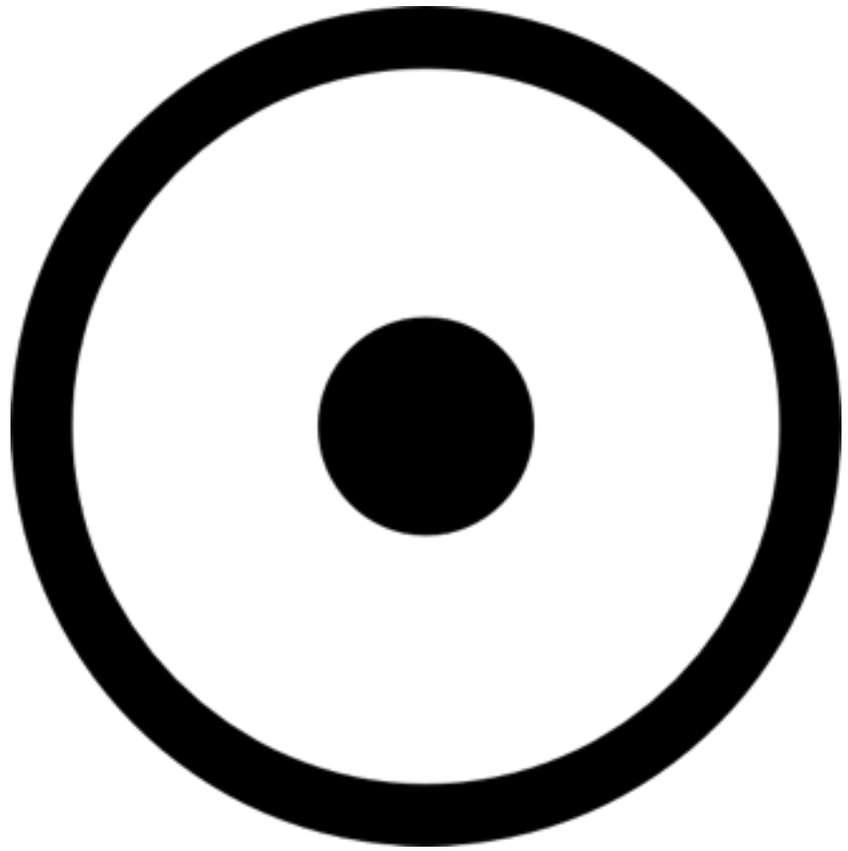


wala

The solar nomad

* Wala is the name of an aboriginal goddess of the sun

Active solar stations (2012)

http://www.ga.gov.au/scientific-topics/energy/resources/other-renewable-energy-resources/solar-energy/active-solar-ground-stations-across-australia

Problem

- Solar data coverage is quite **sparse**.
- In addition, current sensors are **expensive** and **stationary**.
- However: Historical and **widespread data is needed** to justify investments.

Opportunity

- Due to the rise of the IoT small **hardware & sensors** have become extremely **cheap**.

