

EntryNo3.Yohei Yashiro

Bring an exciting experience to the world with Robocon kits made by industrial high school students!

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Hello everyone! I'm Yohei Yashiro from Gifu Prefectural Ginan Technical High School. Today, I'd like to introduce my business model: "Creating Exciting Experiences for the World with Robocon Kits Made by Technical High School Students!"

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Currently, my schoolmates and I are developing and manufacturing Robocon (robot contest) kits for elementary school students and providing them to children. Right now, we only charge for the material costs, but we hope to expand this into a business in the future. Today, I will share that idea with you.

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Are you all familiar with Robocon for elementary school students? Simply put, it's an event where children combine a kit like this with everyday materials, such as milk cartons and straws, to build a robot and complete challenges in a competition. We have intentionally made this kit with simple, plain wood so that children can freely arrange it to match the robot they have designed.

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Through this activity, we have seen children working on their robots with such joy and concentration. Furthermore, we, the high school students who develop and manufacture the kits, are also learning and growing a great deal. In fact, this type of education, learning through "monozukuri" (the art of making things), is now gaining global attention as STEAM education.

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To explain STEAM education, it can be a complex pedagogical method like the one on the screen, but to put it simply, its goal is not just to have students memorize knowledge. Instead, it aims to cultivate their ability to "find problems on their own and creatively solve them" through a scientific approach. This is said to be a crucial skill for children who will live in the coming era.

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The initial motivation wasn't necessarily to promote STEAM education. It all started when we heard from the organizers of a Robocon for elementary students that "the Robocon kits are too expensive, making it difficult for children to participate." A simple thought, "If we could make them cheaply, couldn't more children easily join Robocon?"—that pure desire is the origin of our activity.

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Let me talk about the specific price. A commercial kit used in major Robocons costs about 5,000 yen, but our kit, with equivalent or better functionality, can be provided for about 1,500 yen. This price takes labor costs into account, making it a sustainable business model.

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By the way, the standout component in this Robocon kit is the switch. This is its internal structure; we designed it with a precision of 1 millimeter to ensure it would never break, even if handled roughly by a child, and could still be offered at a low cost.

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Our business plan is for high school students to manufacture these kits and sell them to Robocon organizers. By doing so, we can create a society where children can easily participate in Robocon without a significant financial burden. We believe this is a true "WIN-WIN" plan because it's not just the elementary students who benefit; the high school students also receive practical STEAM education through the manufacturing process.

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Currently, we are only providing the kits as volunteers in Gifu. However, in the future, we want to create open innovation by releasing the kit's data and manufacturing instructions for free.

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If we do that, it will be possible for others to develop the same business model all over the country. It will also allow people to improve upon our kit and hold their own unique events.

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The greatest strength of this business plan is, above all, its track record. We have already delivered 500 sets of these kits over last year and this year. And, once we release the data, it will be reproducible anywhere in the country.

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Of course, it may be difficult to make a large profit from this alone or to change the very nature of education overnight. However, I believe that this small initiative allows both the high school students who build the kits and the elementary school students who use them to learn and grow through STEAM education. I am convinced that in this, we can create a value far greater than profit.

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This concludes my presentation. Thank you very much.