SOLAR LAB
BY COMPUTER AID

TECHNOLOGY AVAILABLE ANYWHERE
The Project

WHAT IS A SOLAR LAB?

The Solar Learning Lab is a standard shipping container, converted into a classroom, with 11 user stations operating off of a thin-client network (which is a low consumption network) and powered by a connected solar solution. With the addition of outside space and laptops, the lab can offer up to 20 people at a time a wireless connection to learning materials. It offers a stand-alone, mobile technology enabled space to underserved communities around the world who would otherwise not have access to ICT due to prohibitive local infrastructure and the economic challenges they face. Partnering with Dell Technologies, we plan to install 10 Solar Learning Labs each year until 2030.

NOT JUST ACCESS, TRAINING TOO

A lack of appropriate spaces and resources for learning prevents young rural populations from accessing the same opportunities as their urban peers. The Solar Learning Lab programs establish a unique space to enrich learning resources, build local institutional capacity and provide access to 21st century skills for the local population. Technology in this program is a tool of transformation and participation. This is not only because ICT skills are essential to succeeding in the modern world, but also because establishing a Solar Learning Lab with the latest technology is a force of transformation and inclusion in traditionally marginalized communities.

“I can now confidently use the computer for various purposes and this has made me believe that I am not limited in any aspect of my academic life.”

Emmanuel Okere, Student of State Senior High School, Lagos, Nigeria
Set Up

**TECHNICAL CONSIDERATIONS**

The Solar Lab comes with different solar power capacity depending on the local needs. The minimum set up is 1.5 KW power including 6x 265 watts panels, but if extra power is needed this can be increased to suit local needs adding extra batteries for energy storage.

**DESIGN CONSIDERATION**

For comfort of learners and to maximize the use of space, we agreed that the lab should include; a roof awning; good insulation from heat; the right inclination for the solar panel and a community space in front of the lab that can be use for more training or internet cafe services.

Architecture

**LAYOUT**

The layout has been design thinking on the best set up for teacher and student interaction enhancing the learning process.

**INTERNAL ENVIRONMENT**

The internal environment is welcoming and designed to inspire learning. It features; high quality finishes and furniture; good lighting and ventilation; comfortable space for students; teacher centre space.
With our double Solar Learning Lab students can benefit from more space to develop their skills. The lab features two converted shipping containers with a covered space in between, allowing for laptop users to join in on lessons taught in the lab.
The Project

You might take access to computers, the internet and technology in general for granted—but imagine if you were growing up in a town or community where such access was scarce or nonexistent. If you were a child or young adult in such a place, you would be at high risk of being left behind in today’s digital world. The installation of the lab provides access to technology for the first time, but beyond that, the installation of a Solar Learning Lab is a message of inclusion and a force of change for a community or a school that needs transformation.

ABOUT THE PROJECT

It’s been proven that technology can help to engage students in lessons, regardless of the subject. By incorporating technology in an education setting, the children who might have limited or no access to technology and education, now have access to both.

The project provides a sustainable philanthropic solution to any corporate or individual who wants to impact underserved children and youth. By contributing access not only to technology but also to an ICT curriculum, every school where the Solar lab arrives will also benefit from our teacher centered training-process.
This is an affordable solution to provide access to ICT in a secure and comfortable environment. Providing an opportunity to expand Corporate Social Investment (CSI, or CSR) and corporate sponsorships.

The entire model runs off solar power and sustainable products like second hand shipping containers.

It's a fast way to deliver change without having to build brick and mortar style infrastructure which also allows relocation of infrastructure if needed. Therefore the investment will not be lost if circumstances change at a school or community.

Each lab program must have an ICT curriculum that is measurable for its impact on the child.

We will work in partnership with NGO’s and schools to assess their needs for the solution & build in country. Set up in communities as a message of inclusion for the local beneficiaries, focusing on community ownership and empowering.

We will work with partners in country to select schools and communities where there is an identified need for access to technology. We will monitor the set-up of the lab in each school and community center, to ensure that it is working correctly before it’s used. We will conduct a base-line survey to measure the ICT literacy of participants in the project before the training starts.

We will identify a minimum of 3 teachers to be trained in core ICDL modules at each school/lab. We will ensure students can access and use the curriculum at each school/lab. We will provide access to digital STEM learning content and materials. We will work with our in-country partner to provide necessary IT support to the schools/labs.

We will conduct an end-line survey to compare with the first survey. We will assess how many teachers passed each module and examine any barriers which might be preventing further achievement. We will record qualitative data from students and teachers to find out how they feel the lab has impacted their education.
# Budget

## Dell Solar Learning Lab South Africa

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<th>ITEMS</th>
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<tr>
<td>Container conversion</td>
<td>ZAR 269,832.00</td>
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<td>Site preparation and installation</td>
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<td>Solar Turnkey 2.34kW Solar System</td>
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<td>Training, learning material and internet access</td>
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<td>School selection process and project management</td>
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<td><strong>Total Funding Required</strong></td>
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## Costs funded by Dell Giving

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Estimated costs based on a single lab.
ABOUT US

Founded in 1997, Computer Aid International aimed to solve two problems: the growing problem of e-waste, and the inequality of ICT education. In the past 20 years we’ve seen how technology can impact lives and benefit education, we will continue our work to close the digital divide.