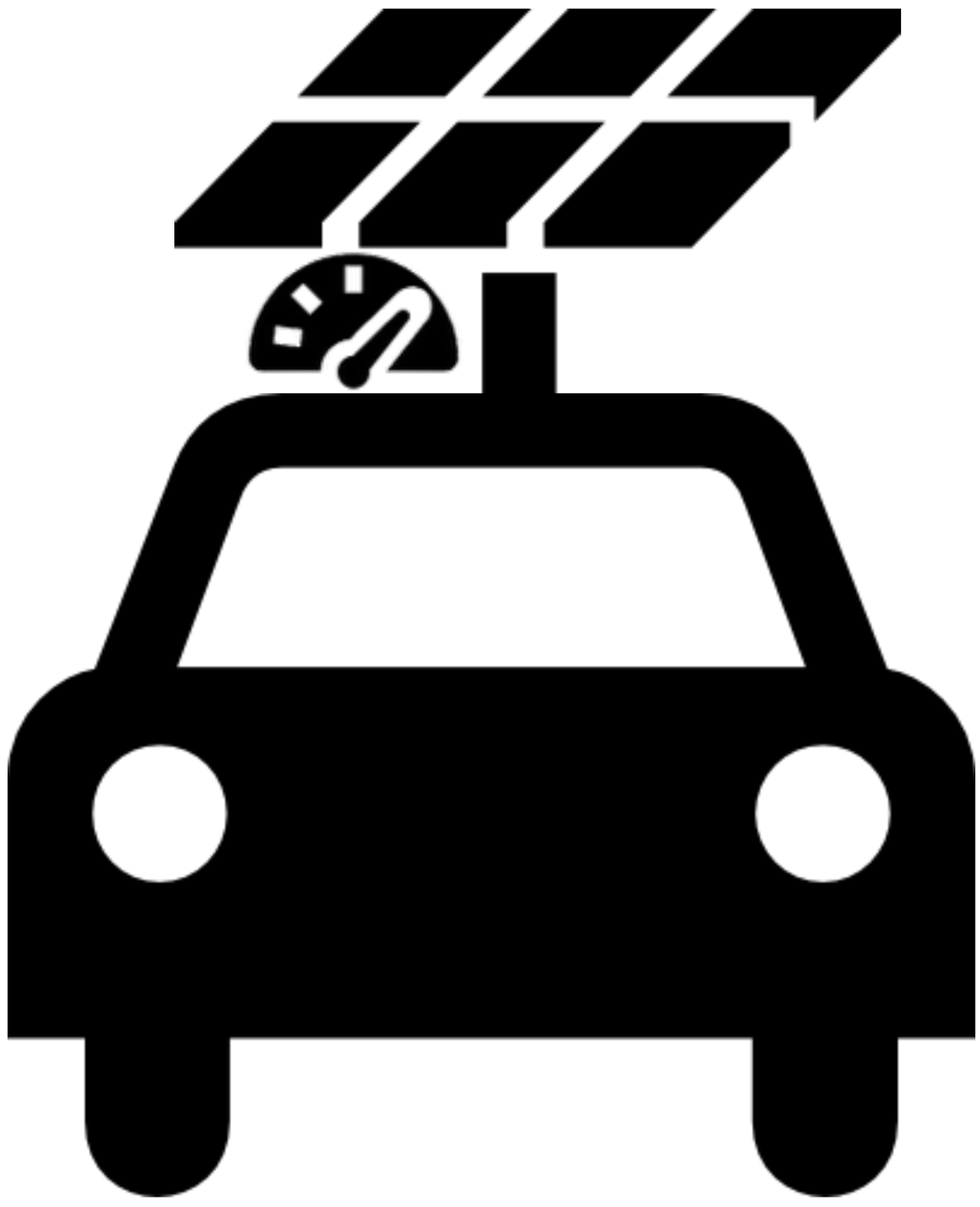
- This creates an opportunity for a **low-cost** and **highly mobile** sensor system.

- In addition to the current stationary system, this mobile sensor mesh would greatly **improve the sensor reach**.

The idea

The idea

The idea



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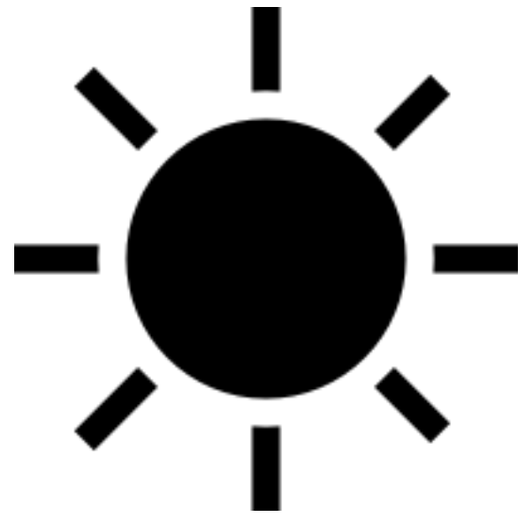

