Tesla Works
Shared Student Group Lab Space Proposal

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Associated Student Groups
1. Tesla Works (#2626)
2. Engineers Without Borders (EWB) - UMN Chapter (#1469)
3. Innovative Engineers (#2454)
4. University of Minnesota Solar Vehicle Project (SVP) (#1465)
5. Group Organization for FIRST (GO FIRST) (#2467)
6. University Mad Scientists (UMad) (#2821)
7. Institute of Electrical and Electronic Engineers (IEEE) (#1138)
8. Active Energy Club (AEC) (#2031)
9. Imagine: Engineering Entertainment (#2604)
10. Product Design Student Group (PDSG) (#2765)
11. Science and Engineering Student Board (SESB) (#322)
12. American Society of Civil Engineers - Concrete Canoe (#676)
Overview

This is a joint proposal for a shared student group lab space. This lab space could be the most incredible step forward for student groups and the projects they take on that has occurred in several years.

Our goal is to provide a workshop-style lab space where any University of Minnesota student group registered with Student Unions and Activities can come to work on their projects. This will be a fully stocked lab space, complete with the equipment, tools, components, and materials required for projects. Currently, most student groups are working out of classrooms, office spaces, or apartments that are ill suited for prototyping and building their projects.

When our University student groups have better access to suitable work space, they’ll be more comfortable and successful when taking on larger scale and more diverse projects; students in these groups will be more competitive in the workspace than they ever could have been before; and the University of Minnesota’s student groups will have more opportunities to connect and work together than ever before.

Need

The Tesla Works student group is leading the charge for a lab space, but we have found that almost every other student group on campus that works on projects is in need of more suitable work space. For example, Engineers Without Borders (EBW), despite their enormous impact and effectiveness, has been primarily working in a sink room adjacent to an office space they held in Lind Hall 5. Not only is that room completely ill suited for their activities – this year they have been relocated to a smaller office on the newly renovated Floor 1 of Lind Hall, thereby ending ease of access to dedicated lab space. Recently, EWB added a new subdivision to their chapter – the Appropriate Technology and Design Team (ATDT). ATDT acts as the research and modeling arm of EWB that allows students to design, prototype, and test engineering solutions to issues that arise commonly EWB projects. With the addition of ATDT, it is more crucial than ever for EWB to have access to a safe and accessible lab space on campus.

The Tesla Works student group also needs a lab space. Last December, Tesla Works put on a light show on the Civil Engineering building. This was an incredibly technical project; most of the electronics and visual ornaments were designed and constructed by students. Soldering the circuits alone was a major project, with around 15 people working all night long for many consecutive nights leading up to the premiere show. However, students had to work between 10pm and 7am; the only available work spaces for that kind of production were classrooms, which are used throughout the day for classes. Even then, electrical engineering students who had to use the lab for class work were sometimes put off when their whole lab was dominated by students soldering circuits. Furthermore, transporting materials for the show to and from secure locations for each work event usually took over an entire hour each night, even with a large group of people.
Many student groups also face the challenge of making their group projects inclusive when their project work locations are so inconvenient – usually with a disproportionately high impact on first year students. Working in apartments and buildings off campus isn’t just unsuitable for safe work; it’s critically affecting other students’ access to these amazing opportunities.

These stories point out real problems student groups on campus face every day. There are twelve student groups on this application, and many more that also need a space to work. With access to a single lab space, student groups will waste less time transporting materials and tracking down specialty equipment. A lab space setting will also encourage students to work more safely, because the space itself will finally be appropriate for the work being done and it will be easier to convey safety expectations when a project isn’t moving nomadically from place to place. Lastly, a work space on campus is more accessible to all students, wherever they live.

**Benefits for Students**

The first and most important benefit of the shared student group lab space is that it addresses the need of student groups to have access to equipment and work space. Simply put, this lab is the only way we can streamline these groups’ efforts to produce great projects. All these groups spend too much time marshaling resources that could be made more accessible to everyone. A lab space would eradicate those distractions so student groups can focus on what they’re good at; finishing great projects.

The lab space also provides a tremendous educational benefit to the students that are using the lab to work. Learning by working on real world projects is incredibly effective at combining technical excellence and creative thinking, and requires that students get good at learning new things on their own that are interesting to them. There’s no better way to become good at something than to just get out there and do it! Our future employers are looking for initiative and drive in extracurriculars, as well. The kind of self-motivated, hands on experiences these students are being a part of are notably the most influential factors taken into consideration when interviewers meet with job candidates.

