

## **FIRST Impact Award - Team 6652**

<b>2024 - Team 6652</b>
<b>Team Number</b>
<b>6652</b>
<b>Team Nickname</b>
Tigres
<b>Team Location</b>
Monterrey, NLE - Mexico
<b>Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in <i>FIRST</i> programs as mentors/sponsors.</b>
100% 6652 alumni have not only graduated high school but also attend college (90% in STEM careers) in comparison to the graduation rate of 26% in Nuevo León and 35% continue in FIRST programs. 6652 develops real-world skills, Tigres opens doors to international scholarships & internships programs spreading FIRST message & 90% are part of outreach projects. Alumni are role models in top companies: John Deere, Softtek, AMI, Whirlpool & more looking for 6652 skillset making them our main sponsors.
<b>Describe your community along with how your team addresses its unique opportunities and circumstances.</b>
We began in a 5x5 room in a city troubled by students being pushed to work life at 16/17 yo. Yearly +199K students deal w/economic woes, thus we're the only public school FRC in our city conformed by 21 schools & members from 74 zip codes. Today we dev projects recognized by Xprize, UNESCO & Rotary. 90% of our members aid in outreach efforts. Our founder was a cornerstone to the 1st citizen lab in our city inspiring >21 projects. >90% alumni assure they got their 1st job due to Tigres skillset.
<b>Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?</b>
Everything 6652 does spread FIRST message, support its vision & embrace state-of-the-art STEAM. We transformed our yearly recruitment into the HackARoar, a worth & creative way to recruit, retain & engage youths reaching >1000 aspirants, generating >30 innovative outreach affective efforts ei STEAM camps alongside 5 countries, hi-tech solutions, and more. ROAR results are measured & documented by recognitions, goals reached, # alumni, # alliances & the reached ones, making a sustainable impact.
<b>Please provide specific examples of how your team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years.</b>
We're proud to pave the way for Mx teams showing that working together we can break barriers. Ran >90 outreach events ei hosted FRC At Home for >20 teams to dev sustainable social projects, inspiring

them to change not only themselves but the world. Mentored Mx teams ei 8734, 8740, 8776, 9213 & shared 6652 resources, disrupting the outreach norms in & around our community. This made our ROAr be recognized as the 1st Impact Finalist in Mexican history, revolutionizing the way Mx outreach is made.

**Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.**

6652 mission for teams is clear: provide resources to have a successful pipeline. We've ran +90 events in 3 years. W/4400 we dev FIRST Seed expanding Mx community, as a result we started >15 teams, mentored 12 and assisted the global community in outreach. Our focus is not how many teams we open but where, involving underserved towns such as Velardeña & Uruachi where for 1 week our members immersed in their community, upfront w/ their problems and taught Tigres' affective way to dev projects.

**Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?**

Thru 22 outreach projects we spread our ROAR to >24,000 ppl, ei we inspired 8 tech student groups. 6652 hosted 14 global STEMcamps for >1,000 children. Theraplay: for complements physical therapy for >30M ppl w/musculoskeletal disorders, CAMO: a system that condensates humidity into potable water for >900 ppl in our state. Retrak did history by making the 1st LATAM STEM hub w/100% recyclable material for >1200 ppl in an unserved community. Sending a strong message: everyone can live into STEM.

**Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years**

Strong alliances let us spread the ROAr. SPONSORS: Dev STEM Camps & EDI efforts based on FIRST at Softtek, AMI & Wrpl reaching +2k kids on +20 global events; due to this they've invested +90K USD on STEAM. ORGs: W/ Hospital UANL, sponsors and Px we created and distributed Theraplay, a modular device that complements rehabilitation on upper limbs. TEAMS: W/ 2096 & 60 teams from FLLe all the way through FRC in 11 countries we made +70 outreach efforts in 24h holding out hope thru Community FIRST.

**Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.**

ROAr: an open invitation to everyone to belong FIRST. D&I: In our rookie year 10% of our members were women, due to this we promote gender equality thru STEAMItGirl 2 w/ GirlUp: a science fair to solidify STEAM teenagers & w/ Stk dev Girls4Future & TeklsAWoman for >800 girls in LATAM/Europe. Nowadays 40% of our roster are girls; rising the new gen of women in STEAM. Equity: w/ RETRAK hub breaking the edu barriers to >1200 ppl in unserved community & helping +10 others w/ IS donating >10k items.

**Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future**

We secure community support by a changemakers mission. Inspiring our project method on CitizenLabs: we involve affected groups, identify key issues through active listening & prototype affective solutions, aiming towards sustainability & true-hearted nature. 80% of alumni return to the team as mentors & train

rookie members to dev hard & soft skills to create, continue & improve projects providing opportunities to be leads. Tigres is a place where knowledge is not only transmitted, it's created.

**Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years**

FIRST is key to sustainability, that's why AMI &15+ did their first STEAM investment w/us. Recruit: dev innovative outreach plan creating value to their business & CSR strategy. Retain: showing projects' KPIs involving them in our efforts & robot development to ensure endless progress. Engage: Working aside by hosting global events ei STEM Seed Camps & TekIsAWoman building up corporate reputation. Tigre's path develops the skillset that recruiters seek, making our alumni join their workforce.

**Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.**

2023 was a challenging season for us: our main sponsors experienced an economic crisis, changing their priorities which directly affected our annual budget. In the middle of the crisis we had to test the effectiveness of how we create alliances. In 1 year we linked w/2 new main sponsors, fundraising ~30K USD & dev 9 projects thru +15 alliances for our community. Innovated the way alliances are made with "apadrina un proyecto" connecting the affected communities with local project supporters.

**Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.**

We embrace the FIRST mission with our roar, making a progressive impact in our community and solving problems through STEAM. We created sizable & impactful programs that develop members' skills. As a result >1000 youths have been part of the 6652 roster, involving >30 schools. 35 outreach projects have been through 6652, 9 alumni became founders, >50 are leaders in high-tech companies, and 10 of them are becoming our sponsors, making us the local STEAM reference for FRC community and the world.

**Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique or particularly noteworthy.**

6652 mission encourages students to impact their communities thru ROAR's affectiveness. Therapplay was FGIC making us the only Mx team with this appointment. In 2022 our main honor, like Avengers of our Gen were recognized by FIRST as the 1st Mx history Impact Finalist. Our mentors dev a plan for academic advising to each youth. Our alliances work w/Pareto's law, 20% top companies/80% local commerce. We can assure that tuning the world isn't that hard, you just have to write one song at a time.

**Judge Feedback**

Who/When	Feedback
	<p><b>After seeing a lot of teams, what are the key patterns you identify in the way outreach (social projects) is made? and what are some of them that Tigres should continuously keep on improving?</b></p> <p><b>An area the team has an opportunity to improve.</b></p> <p><b>Something that really impressed the judges.</b></p>

**Essay**

**THE FIRST MUSE** At the beginning everything was noise: disconnected & aimless sounds, voices seeking purpose, composers without muses to inspire them, melodies that are heard but not listened. 8 years ago, in a 5x5 room, when there was a young artist who lived in the haze of his creativity, these noises manifested as a question: "What are you doing for Mexico?" becoming the first muse of the ROAR's song. This question became the note that harmonized the noise makers. In a world w/ songs that inspire & accompany you in your worst & best moments, becoming your refuge. Today all 6652 members assure that our ROAR is THE song. When you listen to it, you can identify. It feels like it was made for you. An amusing song that brings emotion, passion, makes you want to share it w/ everyone, it genuinely changes your life & perspective, it gives you identity & purpose, it makes you a totally different person. When you listen to ROAR's song it becomes a turning point in who you are & who you want to be: a role model who changes the environment no matter where you are. The ROAR's Song makes you find your rhythm & inspires others to write their own songs.

**PRELUDE** Every FIRST team has a lot of unique qualities; Tigres stands among the exceptional. Season by season we've been recognized for our way to create long-lasting relationships w/ sponsors; remarkable ways to dev & sustain FIRST teams, outreach projects & programs; as well as diverse protocols & rules based on agile methods. We make our ROAR the local reference for new composers, not because we ought to create the perfect melody, but because we harmonize w/ everyone helping them find their muse. Some of these remarkable actions: 1 For team sustainability we dev Tigres Operative Manual, sustaining our ideals, actions & operations. It's based on our FIRST experience & knowledge, establishing our structure & operation in 5 areas: Communication, Sustainability, Engineering, STEAM Ed & Outreach. 2 We make a mentor-based admission program to dev skillset of new members during their journey thru our areas, aiming to transform every future member into a changemaker. Nowadays we're the STEM reference for local & public high schools, having a roster made up by 21 schools & members from 74 zip codes. 3 We work w/ our alliances as one. FIRST introduces us into outreach efforts & our sponsors support us w/supplies, economical aid & assistance. We involve them in our programs & projects, replicating this around the world. Every season we renew our way of making music & rhythms that stay in the hearts of our ROAR listeners. Diverse projects have been thru 6652, some have lasted over the years & others have perished, but thru all the lessons learned, a milestone occurred as an inflection point in Tigres way to dev projects.

**OUR SONG** Song by song, we noticed what seemed like creative blocks in each artist. This caused break off in the melody & discomfort; we deduce that it was an opportunity in our creative process. However, in 2022 we connect with 1st Citizen Lab in our city showing us the missing rhythm for making impactful projects: "The affective way", the new version of Social Innovation, which involves affected groups, identifies key issues thru active listening & prototypes solutions, aiming towards sustainability & true-hearted nature. We take this method where the users' problem goes beyond being test subjects & are treated as bearers of empiric knowledge that must be incorporated into the design of the problems' solutions. This makes us an affective ppl-centric team that aims to build communities & create ties between those who participate in it, generating common objectives. Due to this, we transformed our yearly recruitment into HackARoar, a worthy & creative way to recruit, retain & engage youths, simulating a crossover thru FRC competition & citizenlabs in the affective prototyping of solutions to real-world problems, reaching >200 aspirants in the last edition, tuning our songs & bringing along them muses that inspire the new gen of Affective Artists: -Dry Song In 2022 our state faced the worst hydric crisis over the last 30 years. The reservoirs' capacity went down to only 5%, unsatisfying the regular consume. This drought affected +500 zip codes of >15 districts, leaving thousands of families without a single drop of water for almost a week. But where everyone saw a hopeless situation, our artists found their muse,