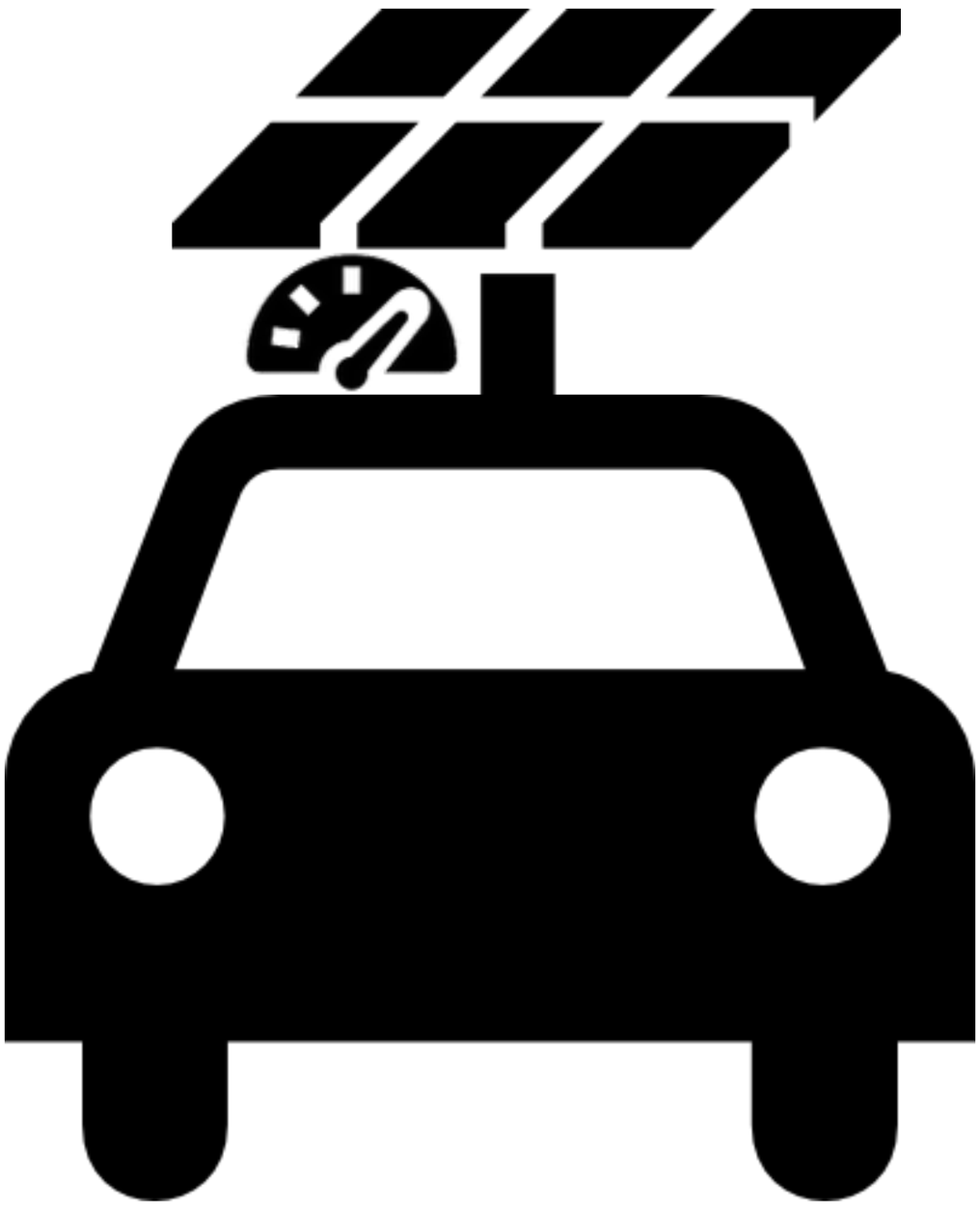

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