

TEAM 6429 2018 CHAIRMAN'S AWARD ESSAY

What is 4th Dimension?

We are the first FRC team in Aegean Region who introduced FRC and brought a new dimension for FIRST in its community. We are the team that incorporates teamwork into its culture, creating the power cubes of permanence. We started collecting the cubes as 10 members of FLL team Wall-E in 2015. Later on, we built a firm foundation -4th Dimension- on July 25, 2016 in Izmir/Turkiye with the power cubes we collected. Currently, we have 20 members who have grown up with the principles of FIRST and are full of curiosity.

In this adventurous road of both learning and teaching, our ultimate mission is to empower next generations by spreading FIRST's message without ANY gender discrimination and with the help of the opportunities that FIRST&STEAM provide us.

What makes 4th Dimension THE 4th Dimension?

Our FLL history strengthens our team relations as we are aware of the importance of core values. We believe that learning is a long-lasting period and results or achievements are inadequate to define this rewarding journey. Henceforth, we firmly trust the PROCESS. Since gender equality is a backbone for our future, we equalized the gender by balancing opportunities. As a team that consists of 10 boys and 10 girls, our team has set a true inspiration for the youth.

Furthermore, we built a comprehensive network open for interaction, association and cooperation. In this context; we have also brought a new dimension to gracious professionalism. Therefore, our perspective is running as one until we involve everyone.

Besides, we have a well-structured base that divides into sub-teams. In this way, we complete all the tasks with great teamwork and organization while managing our time well. According to our organizational structure, we do different kinds of projects and inspire next generations for a better future. The fundamentals of setting an inspiration are gained by courtesy of the STEAM activities that we brought to the underprivileged areas. Hence, we became the youngsters' role models and hope. In the end of the day, the sparkles in their eyes are worth to see.

What are our successes and projects?

As a team that is in its 2nd year, we achieved more than we dreamed and started to feel proud of our hard work while gaining a lot during the working process. All the participations we had in these 2 years helped us improve ourselves. As a team, we attended numerous STEAM and enterprising related events that helped us create a tight-knit network and made it easier to contact the possible sponsors. In order to strengthen our relations, we have an organized structure that divides our sponsors as platinum, gold and silver. In all aspects, we spread the name of our sponsors. As we balance what we contribute to them and we need from them, we add reliability and permanence to the 4D ethics in sponsorships.

In order to spread FIRST's message, we played for real by RUNNING various events.

For instance, we RAN an unofficial kickoff and organized workshops at the same time provided PUBLISHED resources of 8 different presentations for the rookie teams. Likewise, we HOSTED 8 FLL teams in our working area to ASSIST them.

Also, we carried out "Learn to Build" activity with the children aged between 6-9 and realized that only 20% of them are 6 years old. Thus, we decided to do more projects with preschool kids.

Furthermore, we RAN a Summer Science Camp in a mega factory for 30 workers' children from 7-14 and taught them about how to build and program a robot. After 5 days of education, we gave different tasks to the children according to their ages and examined whether the camp was efficient or not. The success ratio was 98%. So, it showed us that we'd taken a crucial step on our way to a brighter future. Later on, we HELD Winter Science Camp in the semester break. This time, 60+ students had an opportunity to attend robotics education and the ratio of success increased to 99% that makes us much prouder.

Besides, we realized that only 1% of locals in Izmir were aware of FIRST&STEAM based on the survey we did. So, we broadcasted globally to inform everyone about them.

Equally important, we organized STEAM Halloween party and gave a speech to the participants about us, FIRST and FRC. Also, we raised money for expenses.

Additionally, we were the models of the project "STEM Kit and Teachers' Training" held by TUSIAD (Turkish Industry and Business Association) and attended the faire as embodiments of STEM projects to inform the teachers about what we do.

Plus, we always search solutions to decrease our carbon and water footprint on Earth. However, we have to search and be the change itself with all the teams. So, we are working on an APPLICATION that calculates the team's footprints and suggests the ways to decrease them. As well; according to the "More Than Robots" motto, we started a SOCIAL-RESPONSIBILITY project -4 Colors of 4th Dimension- to raise awareness in STEAM Education, Gender Equality, Obstacles & Environment. In this context, we designed 4 different t-shirts and sell them to donate the income to the related charities.

