HW1

The Iridium project provides L-band data and voice information coverage to satellite phones and lots of devices across the entire Earth's surface. In short, it is a satellite communication system that can provide wireless communication for all devices in the world. It is a satellite constellation and Iridium Communications is the owner of this constellation. It was designed by Bary Bertiger, Ken Peterson and Raymond J. Leopold in 1987. Since Iridium is element number 77 in the periodic table, 77 satellites were initially intended to be launched, but later 66 satellites were used. The satellites are in low Earth orbit at an altitude of about 780 kilometers. Constellation was developed by Iridium SSC and funded by Motorola.

This project was created with very large budgets and received large investments. However, due to reasons that could not be calculated or overlooked, it did not receive the expected attention and ended in failure. While starting this project, the spread of the GSM network and the speed of development of mobile phones could not be calculated well. As a result, many people are turning to lighter mobile phones that provide calls at less cost, while Motorola, which has been badly affected by this, has reached the stage of bankruptcy. In this system, people connect directly to the satellite without using any ground station. The phones used to benefit from this satellite communication system are very large, heavy and visually disturbing devices with large antennas. Unfortunately, these devices do not work well indoors. These systems can only be used by the army, etc. It has been understood that it can be used efficiently in wars and natural disasters.

On the other hand, pricing is one of the main reasons of this project to bankrupt. In order to ensure the continuity of this project, which was created with very high costs, it had to serve many customers and its prices were quite high compared to other GSM operators. The talk is priced at \$5 per minute and the selling price of the phones to be used is set at \$3000. Due to a strategic mistake in pricing, the expected number of customers was not reached and the project came to the brink of bankruptcy. The total customer number was nearly 10000 people. So, the company entered into \$1.5 billion debt.

For the Iridium project to be successful, pricing should have been kept low from the very beginning. In this way, much more customers could be reached. The excess of satellites in Low Earth Orbit (LEO) should have been taken into account and engineering studies should have been done according to a more suitable orbit.