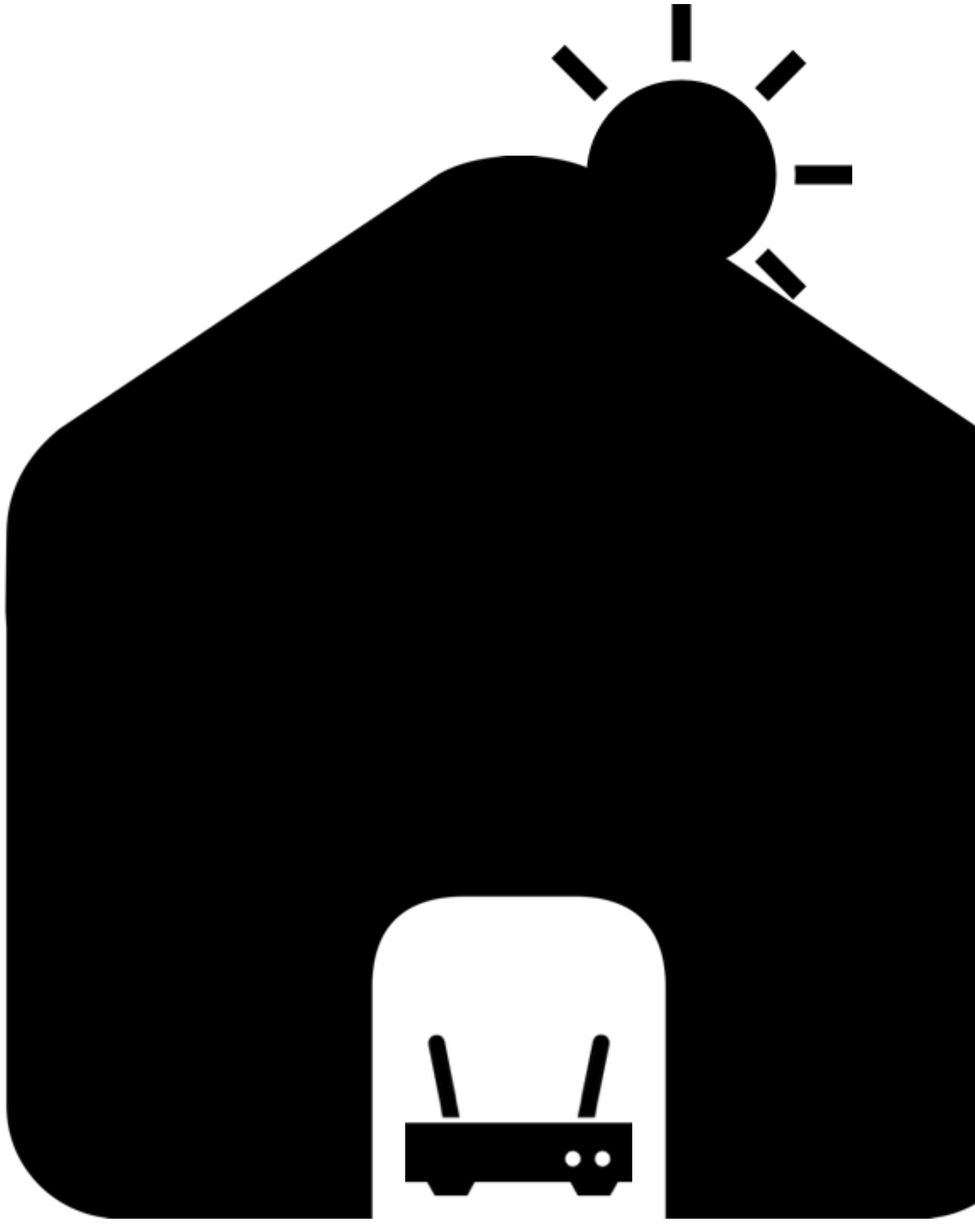
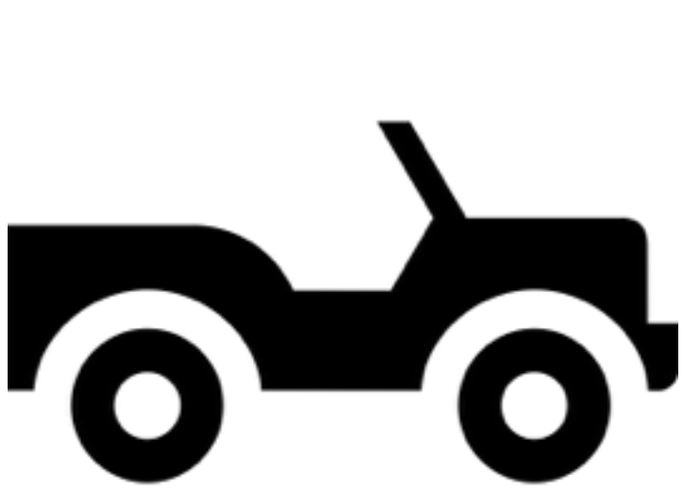


