DATE: March 3, 2016

FROM: State Representative Adam Neylon

TO: Senate Committee on Education

RE: Supporting AB 665

## Dear Members of the Committee:

At one time Wisconsin brewers bottled beer by hand, and auto workers assembled cars one piece at a time on Henry Ford's assembly lines. Both industries gave way to automation, and now machines handle much of the work more efficiently than humans. The fact is, 21st century manufacturing facilities have ushered a new wave of technologies like advanced robotics and fully integrated production systems.

I am here to testify in support of AB 665, legislation to create the Wisconsin Robotics League participation grant program to appropriate \$250,000 to the Department of Public Instruction to be disbursed to teams of high school students that design, construct, program, and operate robots in competitions throughout Wisconsin. These monies can be used to pay for allowable expenses such as paying a mentor or coach of the team, robotics kits, competition fees, travel expenses, and other related team expenses.

According to a 2015 report by Deloitte Consulting, over the next decade nearly three and a half million manufacturing jobs will need to be filled, and the skills gap is expected to result in 2 million of those jobs going unfilled. There are two major contributing factors to the widening gap — baby boomer retirements and economic expansion. An estimated 2.7 million jobs are likely to be needed as a result of retirements in the existing workforce, while 700,000 jobs are likely to be created due to natural business growth. In addition to retirements and economic expansion, other factors contribute to the shortage of a skilled workforce, including the loss of embedded knowledge due to movement of experienced workers, a negative image of the manufacturing industry among younger generations, lack of STEM (science, technology, engineering and mathematics) skills among workers, and a gradual decline of technical education programs in public high schools.

Our students are up to the challenge of meeting tomorrow's workforce demands. I believe they deserve an opportunity to compete against the rest of the world and develop skills for the rest of their lives, while working together in a team-first environment.

Thank you for your support I'm happy to take any questions, and when I'm finished I will get out of the way for Team 1259 and Team 539 - robotics teams hailing from Pewaukee and Sussex Wisconsin.



## **AB 665 Wisconsin Robotics League Participation Grants**

Testimony of Senator Steve Nass Senate Committee on Education March 3, 2016 • 330 Southwest, State Capitol

Thank you Chairman Olsen for holding a public hearing and allowing me to testify in support of Assembly Bill 665. This legislation will create a grant program though the Department of Public Instruction to encourage Wisconsin students in grades 9–12 to participate in robotics competitions.

In order for our students to compete and succeed in the 21<sup>st</sup> Century, it is imperative that school curriculums include more opportunities for students to participate in activities related to science, engineering, technology, and math. Participation in robotics competitions will help foster students' interest in these fields and provide additional opportunities to improve their technical skills and knowledge in these vital subjects.

Robotics competitions for students are increasing in popularity across the country. This grant program will help provide the seed money for students to assemble teams to compete in competitions, and facilitate independent fundraising efforts to supplement the grant funds provided.

The bill allows a robotics team to apply for up to a \$5,000 grant that can be used for expenses related to a robotics competition. Allowable expenses are limited to fees, kits, supplies, or travel expenses required to participate in competitions, and a stipend for the mentor of an eligible robotics team. The applicant must provide matching funds in an amount that is equal to the amount of the grant awarded.

AB 665, as amended by Assembly Amendment 1, limits the total dollar amount of grants awarded to \$250,000 for the 2016-17 school year. It allows all students in the state between 9–12 grades to be eligible to apply for a grant, regardless of where they are receiving their education, including traditional public school, charter school, homeschool, etc.

Thank you again for the opportunity to provide testimony in support of AB 665. If any committee members have further questions, I would be happy to help answer them.

"In God We Trust"



Good Afternoon, Senator Olsen, Chair,

My name is Melody Ricci, and I am the Wisconsin Regional Director for *FIRST*. I would like to thank Representative Neylon for authoring AB665 for the opportunities that it presents to Wisconsin youth to become inspired and excited about STEM (Science, Technology, Engineering, & Math). For many Wisconsin school districts, educators are turning to external funding sources such as grants to expand opportunities for their students both in and outside of the classroom. Assembly Bill 665 would provide Wisconsin schools the opportunity to apply for grant funds for participation in competitive robotics leagues. These funds could be utilized by schools to cover competition registration fees, supplies, or even costs involved in transporting school youth to competitive events.

Participation in youth robotics not only allows students an opportunity to participate in a valuable team project, but it affords youth the opportunity to further expand their knowledge they gain in school from many of their classes and apply it directly to a real life experience. More importantly, it's more than just about the robots. Robotic team members take on the responsibility of performing a specific role within their team. That could be coding, or being on the robot build team, or it could be more diverse such as working on the team website, or helping to develop a business plan leading into marketing or nonprofit fund raising. Participation of youth on a robotics team helps to improve social skills, develop team work, and possibly even discover their niche or a potential career path not only in STEM but in a myriad of occupations as a result of their opportunity to be part of a robotics team. Students who have participated in robotics teams have gone on to become engineers, or computer programmers, as well as creating pathways into careers such as website designers, or journalists all as a result of a role they chose to take on with their robotics team in school.

Youth in Wisconsin need the opportunity to be able to participate in programs that contribute to their education as well as guide them along on their educational journey. Dean Kamen, the founder of FIRST points out "you have teenagers thinking they're going to make millions as NBA stars when that's not realistic for even 1 percent of them. Becoming a scientist or engineer is." Afterschool programs should allow Wisconsin youth the ability to get inspired about STEM, apply what they are learning in school that day towards a contribution to their team that night, and provide them with an opportunity to take steps towards their futures that a few years down the road will ultimately benefit the Wisconsin workforce with the talent, creativity, and coopertition that they learned through their participation in robotics.

Thank you for your consideration of AB665.

Sincerely,

Melody Ricci

Melody Ricci, Wisconsin Regional Director

FIRST