write control software, and then deliver and commission the machine in Illinois. Using digital collaboration tools, we have been working efficiently and safely, meeting in-person only a few times over the past nine months.

The heat pump rain caps that I designed a couple of years ago continue to sell well, and this year I revised the design to be compatible with a new heat pump version from Fujitsu, while maintaining compatibility with the old version. To improve my design for manufacturing knowledge, I completed 120 hours of welding instruction at the [Advanced Welding Institute](#) in South Burlington, VT. Three hands-on, practical courses taught safe and effective TIG welding of carbon steel, stainless steel, and aluminum in many different positions. This year I reached my goal of learning 500 Chinese characters, and I will continue my Chinese studies by reading, listening, writing, and speaking more.

For 2022, in addition to project-based work, I would like to do more problem-solving brainstorm/design review sessions. If you have a product, process, or manufacturing related challenge that you could use an outside opinion on, or if you want me to join a team meeting or design review session to listen and share my thoughts, please call or email me. During many years of collaborative design, the value of diverse experiences, skills, interests, values, and opinions has been demonstrated to me over and over. Often a short consultation can overcome months of blockage and result in faster and better solutions.

If your business has been impacted by COVID-19, you may be eligible for free technical assistance from the new [Community Navigator Program](#). Based on the success of the Restart Vermont Technical Assistance Program (ReVTA) last year, this program pays for eligible businesses to receive technical assistance from registered providers. The average grant is expected to be around \$5,000, and Forecast LLC is registered! The program will start very soon, so let me know if you are interested and I'll inform you when it opens.

Thank you for reading this far, and for your assistance in helping my business reach the 5-year mark. I'd be happy to answer any questions you have about what I wrote, and feel free to check out the other four anniversary notes on my [website](#) if you're curious.

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