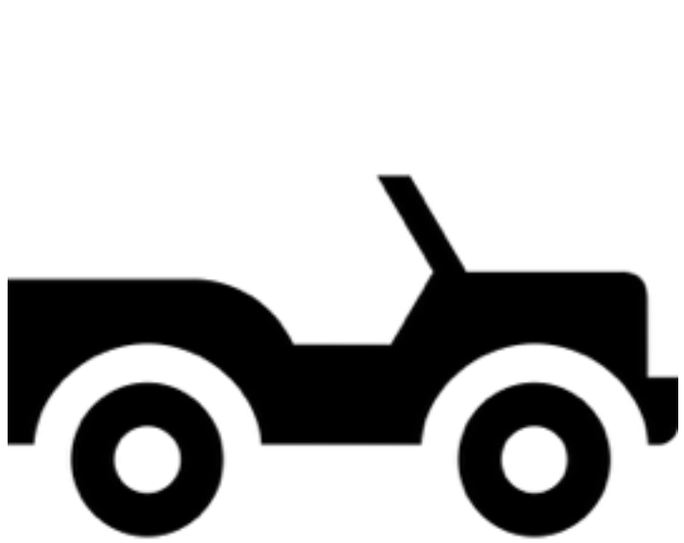
The nomads

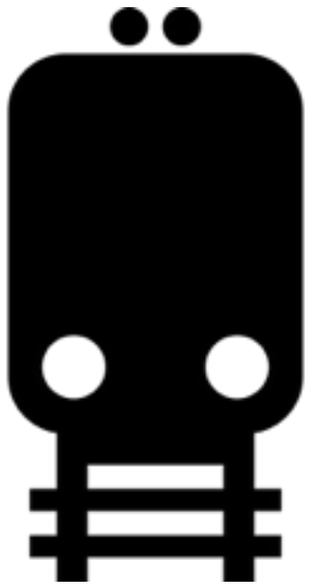
The nomads

The nomads



The nomads





Sensor module

Arduino Uno R3	$5
Real time clock module	$4.75
Gyro	$4
4 photo pin diodes (3 with filter)	$4
3.3-5V Input Photodiode Module Arduino Raspberry pi (x4)	$4
Temperature/Humidity/Barometric shield	$1.20
GPS shield	$18
WiFi shield	$2
Neodymium magnets	<$1
SD card (8GB)	$4
PV module	$5
Boost converter	$5
High temperature Ni-Cd rechargeable battery	$4
3D printed case with heatsink	$5
Consumables (glue, solder, wire)	$1
TOTAL	