We already have incredibly high demand for the new student group lab space, and because there is only one of them this will produce some amazing results. We’re really looking forward to the concentration of ideas that will spring up. As the U’s student groups come into contact with each other more and more, there will be more collaborations between student groups. This will have an especially powerful effect on interdisciplinary collaboration. We expect to see demand from student groups working
in the fields of engineering, design, business, medicine, physics, art, and more. Most of these groups don’t really have much of a shared daily context to connect with one another. By sharing a space, these groups will be drawn into a collaborative environment characterized by mutual exchange and strong, professional relationships. We can’t wait to see what great accomplishments come from these day to day interactions!

Lastly, we are convinced that having a single, shared lab space with specific safety expectations will encourage students to work in a safer manner. We think this benefit speaks for itself.

As we mentioned before, this lab space will be one of the most important things that’s happened for student groups in years. By focusing on what’s important and working in a creative and collaborative atmosphere, we will see the U’s student groups start to add even more value to our already extraordinary university.

Why a Space on Campus?
One truly important motivation behind this lab space is to increase the level of first year student involvement. For this reason, we believe it is crucial the lab space is on campus in a central locations like the Electrical Engineering Building, Mechanical Engineering Building, or Shepherd Labs. Official campus buildings also provide a benefit for first year students who may not be comfortable going to other students’ apartments to work on projects.

Spaces for rent in Dinkytown, such as the UTEC building, or along University Avenue are too far from the Superblock. Students who are already dedicated will make it out, but the distance and unfamiliar territory would dissuade many from checking the student groups’ projects out in the first place. This is a tricky issue to characterize, but one we hope is easy to acknowledge.

For that reason the request of this proposal is straightforward. We are looking for a space on campus, large enough to accommodate all the student groups who want to use it, to use as a lab space and home for these projects. Tesla Works wants to buy equipment, manage the space under a CSE staff director, keep it stocked with parts and materials, and ensure it remains a safe and productive environment. All we ask from CSE is a place where we can put it all together.

Note: We are anticipating this lab to have 24/7 access for student groups registered to use it. One of the major problems regarding existing lab space is its limited accessibility, and we hope to fully remedy this problem with our space. Like all aspects of this proposal, however, this is negotiable.
Benefits for the U

The U has a lot to gain from helping us create this shared lab space. Some reasons are mainly pragmatic; for example, the University will save money by virtue of the shared resources. Instead of buying tools and equipment for each student group that needs them, the equipment can be bought once and shared until it reaches the end of its life. Furthermore, the Tesla Works student group has already expressed its intent to keep the lab space funded and well-run.

Other reasons are less tangible, but more valuable. This new lab space could provide tremendous publicity value to the University when showing off the U to prospective students. In fact, when Tesla Works pitched the idea of a lab space to the 2012-2013 Student Service Fees Committee, a somewhat skeptical member of the board noted that student lab space was a large factor for his brother who was considering other colleges. A lab space will help attract the right kind of people to our university; people who really want to engage with their interests and field of study. This is a fantastic resource for a university that prides itself on being a research institution, not only for publicity value but for real output potential.

We have expressed in the last few sections the numerous benefits the new shared student group lab space presents for the university and student groups that use it. We firmly believe this space is one of the most sincere and direct ways to further the University of Minnesota’s commitment to a producing motivated and effective graduates.
Existing Lab Space
This is where the proposal is going to start getting a little thick. We’ve explained our drive in the sections above. The rest of the proposal will include some convincing research we’ve done on existing work spaces and why they are very unfortunately poorly suited for student group work, as well as implementation details on the operational and safety aspects we’ve come up with so far.

Overview
- The University has many work spaces and labs across its campuses.
- These work spaces contain tools, heavy machinery, and some materials for woodworking, metalworking, and electronics.
- Unfortunately, student groups aren’t allowed to use any of the spaces. Each work space belongs to a department, who funds and runs the space and doesn’t allow it to be used for work that isn’t related to a course.
- Our very detailed report below shows that no space on campus allows use by student groups.

