

## TEAM STRUCTURE

### General View

Istanbul Technical University Rover Team (ITU Rover Team) was formed in August 2016 under the Faculty of Electrical and Electronics Engineering. Our academic consultant is Doc. Dr. Serkan Türkeli from Control and Automation Engineering department of our university. ITU Rover Team has 5 sub-teams; Mechanical, Software, Electrical, Science and Public Relations & Finance. All sub-teams also has their own subunits which are assigned to specific work package. These subunits are flexible, people can change according to deadlines or updated importance of work packages. In the first week of every month every work package are discussed. These discussions are the reason and the consequence of our dynamic subunit system. Our team structure is shown in figure 1 in detail and information about all of our members is mentioned below.

**Özgen Tunç Türker [Leader]:** Electrical Engineering undergrad, working on project management, before rover, worked on several robotic projects and lead project teams.

### Mechanical Sub-Team

**Öner Altınbağ [Sub-Leader]:** Aerospace Engineering undergrad, working on mechanical design, before rover, worked on Hyperloop pod competition and IREC.

**Ahmet Hakan Duman:** Control and Automation Engineering undergrad, responsible for the mechanisms in the team, before rover, worked on hobby robotics projects.

**Bartu Demirci:** Mechanical Engineering undergrad, working on gripper and general mechanics of rover, before rover, joined robotic competitions.

**Bugay Çağlar:** Mechanical Engineering undergrad, working on chassis design and structure analysis of the rover, before rover, experienced chassis design which learned in classes.

**Kaan Öznur:** Control and Automation Engineering undergrad, working on mechanical design and production, before rover, worked on a couple of robotics projects.

**Kuzey Rifat Kızgınkaya:** Aerospace Engineering undergrad, working on supplying and determining materials that what we are going to use or we will possibly use.

**Sami Korkmaz:** Mechanical Engineering undergrad, working on basic mechanical things in team also following process of production, before rover, worked on 3D printer.

**Şühmehmet Yıldız:** Aeronautical Engineering undergrad, working on robotic arm and production, before rover, involved in UAVs and have done design and analysis studies.

**Yasin Yağıń:** Meteorological Engineering undergrad, working on drive system, before rover, participated in local robot competitions at the university.

### Science Sub-Team

**Caner Aslan [Sub-Leader]:** Metallurgical and Materials Engineering undergrad, working on instrumentation of the rover for scientific measurements and selecting analysis.

**Bahadır Onur Gündürü:** Aerospace Engineering undergrad, graphical designing for promotions, worked in PARS Rocketry Team's avionics and payload departments.

**Hazel Alan:** Geological Engineering undergrad, working on geological evolution and geological structure of competition site.

**Zeynep Selin Başaran:** Chemistry Department undergrad, working on science researches, before rover, worked in ITU Electric Vehicle Team for two years.

## Software Sub-Team

**Vatan Aksoy Tezer [Sub-Leader]:** Aerospace Engineering undergrad, working on autonomous navigation, before rover, worked on rockets, CanSats, ROVs and UAVs.

**Celaleddin Hidayetoğlu:** Control Engineering undergrad, working on the UI/UX design and implementation of the website, worked as a leader of a student society's IT team before.

**Ferhat Metin:** Control and Automation Engineering undergrad, working on the software of base station's interface, before rover, worked on a couple of robotic projects.

**Garen Haddeler:** Control and Automation Engineering undergrad, working on making robotic arm more efficient and stable, before rover, worked with some embedded software.

**Hüseyin Burak Kurt:** Mechanical Engineering grad, master student at System Dynamics and Control Program, working on robotic arm control system and ROS implementation.

## Public Relations & Finance Sub-Team

**Sevdenur Erol [Sub-Leader]:** Architecture undergrad, working on design and organization in the team, before rover, worked in ITU Electric Vehicle Team for 2 years.

**Bahadır Umaç:** Urban and Regional Planning undergrad, working on modeling of rover and designing of posters and brochures, before rover, draw pictures and design models posters.

**Ege Batuhan Akgül:** Mining Engineering undergrad, working on design and organization in the team, before rover, worked in international documentary photography project.

**Yiğithan Yılmaz:** Aerospace Engineering undergrad, working on social media of the team, before rover, worked as a mechanical team member of ITU Pars Rocketry Team.

## Electronic Sub-Team

**İlyas Eray Tuncan [Sub-Leader]:** Control Engineering undergrad, working on developing smart sensor nodes, before rover, worked on various projects and referee in ITU Robot Olympics.

