

Virtual Tour



A Tour of the TechShop *Mette Hedin**

This prop-makers paradise offers myriad tools for making outrageous costume parts and accessories for Steampunk and other sci-fi and fantasy genre. We take you on a behind-the-scenes tour.

The moment I step through the doors into the small lobby of the [TechShop](#) on an average Saturday afternoon, it is obvious that I have emerged in the middle of a chaotic whirlwind of creativity.

This is my second visit here, the previous taking place months before for a material demo, and it looks like the place is thriving, judging by the high energy level.

The students for the 1 PM welding class are trying to check in, crowded by several small groups waiting for their free tour of the facilities, while the receptionist is frantically summoning qualified personnel over a radio to handle two separate equipment break-downs.

As if that wasn't enough, an inventor's alliance meeting is going on in the big work room visible through the gear shaped window in the door. I never quite find out what exactly they might be inventors of, but they are very busy filming whatever it might be from all sorts of angles.

As it turns out, store manager Michael Catterlin, my guide and interview subject, has been summoned to deal with at least one of the aforementioned equipment malfunctions, so I am left to browse the reception area for a while.

One by one the guests, welders, and others vanish through one of two doors to the inner sanctum. I find myself alone, and as I get a chance to look around, it becomes apparent that the lobby, despite its sparse furnishing, says a lot about what an unusual and wonderful place is waiting beyond.

The main piece of furniture in the room, besides the large reception desk, is a glass cabinet containing a wide variety of small sample projects. While small and unassuming, they span a number of materials and techniques, and is no doubt displayed to give you a taste of what you might be able to do, should you choose to become a member.



A computer screen above the reception desk lists the classes held that day and doesn't surprise me at all to find the machine

projects such as someone who has gone to great lengths making his own brass goggles.

The Hub - At the end of the room is a darker, more cosy area called "The Hub", with some couches, a coffee maker and a popcorn machine. This area also houses several computers pre-loaded with various 2D and 3D graphics software. This makes this part of the room a hub in more ways than just being at the centre of the building, as the computer files created here provides instructions for a large part of the machines housed in the rooms surrounding the Hub.

3D Studio - This is a smaller room, housing a 3D scanner, which can scan smaller objects and turn them into computer files, as an alternative to using the software in the Hub.



These files can be used in a variety of millers available elsewhere in the building, or in the 3D printer also housed in this room. Scans can be used at natural size or scaled.

Machine Shop - The machine shop houses larger machines, mainly for metal milling and lathing. Several of the machines are manual, but others use CNC (Computer Numeric Control) millers, which are guided by the files produced in the Hub. This makes it possible to refine a 3D software file, and then accurately reproduce any number of identical pieces.

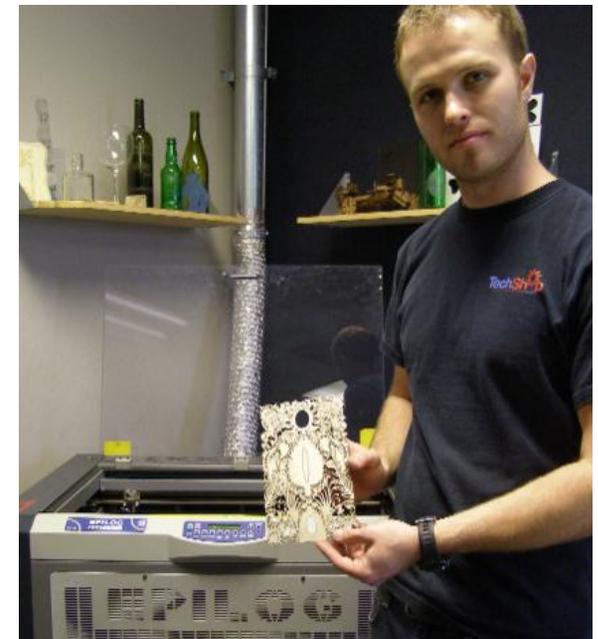
Spray Room - This room provides a well ventilated space with hooks for hanging projects on as they are painted. This room is a dream for any customer who has experienced any variety of spray paint side effects such as metallic hands, clothes with spray paint drips or a dizzy head from unwise spraying locations.



This room also has the equipment for powder coating, a process in which a fine plastic powder is sprayed onto metal objects, adhering by an electrostatic charge, then baked on for a firmer hold than spray paint.

Laser Cutter Studio - The laser equipment in this room can cut and etch a

number of materials, such as glass, thin wood, foam board, etc, based on 2D graphics created in the Hub. They also have a rotary attachment that allows you to etch onto cylindrical objects such as bottles, and one of the demo pieces is indeed a wine bottle with an etched in extremely detailed pattern, a sort of engraved wine label if you will.



