

# How to raise funds for a school project robotics ...

## Project experience Agua Clara new Panama Canal Locks

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**Abstract.** To Raise private funding for a school project of robotics relies on making the company, to which the project, so they can see it as an investment, not an expense, but above all, you need to prepare yourself to support your project in a clear and simple way. Trusting that it is an excellent project that will have some impact on an educational level.

**Keywords.** Robotics, Backgrounds, Manage, Project Panama Canal Agua Clara Locks

### 1 Introduction.

To raise private funds to build a scale model of the Agua Clara Locks of the Panama Canal was a task not to be taken lightly, it required to make investigations of the different components needed to move ships and vessels. Sizes, scales and must important elaborate an accurate budget. But the most important is the passion to sale the idea that this was a good project to be developed.

### 2 Raise funds, a difficult task

In Panama, is not easy to have the school funds to build any kind of project. Schools have a lot of needs, and placed on a scale, to help students with school meals, or invest funds to purchase robotic project equipment... the choice is clear. That is why it is necessary to look for alternative to raise funds from third parties in order to make this educational projects.

Raising private funds to help us to make a robotic project is not easy, as the companies see it as an expense rather than an investment in which they can take advantages. Companies want their brands to have media exposure, so companies choose other sponsorships where they can generate the exposure.

There is another factor that repels sponsorships, the money. Many companies think the budget are too high, and no matter if the project has a good presentation they do not see the return of their investment.

### **3 Identify the project with the company.**

The best way to access an sponsorship is to sell a project that the company will use to sell their products or something that will show their daily activities so they can promote themselves in the industry in which they operate.

A clear example for our group was to build a Caterpillar bulldozer, a crane for lifting structures or a Lock for the Panama Canal. In this three example, we were able to get the funding to build the projects as we sell them the idea that they can use the scale models as real examples on fairs and exhibitions. Showing potential customer how their products works.

Such is the case of IIASA Caterpillar. We presented the project to build a D11T Bulldozer. This robotic project develops a remote controlled D11T to be operated on dangerous situations. This scale model show how the operator can drive the Bulldozer with a clear vision on a safe environment. We presented the exhibition at CAPAC EXPO.

You must also take advantages of the opportunities. In Panama on June 26 the opening of the third set of lock of the Panama Canal will take place. So it was the perfect time to prepare a major project with an educational perspective to something that would be news for long.

So after an intensive search, we reach Mr. Jorge L. Quijano, Panama Canal Administrator, by email. We presented him the project to scale the Agua Clara Locks which is located at the Atlantic entrances of the Canal. This project will perform a robotic model of the passage of a vessel Neo Panamax from Gatun Lake to the Atlantic Ocean and back, raising, lowering and moving the ship by the three lock chambers of Agua Clara. It will show the movement of the gates and water recycle process and other technical handling of the locks

### **4 Main Objective of the Project**

The construction of the model of Agua Clara Locks did not make sense if it was only to be presented to the staff of the Panama Canal, so the the main idea of the project was to make an educational model, where the aim was people could interact with the model and thus learning to be more significant. To be able to handle different gates, raise or lower the boat and observe as the movement of ships will be the main attraction, providing an opportunity for people to learn more about the operation of the new locks, as many people living in the hinterland it is impossible to travel 500 kms to view this engineering marvel.

Taking the view that should be sold the idea of an educational model and not simply a model to demonstrate the operation of the locks, begins to make the different studies and research to prepare a draft reflecting the educational value of this and that the benefit exposing this model would be to provide an experience as operator locks, considering that this operation would be as close as possible to reality.

After a couple of weeks of waiting, we have a meeting with executives of the Panama Canal Authority (ACP), at this meeting the project's future would be decided, so nothing should go wrong ... the question was, how shall I start and I sell the idea that they have to make this model ... there is a

saying, a picture is worth 1,000 words, in my case it would be a video is worth 10,000 words, and it was important to make a big impact and see that the RBots Robotics club already had experience doing this type of project.

## **5 Presenting the project**

Start the meeting with executives of the ACP and my first words are to show a video of 2012 where a model of automation of the Port of Balboa Container is exposed, this 3-minute video reflects the work done by students in the RBots Robotic Club and design, construction, programming and educational robotics kits used for movement, loading and unloading of containers can be seen from a ship container, to the storage yard.

After the video presentation and with the expectation that was created, we focus on explaining what the educational purpose of the project and its impact in the community. This project is based on vision to bring the Panama Canal to people who are inside the country and to take the Panama Canal to them, as the model can be move to anyplace in the country, this objective is linked not only to see the model, but interact with the model through a control center, which will give them the opportunity to manage the system lock gates of Agua Clara, thus learning will be more meaningful and concepts such as handling locks will have a permanent effect on their knowledge.

After conceptualizing and view the draft Agua Clara lock, we proceeded to explain how the project, robotics kits would be used, as ships would move into the chambers, how control would be done it would be done model and other technical aspects that have to do with the design, construction and programming model.

It was important to bring some diagrams, sketches and budget data, which would be essential to determine the scope of the project, carry a schedule and deadlines was also important, as denoting what step would be carried out, which gave confidence to the ACP executives.

It was time to talk about prices and investment that would make the ACP to carry out the project, costs were high, but the projection, learning and bring the Panama Canal with the presentation of the model Locks Agua Clara in the community was greater than the costs and worth making the investment.

After 1 hour of explanation and view the main objective of the model, good to perform it seen he is given, and start all actions to make the quotes purchase robotics kits, manage funds for the purchase of the kits, which the ACP departments would be involved in the project and especially when serious presentation.

## **6 Key points to manage the project.**

After we were granted the funds for the project, we assing task to the team. Design, build and programming team were structured. The scale model will be a big one. 6 meters long by 3 meters

wide. We had 16 weeks of hard work, 6 people working for more than 1,500 hours. The first exhibition of the scale model was ready with a complete success at the 54th International Fair of San José de David where the main goal was met, to bring the Panama Canal to the countryside people.

For this project to become a reality, it was important to present it in an enthusiastic and passionate way fulfilling a vision, and the objective we first presented to the SPONSOR. Leading us to a guaranteed success. It will never matter the company investment as you fulfilling the objective.

The keys to success of this project,

- To firmly believe that you can do
- Be well prepared to support the project
- Bring a well structured documentation, with bases in what you want to do and how you do
- Keeping a budget as serious investment and the funds would be used
- Set dates forward and project completion
- Identify the project with the company
- Show them that is an investment, not an expense
- To demonstrate with facts that have experience and a high quality work will take place
- Always give that extra effort so that everything is perfect
- To be a leader for the team to work with you
- Put passion, dedication, effort and work to the project

At the end the big winners are the students who put all their passion in realizing the project, and that the experiences gained in the design, construction, programming and other stages of the creation of the model of the sluices Agua Clara were huge and they open doors to future projects, linked to their university studies will form better citizens for society.