**Muhammed Şeker:** Electrical Engineering undergrad, working on battery system.

**Oğuzhan Demiriz:** Electronics and Communication Engineering undergrad, working on hardware design of electronic circuits, before, worked as a referee in ITU Robot Olympics.

**Sule Öztürk:** Aerospace Engineering undergrad, working on communication systems, before rover, worked as avionic leader of Pars Rocketry Team.

## TEAM RESOURCES

Our Public Relation and Finance sub-team is working to promote and find financial support to our project. By this, we have taken supports of several Turkish companies. Some of them are in cash, others are components and materials. On the other hand, our university offers us several workspaces and laboratories in which we can use CNC router, lathe etc. In order to use our budget more effectively, we divided our budget four + one (extra) portions and planed all portions spendings by our estimations, as shown in figure 2.

## PROJECT MANAGEMENT PLAN

As a new team, our first task was to create subteams and determine their work packages. After detail researches about work packages we named, we noted the time needed to complete each task. That's how we create our gantt charts which is shown detailly in figures 3 to 6. These figures shows the last updated version of our plans. As mentioned before in the meetings of first week of every month we discuss about our plans and edit them. In addition to that all members meet once in a week to discuss about on going works and every sub-team also meets more than once to work together.

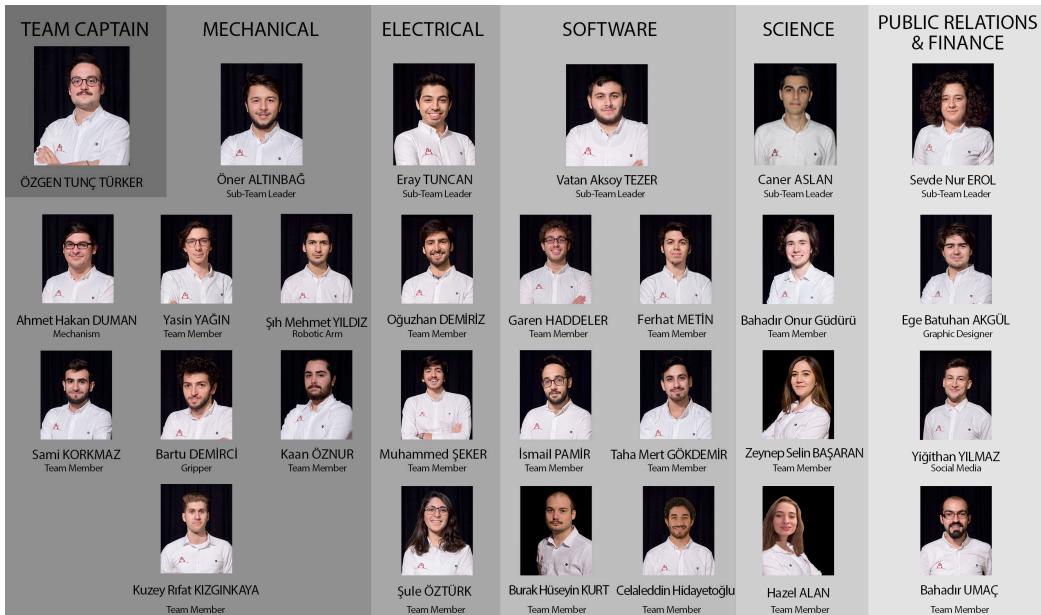


Figure 1: Team Structure

Category	Estimated Budget	SUMMARY		
		Real Budget	Spending	Actual
Mechanics	22.500,00 TRY	7.185,34 TRY	4.849,00 TRY	2.336,34 TRY
Electronics	15.000,00 TRY	4.456,90 TRY	2.623,00 TRY	1.833,90 TRY
Science	10.000,00 TRY	1.637,93 TRY	0,00 TRY	1.637,93 TRY
Software	5.000,00 TRY	818,97 TRY	0,00 TRY	818,97 TRY
Other	5.500,00 TRY	900,86 TRY	412,00 TRY	488,86 TRY
Total	58.000,00 TRY	15.000,00 TRY	7.884,00 TRY	7.116,00 TRY

