

# Adventures 2 a smarter world

Ellen Hiep, Ilse Kroesen, Richard Taverner

*Ellen Hiep, founder and CEO HiePRactief., Rotterdam, The Netherlands*  
*Ilse Kroesen, founder and CEO 2Ontwerpers, The Netherlands*  
*Richard Taverner, founder and CEO Fused Learning, Carmel, California, USA*

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**Adventures 2 a smarter world connects elementary age students (11-13 years) in the top technology regions in the world by organizing international, online challenges in the field of smart and green mobility. In April 2017, the first pilot challenge was organized between 2 groups in Silicon Valley and 2 schools in the Netherlands (Hilversum and Rotterdam). The challenge is using the STEAM Educational approach to learning that uses Science, Technology, Engineering, Arts and Mathematics as points for guiding student inquiry, dialogue and critical thinking. As from this (school)year (2017-2018), several challenges per year will be organized on autonomous driving, energy, solar and EV with every region in the world that wants to join.**

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## Why?

Adventures 2 a smarter world started end 2016 after elementary school trips in the US with two prominent student projects of the Eindhoven University of Technology: the Stella solar car and the electric motorcycle STORM. With these projects students wanted to show the world what green and clean mobility can look like in the future. The Stella team won the world Solar Challenge in Australia and the Tech Crunch Award for their four-seat, solar-powered car and travelled with the car to California to get more awareness. The STORM team travelled with their own build electric motorcycle around the world in 80 days. During these trips both student teams visited elementary schools to educate children on their project and made them aware of clean energy. During these visits they let the children build their own mini Stella and mini STORM.

The founders of Adventures 2 a smarter world were closely involved in these educational trips. They helped organizing the visits and made the models for the mini Stella's and mini STORM motorcycle. They saw with their own eyes that children really like to learn about the adventures of the student team, not only because of the workshop, but particularly also about the international aspect of it. They were both curious about things

happening around the world and wanting to learn about new technologies. This was the motivation to start with this international education program to learn and inspire children about future technologies and work together with children around the world.

## **Mission**

Adventures 2 a smart world ([www.adventures2smarterworld.com](http://www.adventures2smarterworld.com)) connects elementary age students (11-13 years) in the top technology regions in the world by organizing international, online challenges in the field of smart and green mobility. The goal for A2sw is to help young students develop and share innovative and critical thinking skills for an exponentially changing future.

## **Method**

The challenge is using the STEAM Educational approach to learning that uses Science, Technology, Engineering, Arts and Mathematics as points for guiding student inquiry, dialogue and critical thinking. STEAM is a curriculum based on the idea of educating students in an interdisciplinary and applied approach. Rather than teach the five disciplines as separate and discrete subjects, STEAM integrates them into a cohesive learning paradigm based on real-world applications. STEAM prepares young students for the challenges of the 21st century.

In the challenge the following steps are taken by the students

1. **Think.** This step contains research about environmental issues, zero emissions, energy positive mobility, traveling to countries and learning about other cultures.
2. **Design.** Brainstorm of ideas for the future of transportation, develop your travel plan and design your futuristic vehicle.
3. **Create.** Build your project vehicle, create a travel map and passport and give your project a name using the language of the destination country.
4. **Submit.** Make a presentation (video, drawing, journal, etc.) of your project then upload.
5. **Reflect.** Reflect on your creative process and review the projects submitted from other teams. Write 3 things you did well and 3 things you can improve.

## Results

In April 2017, the first pilot challenge was organized between 2 groups in Silicon Valley and 2 schools in the Netherlands (Hilversum and Rotterdam). The subject of challenge 1 was ‘travel from Holland to California or from California to Holland without using fossil fuels’.



The challenge took 5 weeks and reached 65 students (and their parents and teachers). The challenge helped students (and schools) to meet the needs of a 21st century economy. During the challenge, the students had to make their own routes, models, and presentation (in English). The students from the different region’s were in contact with each other through movies, email and skype. They all did the challenge during the same 5 weeks. During these 5 weeks the children worked in groups and followed the steps of the above-mentioned method.