Lab Space on East Bank
Keller Hall
- There are two student groups that currently have work spaces in Keller Hall – IEEE and Innovative Engineers. Both work spaces are extremely cramped. Innovative Engineers submitted a proposal to CSE earlier last December because they have run out of space in which to work.
- These spaces belong to the student groups that have them and there is not space to share. When student groups work in Keller hall, it consists mainly of invading classroom space.
- Equipment like soldering irons, oscilloscopes, wire, digital multi-meters, power supplies, and tables are available, but only inside locked classrooms.
- No materials are available, only equipment.
- The doors are keycard access only, so you need to know an electrical engineering student who is taking a class in that lab to have access to it.
- Contact Becky Kolberg (r-colb@umn.edu) for more information.

Rapson Hall
- Rapson has a large, fantastic lab, operated by the College of Design, on the main floor of Rapson Hall.
- Equipment includes a laser cutter, 3D printer, router, CNC machine, 3D scanner, power and hand tools, woodworking equipment like drills, table saws, etc., 15+ work benches, stock rooms, and a spray booth.
- Part of the lab includes an annex with 24/7 access.
- The lab is very, very exclusive. The website states: “The W.L. Hall Workshop and Digital Fabrication Laboratory is supported entirely by CDES collegiate fees and is exclusively available to CDES students, faculty and staff for the completion of CDES academic and collegiate work.”
- As such, no student groups currently do or can use the space for their projects.
Contact Kevin Groenke (cdesworkshop@umn.edu) for more information.

Mechanical Engineering Building
- The MechE student work lab is room ME 180.
- Student groups have used this room in the past, but its narrow hours are notoriously unfavorable for student groups to take advantage of.
- Contact Sue Mantell (smantell@umn.edu) for more information.

Civil Engineering Building, Akerman Hall, Tate Lab, Smith Hall, Kolthoff Hall, Amundsen Hall
- None of these buildings have lab space that is for student use. Only professors have labs inside, and the labs need to be used with their permission.

Shepherd Labs
- We are working with Karen Wolterstorff to find a space that may be suitable for our use. Shepherd Labs is not our first choice, but we will work eagerly with Karen and CSE.
- Contact Karen Wolterstorff (kmw@umn.edu) for more information.

West Bank
Rarig
- Rarig has theatre workshops on the main level, backstage of their performing arts venues.
- These work shops are huge, and filled with tools and equipment. Full woodworking and metalworking, painting, welding, fabric design & creation, washers & dryers.
- Only for theatre and theatre classes. Paid for and maintained by the theatre department. Student groups are not granted access to the space. Hours are 2-6pm Monday through Friday.
- Contact Christine Swartwout (swart073@umn.edu) for more information.

Regis Center for the Arts
- Huge workspaces for art students throughout the building.
- Full woodworking and metalworking. Foundry.
- Only art students are allowed to use the spaces, and only for class work. As such, no student groups can use the space for their projects. Hours are 9am - 10pm Monday through Thursday, 9am - 6pm Friday, and 10am - 5pm Saturday.
- Contact Mark Knierim (knier001@umn.edu) for more information.

Medical District
Molecular and Cellular Biology Building, Nils Hasselmo Hall, Mayo, Diehl Hall, Phillips-Wangensteen Building, Moos Tower, Weaver-Densford
- None of the medical district buildings have any space available for student group work.
- The only way to use these work spaces is with a professor on a research project.
St. Paul
Engineering and Fisheries lab
• Currently there is an unused space next to the University of Minnesota Solar Vehicle Projects’s current space they are asking for. This would be used by Innovative Engineers and Solar Vehicle Project to accommodate their somewhat larger activities, which would not fit in to the lab space we are requesting with this proposal.

Implementation Details
These implementation details shouldn’t be considered complete just yet. Obviously, we want to work with the College of Science and Engineering and other University departments more to come up with the best implementation of this lab.

The new shared student group lab space will be overseen by a CSE staff director with operation and stocking assistance from Tesla Works. Despite our group’s involvement, however, one of the core values of this lab space will be its accessibility to all student groups. In other words, the Tesla Works will not give preference to themselves in using the lab space. Most of the profound benefits of a shared lab space listed above disappear once the lab space is made exclusive in any way – we believe that our group, and every other group, will prosper more from the intersections of new ideas and different disciplines than they will from the convenience of having a private lab.

The sections below will describe our group’s plans for lab access, maintenance, and fairness.

Lab Access
Access to the lab will be granted on both a per-student-group and per-individual basis. Student groups that wish to gain access to the lab will obtain a rules and regulations form and lab access application from Tesla Works. The student group will then submit both forms, indicating that all members of the student group will adhere to the rules and regulations and their intended use of the lab space.