OTHER SUPPORTS				CASH FROM SPONSORSHIPS	
Company	Category	Description	Amount	Company Name	Amount
ODAK PCB	Electronics	printed circuit board	2.000,00 TRY	ENKA VAKFI	5.000,00 TRY
IKO	Mechanics	bearing	1.000,00 TRY	İSTANBUL YAŞ MEYVE SEBZE İHRACATÇILAR BİRLİĞİ	1.500,00 TRY
OO-Kuma	Mechanics	3D printing	500,00 TRY	TURKSAT	3.000,00 TRY
Normsay	Mechanics	Prototyping	2.000,00 TRY		Total 9.500,00 TRY
	Total		5.500,00 TRY		

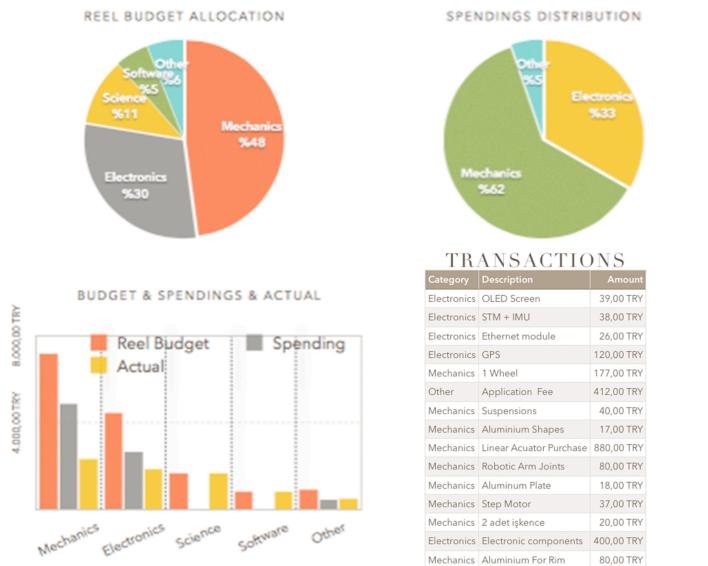


Figure 2: Team Resources

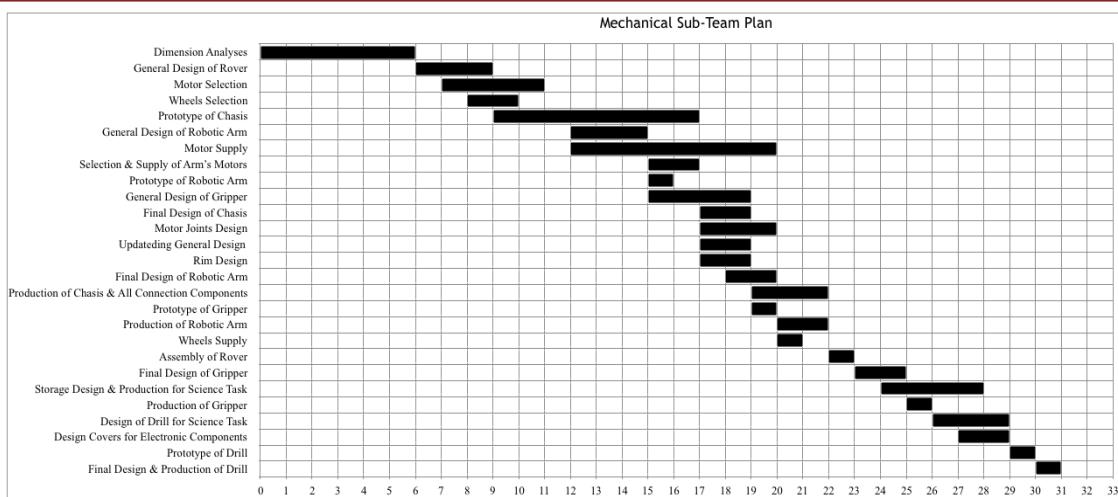


Figure 3: Mechanical Sub-Team Project Plan

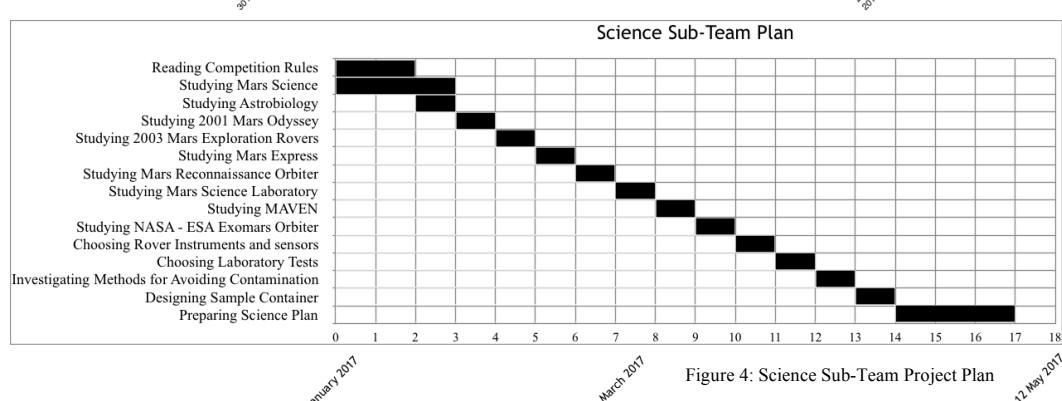


Figure 4: Science Sub-Team Project Plan

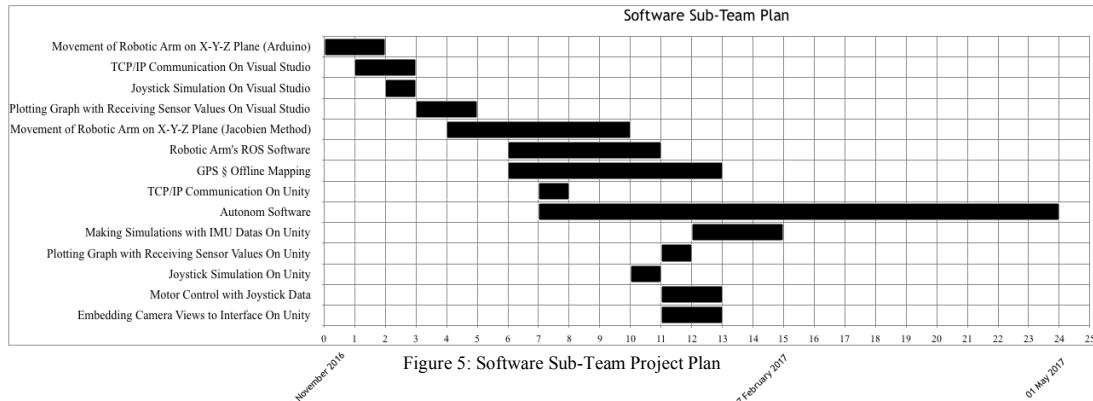


Figure 5: Software Sub-Team Project Plan

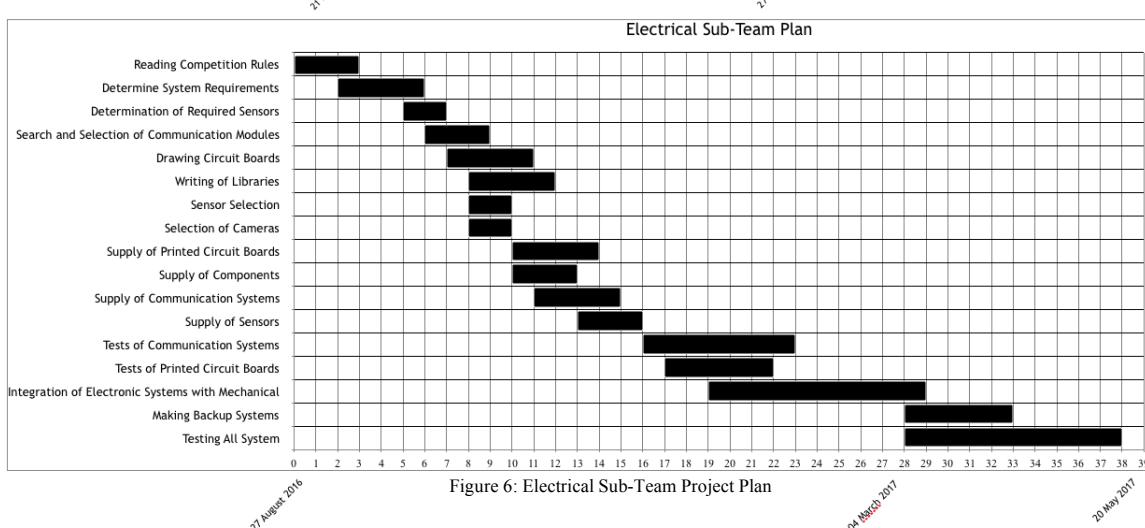


Figure 6: Electrical Sub-Team Project Plan