



**INANC  
MECHATRONICS  
CLUB  
TEAM 4191**

# **2020-2021 Business Plan**

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# Mission Statement

As Inanc Mechatronics Club, our main mission is to make innovative projects that spread FIRST values on national and international platforms, parallel to the globalizing world. Considering the difficult economic period our country is going through, our aim to be a pioneer in STEM fields and to encourage people.

Unfortunately, we are aware that in a world where people are pushed to the forefront in science and technology, gender equality is not achieved in most places. Despite this order, we gave priority to the gender distribution in our team, and thanks to our efforts, we kept the gender distribution equal in our team. This season, our FRC team consists of a total of 23 members with 12 female and 11 male members.

Our school TEVITOL is an all boarding school, where all of our team members live together. This makes us a family that works and makes decisions together. Brainstorming together, sharing our ideas, and adapting them to our lives allow us to support each other more and take us one step further. In addition to creating opportunities for us to develop our problem solving and analytical thinking skills, Inanc Mechatronics Club guides us to develop our own personality in the light of FIRST principles.

With every step we take to adapt ourselves to today's globalized world, we aim to learn new developments and applications in STEM fields. Inanc Mechatronics Club is a big family that can overcome every difficulty and includes the engineers of the future. FIRST values, which reshape our perspective when applied to our lives, make us feel powerful as a team and support us to create our own future.



Also, as a team, we participate in the competitions and events organized by FIRST in order to create new memories and fun experiences, with the ideology of "competition not to win, but to learn."





# TEAM HISTORY AND ACCRETION

IMC was founded in 2007, in an industrial city -Gebze- by 5 students who wanted to improve themselves in the fields of robotics and engineering to participate in the national competitions. At the beginning of this journey, our school could not provide us with a budget and workspace, therefore our founder teammates created a sufficient budget to participate in a contest by selling the scraps in the school's warehouse and created a work area within their own means. Inanc Mechatronics Team started its journey with great effort and taking firm action, competed in FLL tournaments. Our club has been taking part in FLL since 2008. Every year, we become one of the successful teams that represent Turkey abroad.

Our team members in 2011 - a milestone for our team- decided to take part in FRC and founded Team #4191, the 4th FRC team in Turkey. Although it is hard to take part in engineering and robotics in Turkey, we have been participating in FRC for 9 years with great happiness and pride.

All the team members study at the same boarding school, which makes our relationships with team members strong and our communication alive. Also, our mentors live on campus with us, which makes it easier for them to support us with their ideas and presence. IMC has 35 members from different year groups. Every year new members get selected through various auditions. Our 9th-grade members, participate in FLL and they are supported by more experienced members from upper classes. Our members from 10th and 11th grades participate in FRC. In this process, every 11th grades are responsible for educating new the 9th grade.

Our Public Relations department started working five years ago not only to create a sufficient budget for the team; but also to inspire students and young people at other schools by sharing STEM and FIRST values. We are actively making projects to raise awareness and produce solutions to global problems such as environmental issues and social problems. We benefit from technology and FIRST teachings while finding solutions to these problems. We are preparing for awards such as Chairman's Award and Entrepreneurship Award by writing essays, recording videos, making presentations. In addition; two years ago during the season, we founded the second FTC team "IMC Team 14331" and one of the first VRC teams #46262 in Turkey.