We will use the application information in three ways: first, to determine whether or not the intended activities are safe for the lab setting; second, to ascertain whether or not the proposed activities are suitably sized for working in a shared lab; and third, to make sure the utilization of the lab is productive and fair.
Tesla Works and the CSE staff director will then review all applications from student groups, and let the student groups know if their request was granted no later than one week after the application was received. All reasonable submissions will be accepted.

After the student group’s application has been accepted, each and every member of the group will have the ability to read and sign the rules and regulations form. This is an important part of the lab access process; **at least one member who has signed the form per group must be in the lab whenever the student group uses the lab to ensure safety.** This means that for most practical purposes everyone who wants to use the lab should sign the form, and several members who have signed should be present at each lab session.

Computer accounts will be created for each member who has signed the rules and regulations form and for each student group registered to use the lab.

Groups that work on larger-scale projects, like the Solar Vehicle Project and GO FIRST will be expected to maintain a separate, larger lab space of their own for aspects of their activities which require large amounts of space. These groups can still apply to use the space however, and can use it to work on smaller sub-projects, like circuit testing. This will be valuable to these groups, whose large workshops are often very out of the way.

**Lab maintenance**

Tesla Works will be directly responsible for keeping the lab clean and in good working order. Each student group will also be responsible for cleaning up after their projects, treating the equipment with respect, and reporting issues to Tesla Works.

Tesla Works will also be responsible for keeping the lab stocked with consumable objects like wire, resistors, integrated circuits, concrete, chalk, paint, etc.

**Fairness**

The CSE staff director will review each student group’s lab access application to ensure that access to the lab is granted fairly. Additionally, any student group may appeal to their college if access to the lab is not granted. The final decision regarding lab access will reside with the staff lab director.

**Lab Safety**

*Tesla Works has pursued several safety advisors, but none has committed to the position yet. We will have a dedicated safety advisor review all aspects of the lab before it opens and continually assess the safety of the lab.*

The following safety guidelines are to be considered minimum safety requirements. The minimum safety requirements outlined below must be followed by all persons within the lab, whether they work frequently in the lab or only occasionally.

All members of the lab are directly responsible for the safety of themselves and others. To ensure these minimum guidelines are followed, each student group upon application to the space will review and agree to the lab’s safety guidelines. Any number of students in the group may agree to these rules and regulations, but at least
one of the students who has signed must be in the lab at all times. We encourage student groups to have each member who will use the lab space sign the rules, to keep this requirement a non-issue and to familiarize all members with safety guidelines.

Personal Guidelines
• Long hair must be tied back or worn under a hat.
• Hair ties will be provided in the lab by Tesla Works.
• Closed toed shoes with a back must be worn in the lab.
• Steel toed shoes are required in the lab only for moving heavy objects.
• Long pants must be worn in the lab.
• No loose clothing or jewelry.
• All persons in the lab will be in good health.
• Aprons or lab coats must be worn when handling hazardous chemicals.

Appropriate Behavior
• Do not distract those working in the lab.
• No horseplay allowed.

General Lab Guidelines
• Any accidents will be reported immediately. Additionally, accident reports will be available on hand in the lab.
• Educational posters on the wall will outline how to respond to certain issues, such as fire or liquid spillage.
• Rules and regulations will be posted in the lab.
• Fire extinguishers will be kept around the lab as required by law.
• Fire alarms will be easily accessible within the lab.
• All exits must be kept unobstructed.
• All hazardous conditions and rule breaking will be reported to Tesla Works immediately.
• Action will be taken immediately for hazardous conditions. The lab should be vacated immediately if the threat requires it.
• A first aid kit will be kept in the lab. Each use will be recorded on a sheet next to the kit.
• Never use compressed air to clean clothing or equipment.
• Ground pins must be kept on all electrical equipment that comes with ground pins. Extension cords must have ground pins.
• Alcohol, food, and drink are never allowed in the lab.
• No pets.

Inspection and Repair
• Damaged or out of adjustment equipment will be reported immediately and marked with a tag in such a way to inhibit its further use.
• Tags will be provided by Tesla Works.
• The lubrication, maintenance, and repair of equipment will be carried out by licensed professionals only.
• A full inspection of the lab space conducted by the lab’s safety advisor will be conducted each semester and once during the summer.