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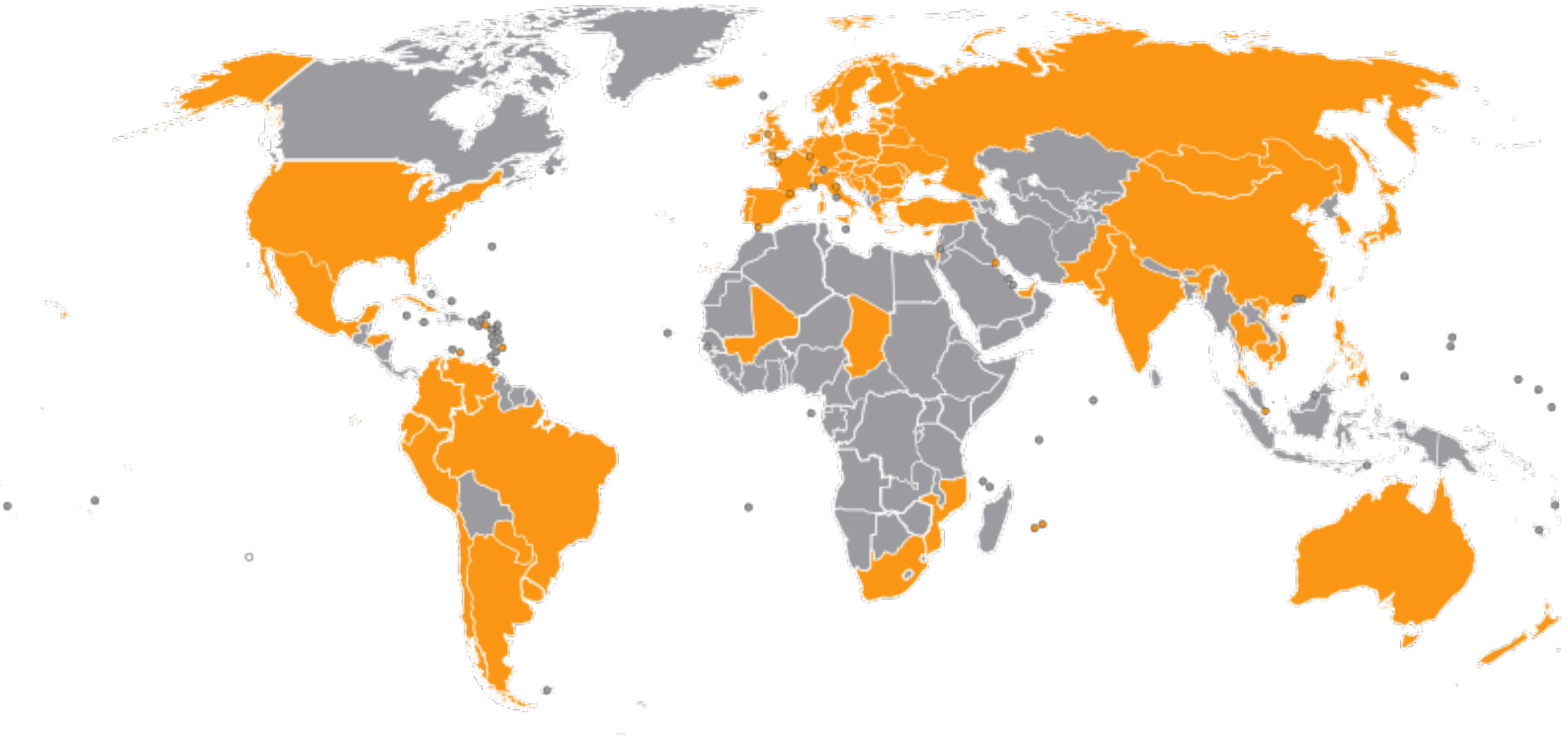
High temperature Ni-Cd rechargeable battery	$4
3D printed case with heatsink	$5
Consumables (glue, solder, wire)	$1
TOTAL	$68




fon

Off-loading

MVP

Creation of an **OpenSolarMap*** that allows us to provide the acquired data and visualization **free to use for anyone**.

* All names appearing in this work are fictitious. Any resemblance to real projects are purely coincidental.

Customers

- Bureau of meteorology
- **You!** Let's see some awesome applications next #hackthesun
- **ARENA** (Australian Renewable Energy Agency)

- Bu

- **Yo** xt
#ha

- **AR**)

This project contributed to the creation of the Australian Solar Energy Information System, funded the development of better satellite models for depicting solar radiation, and funded eight additional solar radiation ground monitoring stations.

ARENA funding committed:

$4,976,364

Thats ~73,500 walas!

Lead organisation:	Geoscience Australia
Project partners:	Bureau of Meteorology
Location:	Various locations in Australia, NSW
Technology:	Solar energy
ARENA programme:	Stand alone
Start date:	November 2010
Finish date:	2 December 2013 ✅

Need

Better and more accessible data is needed to help the solar industry identify the regions in Australia best suited for further detailed investigation and potential development of solar energy generation.

Such data can also help to improve understanding of Australia's solar radiation patterns and develop tools to improve their prediction.

Impact

- Prospecting **on the ground** > via satellite
- Increase **solar uptake** by fostering greater investor confidence
- Provide an **inexpensive reference solution** as base to build upon
- We **gotta start somewhere** - The first Google Street View car left the garage on May 25, 2007


A DAY
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KNOW
NIGHT


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