Domo Arigato, Mr. Roboto – Welcome to Reno-Sparks **June 14, 2019**

The words in the 1983 hit song may finally be coming true, "Thank you very much, oh, Mr. Roboto, for doing the jobs that nobody wants to." Our economy is rapidly changing, and we are already feeling the profound effects of the 4th Industrial revolution (**a*n economy powered by the mobile internet, automation, and artificial intelligence (AI)).*** While robotics is just one component of this revolution, it is a useful visual symbol of where our economy is going. Estimates range from 5M jobs by 2020 to 50% of our jobs being done by robots and AI in less than 15 years. So, what does that mean to us, and what can we do about it?

Why should we care about this change? There are many reasons we should accept and prepare for this economic transformation, in short because it will hit us all very hard and very soon. In many ways, the transformation has already begun at locations such as the airport or fast food restaurants. There, customers now do much of the information input and the number of employees has been reduced and replaced by technology. This trend is accelerating and expanding to more and more industries; in fact, it is the main reason EDAWN focused on advanced manufacturing seven years ago. Manufacturing incorporates more robotics, coding and technology than most people realize, requiring higher skills and commanding higher wages.

Our children and grandchildren must be prepared for the new jobs that will be created by this revolution. In order for our children to be prepared for this shift, we must acknowledge that the skills needed for these new jobs require more STEAM skills (Science, Technology, Engineering, Arts, and Math) than ever. So even if *you* manage to hang on to your job until you retire, the next generation of our community will face a very different world; a world dominated by robotics and artificial intelligence. Robotics can help us take education to the next level. By accelerating the use of robotics in our schools, we demonstrate to the students that learning STEAM skills can be interactive and fun, preparing them for the future in a way that feels more like creative play and less like homework.

So, what can we do about it? As voters in the state, we need to acknowledge the importance of education funding as if our economic lives depend on it - because they do! The communities and states with talent will attract the next generation of jobs and thrive. Unfortunately, STEAM education is more costly in many ways: attracting and retaining STEAM-educated teachers; funding the purchase of quality materials; and taking the time necessary to integrate a robotics curriculum into our schools, to engage students, during classroom time, at an early age. This is possible here in Nevada, but only if we make support for, and funding of all kinds of education a true priority

Robotics in every school by 2022? While we are making progress with robotics programs in 70% of the Washoe County high schools, we have less than a third of our middle and elementary schools on board, and the robotics programs we do have are almost entirely after-hours clubs. We also have, across the state, an increasing number of math and science teaching positions going unfilled. We are fortunate to have companies like Tesla and Switch investing millions to advance robotics in education, and organizations like FIRST Robotics and VEX Robotics leading the way with competitions and support for the programs we do have. Yet, we need to do more. The sooner we embrace robotics and STEAM education for every child in every school, the better our chances are of surviving the 4th industrial revolution. Unfortunately, our children and our economy will pay a heavy price if we fail to rise to the challenge.