Lab Cleanliness and Order
• Lab will be kept clean and tidy at all times.
• Student groups are responsible for cleaning up after themselves each day.
• Tesla Works is responsible for keeping the lab clean overall and in good working order.
• Each group should mop up its wood and metal dust produced at the end of their session. A dry broom may be used during their session, but a wet mop must be used before the group leaves the lab. Never use an air hose to clean wood or metal dust.
• Used rags should not be placed back in the clean rags bin. Place used rags in the dirty bin. Rags should not be left laying around.
• Extension cables will be run from the ceiling whenever possible, and distance must be kept to a minimum. Avoid using them whenever possible.
• Extension cables should never touch the floor or cross walkways.
• Extension cables will be kept in good, flexible condition.
• Tesla Works will keep an inspection checklist and use it for daily inspection of the lab’s cleanliness and condition.

Use of Tools and Machinery

Regular Tools
• Tools will be used only for their intended purpose. No improvisation is allowed.
• Tools must be stored when not in use and returned to their proper place.
• Knives and chisels must be kept sharp and at their proper grinding angle.
• Knives and chisels must be carried in scabbards and toolboxes only, never in the open or in someone’s pocket.

Power Tools
• Robust, single purpose power tools only.
• Power tools must be stored when not in use and returned to their proper place.
• Power tools must be inspected visually before each use.

Heavy Machinery
• Each piece of heavy machinery will only be operated by trained individuals.
• A list of trained individuals will be posted near the heavy equipment.
• Training will be provided by a University faculty member familiar with the equipment.
• Upon additional certification of the faculty training staff, other students may also provide training for heavy machinery.
• The Product Design Student Group has expressed an interest in this training role.
• Machine guards must always remain in place, whether or not the machine is currently in use.
• Drills
  • Machine guards on drills should encase the upper spindle, pulley system, and belt drives.
• Drill fixtures, machine vices, or workpieces should be clamped to the drill’s table or set against the stop bars.
• Strip metal or non-ferrous metals should be clamped down to the table or held against a stop bar.
• Don’t leave drill chuck keys in the chuck.
• Stop all drills before removing filings.
• Grinding and polishing machinery
  • Appropriate ventilation is required for grinding that produces dust.
  • Dust must flow into a hood.
  • Eye protection with good transparency is required.
  • Any vibration off the machine will indicate it needs adjustment and the machine will be taken out of use until the adjustment is complete.
  • No cloth, pliers, or gloves should be used with finishing belts.
• Machinery will be inspected before each use.
• Machinery will be used only for its intended purpose. No improvisation is allowed.
• Welding may require extra ventilation in the lab.

Lab Installation and Layout Guidelines
• Stacks of equipment must be kept at a reasonable height, be stable, and not obstruct anyone’s view.
• All heavy machinery will be professionally installed and inspected prior to use.
• There will be adequate room left around all machinery to provide room for normal use, group training, and regular adjustment and repair.
• Walkways will be marked with yellow painted lines.
• Walkway surfaces should be impermeable and keep good traction.
• Machinery will be arranged so as not to pose additional hazards in the direction of walkways, work areas, or entryways.
• Start controls on machinery will be recessed on a vertical plane, green in color and labeled start.
• Stop controls on machinery will push out from the surface, be accessible in emergencies, red in color and labeled with the word or symbol for stop.
• Mushroom-style emergency buttons will be provided in key locations around the room, and will cut power to machinery and tools. Lights will remain on.
• Electrical equipment will not be altered, except by licensed professionals.
• GFCI circuit breakers will be installed to prevent electric shock.
• Electrical fixtures and equipment will be checked quarterly.
• Gas supply will be inspected yearly.
• The lab’s ventilation supply will separate dust from air and not allow air to return to the lab.

Chemical Handling
• All chemicals inside the lab must be labeled with MSDS safe handling information.
• MSDS guidelines for handling chemicals must be strictly adhered to.
• All chemical handling requires wearing a lab coat.
• If a chemical poses a toxin or flammability hazard, it must be marked as such and stored in a separate location that also displays that hazard.
• Handling of hazardous chemicals is permitted by prior approval only. Tesla Works will grant prior approval, and no more than the ten people are allowed in the lab when handling dangerous chemicals.
• Additional exhaust must be supplied if the room’s built in ventilation is not enough.
• Chemicals should not be labeled with trade names.
• Aprons must be worn when handling hazardous chemicals.
• The following solvents are never allowed in the lab:
  - Petrol
  - Kerosene
  - Alcohol
  - Ketones
  - Esters
  - Carbon tetrachloride
• All liquid spills will be cleaned up immediately.
• Spills must be immediately mopped up with rags or absorbed in sawdust, dry sand, or earth and moved to an open location. Do not incinerate.
• Eye wash and drench stations must be provided within 50 feet of hazardous chemicals being used.