inspiring a brand new song: CAMO, a project to designing a low-cost system based on peltier cells usage that thru condensation catch the humidity in the air & produce water drops which are treated to become potable, transforming air into water. -Mariath's Song Mariath' muse was different. In 2020, she suffered from a musculoskeletal disorder (MSD) & wasn't able to complete her rehabilitation like other >30M of Mexicans who lived w/ an MSD as well. While her muse sang lullabies to her, she composed a solution: Theraplay, a modular device that complements physical therapy for patients w/ MSD in the superior limbs. W/ UANL Hospital we're now involving patients in the creative process to improve design & effectiveness, transforming traditional medicine where the academy teaches you only to diagnose but not to listen, revolutionizing the way therapies are made. -Hidden's Song In a song where a woman's voice was heard only in the chorus, where only 30% of ppl in STEAM were women & formed part of a vulnerable group just for our gender, we found our muse in ourselves & created new songs that build a safe place for every girl beyond 6652 thru FIRSTxHER: promoting gender equality by broadcasting webinars by women in STEM & Girls4Future, a SDG Rally reaching >800 girls from LATAM/Europe. These initiatives increased the number of alumni at our K12 events from 70%B-30%G to 55%-45%. And our latest release: STEAMItGirl2, a science fair to solidify STEAM in teenagers, allowing them to shine in their own song. -STEAM Song When we were invited to be part of the ROAR, we turned into the new artists of our generation; due to this, we took the challenge to involve boys & girls in their 1st approach with STEAM, innovating in k-12 through "STEM seed" summer camps, reaching >2000 kids around LATAM/Europe (CDMX in collaboration w/2468, MTY, AGS) by >11 camps. Recently Retrak made history by making the 1st LATAM STEM hub w/100% recyclable material for >1200 ppl in an unserved community, sending a strong message: everyone can live into STEM. & our latest song, Solar Cup ft FC Tigres, the most popular soccer club in our city. This opened that season's champ's stadium doors, connecting kids w/ their soccer idols thru STEM, making FIRST the sport of the future. -Insecurity Song +565k assaults occurred in 2021 in Mexico, & this number has continued to grow. Not only is this an unfortunate fact, but among the victims of these assaults are ppl from all walks of life, ppl who had the misfortune of walking through "the wrong place at the wrong time." And worst of all: the next victim could be your friend, your family, or in this story, a 6652 member. This muse inspired our artists who believe in end-to-end security, creating Student Guard, a project that collects & aids data visibility thru tools eg surveys & documentation of unsafe areas around a public high school. This song uses instruments ei heat maps, alternative routes & new strategies, bringing security at every step. By developing & implementing this new Affective way, we empower our members to change not only themselves but the world, showing this methodology w/ our surrounding: We work w/ multiple ORG'S, inspiring sponsors such as AMI & 15+ to do their 1st STEAM investment. This is why they've invested +90K USD on outreach w/us to host & run projects & events. They assign an annual budget to invest in STEM; in Stk case, it led them to open a STEM area in their global citizen strategy; in Wrpl case, they opened the doors of their company for manufacturing our robot. Simultaneously, we work w/ governance to run STEM workshops for every youth in our community. We transformed the traditional public highschool method, embracing youth in STEM & inspiring our school op system to open 7 workspaces. We hosted STEM engagement events on +21 of its highschools multiple times & we've been given spaces to teach STEM, FLLC/E & FIRST. Nowadays we work w/ all of them, impacting our community thru our songs. We document all our processes & make them open sources for the replication of our projects, letting the affected ones be involved in the solution & therefore amplifying the ROAR song.

ROAR's ∞ CRESCENDO The reason why >1.7M ppl in our community claim to be part of the ROAR; why >1000 youths have been part of the 6652 roster, involving >30 schools; why 35 outreach projects have been thru 6652; why 9 alumni became founders; why >50 are leaders in high-tech companies, & 10 of them are becoming our sponsors, is because everyone can identify with our ROAR song. One day, our

founder said: "I can assure you that anyone who has lived the experience of being part of our team had the dream of changing the world when they were little. Time passed & those dreams were put on the back burner, but TigreRobotics showed us that a person is genuinely a world." He taught us that changing the world is not that difficult; perhaps w/ a song by your side you can change a life forever. Our songs transform not only the outreach projects' method, but also every team member & its community, aiming to be a significant part of each person's melody. It's a set of them, a unique composition that has been escalating over the years & is now at its loudest point. Tigres roars the affective way & makes a new ppl centric musical genre that harmonizes with everyone & revolutionizes the industries. We are Tigres 6652, the new artists of our generation; giving you the opportunity to find your muse, singing side by side & together, CRESCENDO the way musicians are made.;