Another project that we are working on is PUBLISHING seasonal magazines that include assorted experiments for kids to encourage them in STEAM.

What's more, we became the initiative team which ORGANIZES seasonal conferences for all ages and all interests in Izmir. The Winter STEAM Days will be on February 10, 2018 and includes workshops and 7 speeches by experts. This way, we will be encouraging the locals. Along with this very path, we have reached the beyond. Taking a look back and considering the overall approach of Team 6429, we have become the change we wished to see in the world.

How Did We Become Role Models in Engineering?

In this 2 years, we have ASSISTED 12 teams for robot parts, 26 teams for designing & strategical help and 11 teams for programming. Helping rookie teams is crucial to us because we have passed this way recently with the hardships of being the one & only team in our region. So, we PROVIDED electronic parts such as motor controllers, motors, etc. We also PUBLISHED designs of robot parts that are suitable for this year's game to ASSIST rookie teams in mechanical designing. Our robot was TOTALLY designed by our team members using Solidworks

and AutoCAD. Apx. 39% of our robot parts are manufactured in our school. We use CNC, 3D Printer and Hot Wire Plastic Bender(HWPB) -constructed by our team- for their manufacture. With our HWPB, we bent polycarbonate to shape our elevator panels & intake. We also DEVELOPED a new mechanism that tensions our chains before we assembled them to our robot. We REDUCED our prototyping BUDGET 300% with in-house CNC. We produced 100% of our prototypes on our own.

%40 of our drive team is girl since we support gender equality.

We also produce bird nests & dollhouses with CNC machine for our region's BK schools (15 total) for innovation classes. We donated cathouses to DOWN CAFE where we built & painted them with staff.

Our walking stick prototype, TRI BALANCE, which was rewarded at H4W Hackathon is now being MATERIALIZED.

We are Turkish REPRESENTATIVE of FIRST Help Now 24/7 started by 3132.

What are our initiatives on Mentoring/Starting/Assisting FIRST Teams?

As a team which converted from FLL, we are working with effort to widen the FLL&FLL Jr. culture to our community. Since last year, we have networked/directly contacted with 180+ FLL&FLL Jr. teams while MENTORING/ASSISTING 60+ of them. We STARTED 2 FLL Jr. teams, 8 FLL teams and an FRC team. Plus, we networked with more than 90 FRC teams and directly contacted with 40 of them (incl. national & international). We TRANSLATED thecompassallience.org and Powerup field videos as well as taking part in translating 2018 Game Manual to Turkish. As the team which STARTED FRC in its region, we are proud to say that we are now 4 teams and becoming a bigger family as days gone by!

How Do We Spread The FIRST's Message? Our Community Impact

We have exposed about 2 million people to FIRST through attending various events for 2 years. When we were first founded, almost NO company knew about FIRST, even STEAM. Now, FIRST message is being successfully spread in our region and nation for two years with the events we attend and arrange. Our commitment to FIRST's message and love to science lead us to volunteer in various STEM-related programs for 494 HOURS per member. For example, we are the FLL volunteer coordinator of high schoolers.

With our project "Inspire The Future" (IF), we had an opportunity to work with 3 different local public schools. The students in those schools, from age 5-13, were unable to reach STEAM sources freely since they didn't have enough support, so we decided to be the support itself. "IF" includes building and programming education with using EV3 and WeDo sets. Linked to "IF", 6429 proudly presents the STEAM curriculum to their cities' ministry of education:4DCoding. Concurrently, we will train the teachers to apply 4DCoding in classes.

Also from the students who attended the project, we STARTED and MENTORED one FLL Jr. team that will participate in the tournament in April. The team's registration fee and other costs are fully funded by us. Likewise, we are currently preparing to START one FLL team from the groups we educate. While gaining social responsibility, feeling and being ROLE MODELS to kids

took us a step closer to our mission.

We started off a long game, and as being the drive engine, we will never stop making our mission and FIRST's purpose real. We will continue to INSPIRE our future, CULTIVATE different cultures and become social responsible to our world. We are 6429, the team combines engineering with new dimensions. Our perspective lead us to play for real and change the game. Hence, we became the *GAME CHANGER* itself.

Equalize the Opportunities.

#BeTheGameChanger

*All terms used in this essay strictly match with 2018 Chairman's Award definitions.