**INTRODUCTION**

In the last few decades, robots are gaining more complex abilities, thanks to improvements of technology, that they substitute for humans in many fields of industry. This progress enables us to handle things easier and in more time efficient way since their performance is better than ours in many aspects of our daily life such as personal, professional life etc.

Being a newly founded company with five highly motivated, young engineers from different specialization fields such as electronics, control, computer and telecommunications ; our aim is to develop a teleoperated robot that can play hockey which includes trying to score in opponent’s goal and also defend its own goal. Apart from the specifications defined above we intend to come up with the best featured robot possible.

In this project, our main purpose is to build a robot that we can control from a specified distance with a remote controller. In order to fulfill this requirement, we need to find an efficient way to transfer data from our robot to the main computer. This is a two-way communication since we will send directions to the robot so that it can move with respect to these commands. Moreover, our robot’s image processing features should also be highly reliable since we want to detect the ball, tell the difference between our goal and the opponent’s , should stay in our half field so that we can improve our chance to score a goal and win the round. In addition to image processing, the mechanical structure of the robot should also be robust so that it can endure possible encounters with the ball. To sum up, this project and its solutions may contribute to the areas where teleoperated robots are used for many different purposes.

In this report, a detailed analysis of this project is presented. Standards are defined, solution approaches for each subsystem is discussed, team organization, tentative cost-budget analysis and time plan of the project is introduced.