# Structural Layout

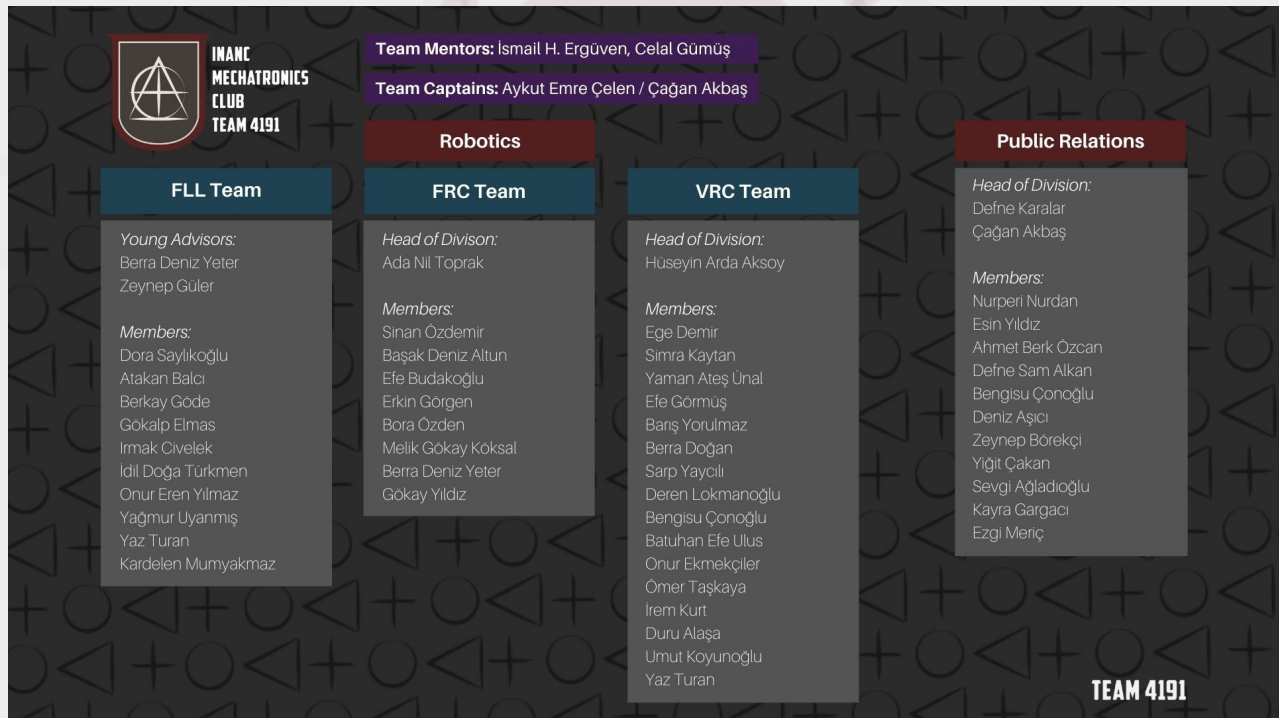
At the beginning of each season, we welcome our newest members. Each year, we follow a two-stage selection program prepared by our team members. In the first stage of the selection, candidates are expected to create methods to fulfill the basic engineering task assigned to them during the selection. During this process, current members observe the creativity and skills of the candidates, such as eligibility for group work, which are expected from FIRST students. Candidates selected from the first stage are called to personal interviews, which is the second stage, to ensure their compliance with group dynamics. In the season 2020-2021, 10 boys and 9 girls became a member of IMC. In our current team, we have members from more than 10 different cities from all over Turkey, such as Isanbul Balıkesir, Kocaeli, Tekirdağ Mersin, Ankara. Our mentors, İsmail Hakkı Ergüven and Celal Gümüş, support us in our FIRST journey, and make sure that we overcome every obstacle on our journey.

IMC has 5 different departments. These departments are FLL, FRC, VRC, FTC, and PR (Public Relations). Our FLL team has been competing since 2007. Our FTC team about to become one of the first Turkish FTC teams to compete in its own league. In addition, our VRC team competed in its first competition 2 years ago and made us proud champions. Our FRC team's robotics department creates robots to compete in regional competitions and off-seasons, while our PR team is responsible for negotiating with companies to create the team budget. Besides managing sponsorships, the PR department plans projects that aim to be a source of inspiration by encouraging everyone to work in the STEM fields, regardless of who they are.



Along with projects, our PR team often organizes presentations that are not only for sponsorship contracts for companies but also to inform primary schools, high schools, universities, and Science and Art Centers about FIRST principles and values. As IMC, we strive to fulfill our mission by doing our best every day to spread FIRST values around the world.