The first week the children had an introduction about the challenge and the subjects connected with it. At the end of this week every class uploaded an introduction video. The second week the children looked at the video’s of the other classes and they started the design-part of the project. Working together in groups and critical and creative thinking were important this week. At the end of the week every group had drawn their ideas about future mobility. In this third week the groups all made a 3D model of their design and some tested it. The fourth week the groups made their own presentation video where they showed their design and explained which choices they made and how they worked together. These videos were uploaded so the other classes and groups could watch them. The last week the teacher reflected with the children on the designs and process of the groups in his own class and they discussed the other classes.

Week	Results	Learned skills
1	Introduction video	researching, digital skills, collaboration, English
2	Design sketches	critical thinking, problem solving, creative thinking, sketching, technology
3	3D model	collaboration, mathematics, technology
4	Presentation video	digital skills, English, collaboration
5	Evaluation session	evaluation, reflecting

After the project the teacher and children were asked about their experiences during this pilot. The teachers were surprised that children came up with a lot of creative ideas and that each child could use his/her talent in this project. They also were pleasantly surprised that children learned indirect all new skills with this integrated project. The children loved the international character of the project: besides being ‘inventors’ for a few weeks, they found it very motivating to see how children at the other side of the world were thinking and acting and they liked the interaction.

## **Next steps...**

Adventures 2 a smarter world is aiming for worldwide adoption and usage of challenges by schools and afterschool groups of students. The roadmap is as follows:

- In this schoolyear (2017-2018), at least three challenges are organized in the field of EV and autonomous driving with schools and groups in California, Ohio and the Netherlands. Other regions in the world can join, by entering the website.
- For the schoolyear 2018-2019 we aim to organize one challenge a month for 10 regions in the world
- In 2025 we expect to have at least 20 regions in the world and 50.000 students participating in (one of) the challenges offered.

## **Who?**

Founders of A2SW have an extensive knowledge and experience in educating children in technical and creative subject both in the Netherlands and the USA.

**“In an exponentially changing world, where technologies are redefining how we live, work, play and learn we need smarter kids for a smarter world.” —Richard Taverner**

Richard Taverner is an Emmy®-award winning documentary filmmaker and Co-founder of Imagine It™, multimedia curriculum for teachers to integrate the process of creative and critical thinking in the classroom. Richard assembled a network of STEAM (STEM + Arts) education thought leaders including Blue Man Group, Pixar Animation Studios, MIT, Smithsonian, X-PRIZE Foundation, Lincoln Center Institute, Sally Ride Science, Richard is part of the Coast to Coast smart eMobility network, that connects California and the Netherlands in the field of smart eMobility.

### **Fused Learning**

@fusedlearningCA (twitter)

fusedlearningCA (Facebook)

[www.getinfused.org](http://www.getinfused.org) (Fused Learning)

**‘Children are the future and they’ll be living in a smarter and fast changing world. Our goal is to educate students how to solve problems and to be creative thinkers of tomorrow.’ — Ilse Kroesen.**

Ilse Kroesen is a Dutch Designer with an extensive knowledge in the field of education. She created the STELLA “Mini Solar Car” and STORM Motorcycle Assembly Project for different international clients. She also works for different science centers in the Netherland on educational projects.

### **2ontwerpers**

<https://www.2ontwerpers.nl>

@IlseKroesen

**‘I believe it’s important for Dutch schools, and kids, to connect with schools and kids in Silicon Valley. A new smarter world is built in collaboration, and this project A2sw gives the students inspiration and knowledge, and new friends too!’ – Ellen Hiep**

Ellen Hiep is a communication specialist in the field of EV, smart mobility and innovation. Ellen is based in the netherlands and part of the Coast to Coast smart eMobility network, that connects California and the Netherlands in the field of smart eMobility. “I believe it’s important for Dutch schools, and kids, to connection with schools and kids in Silicon Valley. A new smarter world is built in collaboration, and this project A2sw gives the students inspiration and knowledge, and new friends too!”

### **HiePRactief**

<http://www.hiepractief.nl>

@ellenhiepr

