Energizing Learners in Developing Countries
Since 2006
1. Powering Potential
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1. Powering Potential
How it all began
Our Raspberry Pi Computer Lab program received the 2017 Energy Globe National Award for Best Project in the United Republic of Tanzania in its category!
Energy Globe’s official assessment of Powering Potential’s Raspberry Pi program was as follows:

- “Education is essential for a good life standard. The lack of learning material leads to a high NEET rate. This project helps to increase the opportunities for economic progression, it has improved students’ learning outcomes and provided communities with a more optimistic set of expectations for their children’s future.”
Use technology to enhance education and stimulate the imaginations of learners in the developing world.
Our Vision

Our vision is all learners in developing countries experiencing the joys of technology fulfilling their potential as global citizens
Powering Potential’s award-winning programs were designed in pursuit of three primary goals:

1. **Provide Technological Infrastructure** so rural schools are able to teach the national Information and Computer Studies (ICS) curriculum

2. **Provide Access** to digital educational resources

3. **Provide Training** for select school staff so they are able to effectively facilitate use
2. Tanzania
Mainland Program Regions

Arusha

Mara
Mainland Program Regions

Ngorongoro Crater
Olduvai Gorges

Serengeti
Lake Victoria
Zanzibar Archipelago Program Regions

Unguja

Pemba
3. Where Next?
• Peruvian Amazon pilot launch
• Led by Fulbrighter, Dana Rensi
• 25 Raspberry Pis, solar energy system, training
• Learning Equality hardware grant
• Completed summer 2019
Peru

Dana Rensi and Ena Haines on the Nauta River with local teachers

Belen District of Iquitos
4. The Technology
• 5 watts, 5 volts
• A 900MHz quad-core ARM Cortex-A7 CPU
• 1 GB RAM
• 4 USB Ports
• 40 GPIO pins
• Full HDMI port; Ethernet port
• Combined 3.5mm audio jack and composite video
• Camera interface (CSI)
• Display interface (DSI)
• Micro SD Card slot
• VideoCore IV 3D Graphics core
Raspberry Pi

- 5 watts, 5 volts
- A 900MHz quad-core ARM Cortex-A7 CPU
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<table>
<thead>
<tr>
<th>SPARC</th>
<th>SPARC+</th>
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<tr>
<td>5</td>
<td>20</td>
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<tr>
<td>Raspberry Pi computer systems</td>
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<tr>
<td>Low watt monitors</td>
<td>Low watt monitors</td>
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<tr>
<td>Mice &amp; Keyboards</td>
<td>Mice &amp; Keyboards</td>
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<td>RACHEL Offline Digital library</td>
<td>RACHEL Offline Digital library</td>
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<td>Upgraded</td>
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<td>Solar power system including solar panels and batteries</td>
<td>solar power system, including solar panels &amp; batteries</td>
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<td>System Operations and Maintenance Training for Teachers and Students</td>
<td>Schools can teach the Tanzanian Information and Computer Sciences (ICS) curriculum</td>
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• The Pi-oneer is an affordable and innovative teaching resource that combines a single Raspberry Pi computer with a solar-powered mobile projector.

• With a Pi-oneer system, teachers can utilize educational videos and other audiovisual teaching aids to improve student learning outcomes.

• The Pi-oneer is included in every SPARC installation. We also distribute Pi-oneer systems to schools that might not have the resources to accommodate a full SPARC install.
SPARC installation

Sazira School in Bunda District (Mara Region)
SPARC+ installation

Endallah School in Karatu District (Arusha Region)
Solar Specs

SPARC
- Solar panels – 2: 100 watt crystalline
- Batteries – 3: 110Ah battery 12v DC
- Inverter: 180 watt 12v
- Solar regulator: PS-30M, 30A/24v

SPARC+
- Solar panels – 5: 85 watt
- Batteries – 6: 108 Ah 12v DC
- Solar regulator: TS-45M, 4512v

PROFORMA INVOICE

Y & J ELECTRIC
Dealers In: Electrical Good & Solar System

KARATU
Mob: 0763 897949 / 0768 607562
TIN: 124 - 977 - 924

May 2016

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<th>QTY</th>
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5. Impact
Impact

- 69 programs implemented
- 23,000+ teachers and students have had a world of knowledge at their fingertips
- 60% of respondents report continuing their education
- 57% of respondents report securing employment because of their technology skills
- 2,500+ students enrolled in Tanzanian national ICT curriculum for secondary schools
“I was really impressed with the good work you exhibited in Dodoma. I therefore encourage you to continue with your efforts to enable people in rural areas to enjoy the benefits of information and communication technology.”

- H.E. Dr. Jakaya Kikwete
  President of the United Republic of Tanzania (2005-2015)

“I trust what Janice and the Powering Potential team are doing. They’re doing it the right way with local support, community engagement, and learning.”

- Jeremy Schwartz
  Executive Director of World Possible
6. Program Feedback
“If one day we meet in person, I would be much overjoyed and might shed tears because of your heart of helping since you have brought us from a dark environment and now we are going to be like shining stars. I thank you a lot.”

--- Mahando T. Mahando, Sazira Secondary School
Kama unataka kwenda haraka, nenda mwenyew.
Kama unataka kwenda mbali, nenda pamoja.
If you want to go fast, go alone. 
If you want to go far, go together.