## Team chart:





# SWOT Analysis

**Strengths:** As a team member of Inanc Mechatronics Club, we are more than a family. We write our award essays not to win awards, but to get inspired by each other and other teams. The fact that our passion for FIRST and STEM is instructive gives us an advantage over other teams.

**Weaknesses:** We can't renew our aging materials in our workshop because of financial difficulties. We spend almost all of our budget on the participation fee and accommodation expenses of the competitions we participate in abroad. We prefer to send one more team member to the competition rather than buying new equipment for the robot. Therefore we have difficulties in the construction of the robot because of the insufficiency of our materials. In addition, our mentors change every year and this creates problems in terms of continuity. Since our school is in an isolated location, experts in their fields cannot come to mentor us.

**Opportunities:** Robotics and engineering, in Turkey, especially at the high school level are not sufficiently developed and widely used. We realize how lucky we are and with the help of resources provided by our sponsors, we are trying to help others to participate in STEM fields. We are creating projects for bringing the opportunities we have to those in need.

**Threats:** Recently, the economic situation of Turkey has been getting worse because of the pandemic

The sum of these factors causes the Turkish lira to lose value day by day against the US dollar. Because of the economic difficulties, we will need to conduct online education for new members of our club, which is normally face-to-face. We are likely to encounter problems during integrating our education online. In extension to all these problems, one of our mentors, who was with us in the previous season, stated that he will not be with us in the upcoming season. For this reason, in order to participate in FIRST competitions, a more difficult financial resource search and working pace await us. This year is going to be harder than ever.



# MARKETING

We have been organizing various events and meetings to share FIRST values that we aim to make our voice heard in schools all around Turkey and to the CEOs of companies that are interested in STEM. Our projects are not limited to Turkey. For instance, with the website that we created for FRC teams of Chinese origin, we have been helping our Chinese friends to learn about robots and get information about FIRST despite the country's internet restrictions. We also wrote a book, Alica's Robotics Journey, about a boy who wants to improve himself in the fields of robotics and engineering in order to inspire children about robotics. Next to Alica's Robotics Journey we wrote another book called Ela's Robotics Journey, which tells the story of a girl who wants to get involved with mechatronics. Despite difficulties, both of the characters were able to succeed in the end. We translated them into 11 different languages and vocalized for visually disabled individuals. We seized a chance to share this book with girls in refugee camps and all around the world. We started another project of our after realizing that the carbon emission we caused as FRC teams were enormous. We decided to make a stride for reducing carbon emission and we sent a form that we prepared to every FRC team in the world to calculate their carbon footprints. We calculated teams' carbon footprints that answered the form and created a FIRST Forest by planting a tree for each team we accessed globally. Our FIRST Forest has a total of more than 80 trees on the campus of our school.

Two of the other projects that we developed for environmental problems are IMClenaer and Earthquake Alarm. Gebze Gulf, a gulf located next to our school, is very polluted because of industrial wastes.

Thus, we developed a robot called IMCleaner to collect solid waste under the water to stop this pollution. We are aiming to make our robots more productive and as the next step, we hope to clean the Bosphorus in collaboration with the Turkish German University. Pollution is not the only problem that we are faced with. Our country is at high earthquake risk because of its geographical location. With the recent increasing earthquakes, we developed an earthquake alarm to help people living in earthquake zone. The Earthquake Alarm rings when it detects seismic waves. Because our school is in Gebze, which is a high earthquake risk region we are actively using earthquake alarm in our school.

The latest project that we are making is creating an SDSN report. We are trying to be a part of the sustainability movement with United Nations Sustainable Development Solutions Network (UN SDSN) Turkey. We are planning to raise awareness about the 17 sustainability goals that were declared by the UN through our sustainability booklet and educational establishments especially high schools within the scope of this project.

