

Cutting in front with ESTCube-2: How building a satellite makes an attractive employee

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Note: We expect to add more authors before the final submission of paper.

Abstract

Estonian Student Satellite Foundation (ESTCube Foundation) is student founded non-profit space technology education development organization giving students a unique opportunity to gain experience in fast paste space technology industry during their university studies. With mentors varying from industry professionals to world class scientists and emphasis on creating each part of the satellite from the scratch ESTCube differs significantly from usual student satellite organization.

1. Introduction

Estonian Student Satellite Foundation (ESTCube Foundation) is student founded non-profit space technology education development organization. With thriving Estonian technology start-up scene in constant rising the total expenditure on R&D activities in Estonia is steadily increasing. This trend has also given rise to expenditures to salaries in science, technology and innovation sectors. Last ten years has seen the rise from €500 000 investments raised in 2006 to €103 million in investments raised in 2016 by Estonian start-ups. That is a rise of 200 fold. With steadily increasing investments into Estonian technology start-ups country with a population 1,3 million people faces a new challenge which is shortage of qualified personnel. The need for qualified personnel has already lead to thriving start-up Jobattical and Estonian government issuing a simplified working visa process for technology specialists from outside EU. ESTCube Foundation is tackling the issue by providing multidisciplinary approach with hands-on training in space technology development and teamwork to students during their studies in university making graduates with ESTCube experience fully prepared and experienced to take positions with responsibility in Estonia booming technology sector. Students with ESTCube experience have graduated to take positions in MIT,

Spire, Starship Technologies, Ministry of Economics and Communications in Estonia and many others.

2. Why ESTCube?

ESTCube-2 differs from your usual student satellites. ESTCube-2 is built on the knowledge of ESTCube-1 by the Estonian Student Satellite Foundation in collaboration with the Finnish Meteorological Institute and Ventspils University College. The Estonian Student Satellite Foundation was founded by students and Estonian entrepreneurs to initiate space industry in Estonia and surrounding countries through providing students a multidisciplinary approach in developing, managing and building space grade satellites from ground up. The main focus in the ESTCube Foundation is aimed at building and testing novel technologies developed in collaboration with other research institutes in Estonia and outside. That creates an environment more similar to a tech start-up rather than a youth or student organization. An ESTCuber needs to be quick on his/her feet, willing to learn, willing to fail, be a good team member, adaptable, take initiative and responsibility and to be ready to deliver. ESTCube is a high pressure and high motivation environment for students. ESTCube is a perfect breeding ground for highly skilled people to enter the high speed tech start-up world.

3. How we work

ESTCube Foundation works as a technology start-up with 14 technical teams and 6 pillar teams. Each team is responsible with their respective field with volunteer mentors and team leads. Volunteer mentors are either ESTCube-1 members or industry professionals. All teams are connected and rely on each other to survive. This sort of organization builds trust and collaboration between different field students as well as with industry. Students learn to take responsibility and to work in teams.

From the downside as ESTCube is volunteer based organization aimed for students we have quite the fluidity within ESTCube members. This means constant trainings of new members and large number of inactive members. This creates a constant challenge to ESTCube management and team leads.

4. Summary and Conclusions

ESTCube Foundation and building ESTCube satellites is a unique challenge for students. Not only for students in different STEM fields but also for students of non-technical backgrounds. Keeping an organization with 70 active members and constantly growing running takes a lot of effort. ESTCube thrives on personal responsibility and on people who are willing to go further and do more and that is why an ESTCuber is an attractive future employee and this is why have an excellent track record of our graduates being hired by world class innovation bringers.

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