Prohibited Activities and Tools
• No radioactive materials are permitted in the lab.
• No biohazard material will be permitted in the lab.
• Spray painting is prohibited in the lab.
• No gas cylinders are permitted within the lab.

These are prohibited in the lab during the lab’s first year.
• No electroplating or anodizing.
• No lathes, milling, or metal cutting guillotines.

Lab Security
• The doors to the lab will be U card access only. Access will be provided for those who have signed the rules and regulations form only.
• The lab space will be under constant video surveillance.
• The lab space door is not allowed to be propped open. There should be an alarm on the door that goes off when the door is popped open for longer than a specified period of time. The alarm should call campus security to check it out.

Equipment
The following is a list of equipment that has been requested by the student groups listed on this proposal. It is not a list of actual equipment that will be in the lab. Tesla Works will not be able to fund the purchase of all of these items the first year. Furthermore, Tesla Works will work the Office of Risk Management, CSE, and our safety advisor to determine which equipment is appropriate for the lab.
Electrical
• Soldering irons
• Desoldering station
• Soldering work stations
• Printed circuit board mill
• Prototyping boards
• Computer workstations
• Wire cutters
• Wire strippers
• Microcontroller programmers
• Microcontroller demo boards
• Oscilloscopes
• Function generators
• Power supplies
• Digital multi-meters

Mechanical
• Drill press
• Band saw
• Miter saw
• Skill saw
• Jig saw
• Motorized sanders
• Lathe
• Stone grinder
• Air compressor
• Laser cutter
• 3D printer

Metal Working
• Arc welder or acetylene torch
• Metal chop saw
• Drill press

Basic Tools
• Hammers
• Screw drivers
• Hand saws
• Power drills
• Wrenches
• Clamps
• Vice grips
• Suction cups
• Measuring tape
• Chalk lines

Consumable Materials
• Solder
• Solder wick
• Flux
• Heat shrink tubing
• Wire
• Small electrical components
• Epoxy
• Black paint

Miscellaneous
• Fume hood
• Concrete mixer
• Internet service

Phases of Development
It is important to ensure the operations of this new lab space are adequately evaluated and to see to it the lab continues to provide value to the University. As this is a multi-year project, we are proposing some phases of development to meet these expectations, including an exit strategy.

Phase 1
• Secure space from CSE or another University department.
• Tesla Works buys lab equipment, with a focus on electrical tools, basic hand and power tools, and consumable materials.
• At end of year, our safety advisor will perform an assessment.
• CSE will provide a fairness assessment, and determine whether or not its investment (if any, other than space) is justified.
• Tesla Works will also review its own involvement, and provide its findings to CSE and online.

Phase 2
• Expand to receive more space from CSE or other University department, if required.
• Purchase heavier equipment with Tesla Works funds or external funding.
• Carry out assessments from Phase 1 at end of year.

Phase 3
• Continue to buy tools and equipment as necessary with Tesla Works funds.
• Overall, University wide assessment of all operating aspects of the lab. Decide whether or not to phase out lab. If lab is determined to be no longer valuable, begin phasing the lab out over the following year.

Evaluation Benchmarks
The following can be used as benchmarks to determine the value of the lab to the University. These are important goals for the shared student group lab space.

1. The lab is inclusive of all student groups.
2. All lab safety procedures have been observed.
3. The lab is encouraging legitimate interdisciplinary collaboration.
4. The lab has been remaining clean, orderly, and in good repair.
5. The lab's tools, equipment, and materials have been kept safe from theft and have been applied to appropriate use.
6. The student groups’ use of the lab space continues to have a positive impact on the university.
7. Student groups utilizing the lab space are more productive.
8. The lab is engaging first year students in hands-on projects.
9. Tesla Works continue to obtain funds for the lab from Student Service Fees and other sources.
Thank You

Thank you for taking the time to read this proposal. We understand it presents a large amount of information, and is asking for a lot. However, we think that this lab space is going to be a big step forward for the University of Minnesota.

Please do not hesitate to ask me if you have any questions. We can’t thank you enough, and I anxiously await your reflection.