As IMC, we are prioritizing influencing people's lives instead of succeeding at the competitions. In STEMS camps, in different cities such as Giresun Sinop and Diyarbakır in Turkey, we worked a lot to share the FIRST spirit and message which we shared with pride for years and we will continue. We introduced FIRST by attending many radio programs, news, and internet sites. We put the details in the attachment. Also, we have a website where we share our projects, news that we attend, and informations about our team. In this period, we try to be more active in social media accounts since more effective to reach large audiences.

You can reach us from the accounts below.



@imc\_team4191



IMC - Inanc Mechatronics Club



@InancMC



Inanc Mechatronics Club



<http://imc.tevitol.org>



# Financial Statement

FIRST teaches us how to plan group work. As IMC, we are working with 4 groups. One of these groups is PR (Public Relations). We are able to attend competitions thanks to the financial support provided by our sponsors. Our sponsors are TEKFEN, TEV, and UPS. Some local companies give us discounts for mechanical tools. We were also entitled to a \$ 2,868.91 bond, which was awarded to FRC teams last year. Every year we inform our sponsors about our projects and achievements, moreover, give small gifts to show our gratitude. During the competition, we proudly display our sponsors' logos and flags. We are aware that preparing a budget plan is an important part of our job. That's why we prepare detailed financial income and expense tables every year. Thus, we act by seeing our financial situation and capabilities.

Our team's income and expense table are below:

Expense							
Expenses / Competitions	Transportation (Airplane)	Accommodation	Participation Fee	Transportations in Country	Additional Fees	Food	Total
Regional (25 Students + 5 Mentors)	-	-	2.000 USD (17.050 TL)	500 TL	-	600 TL	18.150 TL
Houston Championship (10 Students + 1 Mentor)	55.000 TL	20.000 TL	5.000 USD (42.625 TL)	-	-	-	117.625 TL
Project + Visit	-	-	-	-	3.000 TL	-	3.000 TL
Workshop + Robot Expenses	-	-	-	-	2.000 TL	-	2.000 TL
Total							140.775 TL

Income	
Company Name	Amount of Income
TEV	40.000 TL
TEKFEN	42.625 TL
<u>Fikret Yüksel Foundation</u>	(1.500 USD) 12.209,85 TL
Potential Sponsors	45.940,15 TL
UPS	Our shipping expenses covered by UPS.
Total (not including potential sponsors in total incomes): 94.834.85 TL	

# One Year Plan

## IMC 2020-2021 Establishing the Annual Plan

17 September 2020	TAU IMC First meet
18 September- 27 October	Sponsorship Research (1nd Round)
4 October 2020	FRC PR Elections
2-5 October 2020	FRC Robotic Elections
10 October 2020	FRC Robotic Election Result
26 October 2020	FRC PR Elections Results
27 October 2020	FRC FLL Election
28 October 2020	FRC FLL Elections Results
29 October 2020	Regional Application
8-12 November 2020	Gender Equality Report
8-12 November 2020	Establishing the Annual Plan
13 November 2020	The End of the Fikret Yüksel Foundation Grant Application
16 November 2020	Making FIRST Season Application
9-14 November 2020	IBB Meeting
20-30 November 2020	Sponsorship Research (2nd Round)
2-5 December 2020	To Get Established the First UN SDSN High School Society in TEVİTÖL
14-20 December 2020	Digital Hit The Road
2-3 January 2021	Landing The Sea-Cleaning Robot In The Water
4-17 January 2021	Contacting FRC Teams All Over the World by Mail and Continuing the 2020-2021 Season of the Survey Result Carbon Footprint Project
1 January- 25 February 2021	Process to Design Robot
9 January 2021	2021-2022 Regional
15-25 January 2021	Sponsorship Research (3rd Round)
May- June 2021	FRC World Championship Houston
1 July 2021	Season of Critical






# CONTACT

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**FİKRET YÜKSEL  
FOUNDATION  
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ROBOTICS  
COMPETITION**

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