The lasers tend to have the most rotation, as they have a lower learning curve according to Michael, and is one of the pieces of equipment where a reservation ahead of time would be very wise.

Sheet Metal and Hot Shop - This room contains several machines for manipulating sheet metal, 4 types of welders, and a fairly terrifying looking beast

called a plasma cutter that will cut any metal as long as it is flat by literally melting it.



Large Machine Shop - I don't think that is their official name for this room, but this is where the largest machines stand. It is a grab bag of very large and heavy machinery such as a presser, band saws and a large Shopbot router that shapes large pieces of wood and plastic.



It is also the large project bay, since it has a roll up door to a back lot where bigger projects can be stored as they are being worked on, as long as it is pre-arranged with

the staff. The metal snail art car, [The Golden Mean](#), seen at Nova Albion first saw the light of day in this very bay.

Metal Grinding Room - Does what it says on the label, all sorts of machines to grind and smooth metal, neatly separated from the other machines due to the large number of sparks they generate.

Vacuum Forming Room - This is where I finally start drooling, and stumble over my words to identify the machine before Michael can get the name out.



No, I don't have an inner Stormtrooper that I need to let out, but there are so many costumes where I duplicate vacuum formed objects by hand, that I am eager to finally get a whack at it myself. This machine is industrial grade, will heat the plastic automatically, and has multiple windows that can be inserted to enable almost any size plastic sheet you want to use

The room also contains an injection molder, a fairly new piece of equipment for the shop, which will inject melted plastic pellets of a variety of colors from a hopper

into a mold that you may have made in one of the other machines in the shop. This room is definitely the armor and prop-makers wet dream, since lack of access to machines is no longer a valid excuse.

Sewing Room - A couple of basic machines for those who happen to be without, but more importantly machines that we may not all have access to, such as a serger, an industrial sewing machine and an embroidery machine that again uses the files you may have created in the hub.



Conference Room - The last room we pop our head into is a large class/conference room with a massive whiteboard. Michael informs me that the room is available to reserve free of charge, as long as one person in the group is a member. This is definitely an added bonus for local fandom, as it feels like it is becoming increasingly challenging to find good places to gather for club meetings and other events, especially for larger groups.



Store – On the other side of the front desk is the Maker Shed / Retail store where you can buy different things, like stickers for the printer, resistors and diodes, nozzles for the sand blaster, and other various things that come in handy for people who like to make things.



As we head towards the exit, it finally becomes clear to me what the TechShop might be for the members. It is a dream realization tool in more ways than one.

First, it gives you the power of *knowledge*. The SBU classes required to operate a majority of the machines, along with the other classes taught here, provide you with a wealth of knowledge to the point

where you are allowed to use a machine worth tens of thousands of dollars to do anything you like without supervision.

Second, it gives you the power of *access*. You can utilize a large number of machines that you would normally only be able to dream about (the combined value of all the available machines is nearly \$500k), and to make anything you see fit with them.

Finally it gives you the power of *community*. The people around us, co-workers, family members, and friends, may sometimes shake their heads at what we spend so much time and money on. This facility, by its very nature, spawns a community of like-minded people. Everyone else here is obsessed enough with making something that they felt the need to become a member. That means there is an implicit brotherhood of creative obsession as well as the possibility of inspiration by being around a lot of other creative endeavors. It dawns on me that it is almost dizzyingly freeing to realize that every single other person under this roof is obsessed enough to buy in.

That of course brings us to the one major downside, which is the membership fee. It isn't exactly cheap. Memberships start at \$125 a month, \$1200 for a year (although you can add a family member on for \$25 a month, and \$250 a year). Classes cost extra.

It isn't for everyone, but with some careful planning, perhaps a few wishes for gift certificates for your birthday, and making sure the required SBU classes are taken care of up front, a months membership

could go a very long way towards an amazing costume, especially when you consider that the shop is open from 9am to midnight almost every day of the year.

It is up to you to decide where the outer border for your obsession lies, and whether plonking down the money is worth it for you as a costumer, but I will lure you with one final temptation: take advantage of their offer of a free tour, so that you can see it first hand. There is more under the roof of the TechShop than I could possibly cover in so many words and a few photos.

Seeing any one of the machines in here may hit you with the creative spark and irresistible urge to finally realize that one massively complicated costume you have been dreaming of for years, but resisted due to practical obstacles in creating it.

I guess I am challenging you to make your own private "Avatar", now that technology may have finally caught up with your dreams.



Mette Hedin is a sci-fi and fantasy costumer who specializes in recreations of things that don't exist in the real world. She loves learning new techniques and materials, and is always looking to expand her costuming horizons. Visit her [Costuming Fools](#) web site.