KPIT | SPARKLE

Project Title : E-WALK

Sparkle ID: SP21C001908

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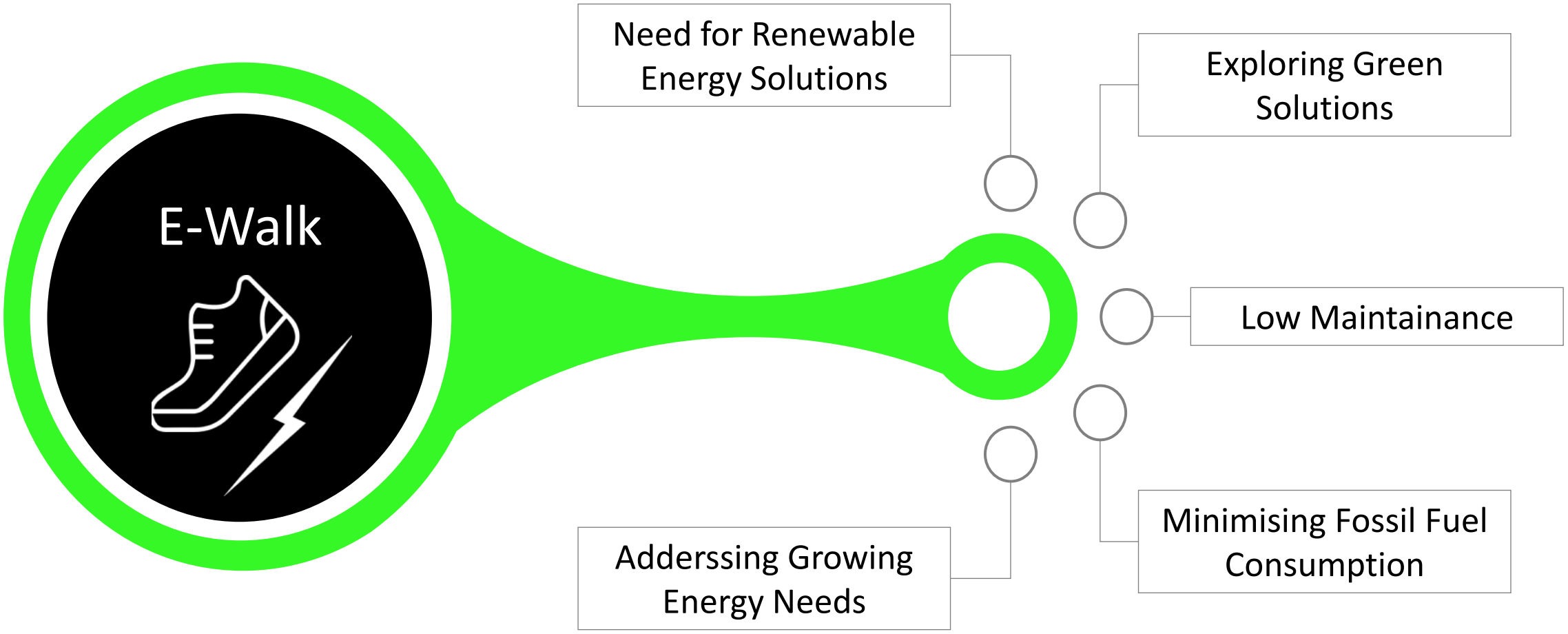
PROBLEM STATEMENT



SOLUTION

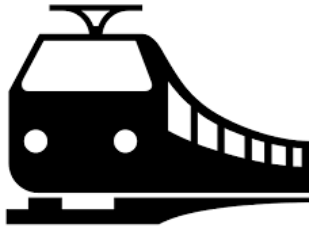
Walkways and storage systems that can generate electric power from the footfall that occur on them

Airports

Shopping Malls

Train Stations

Crowded Areas



PRODUCT FEATURES

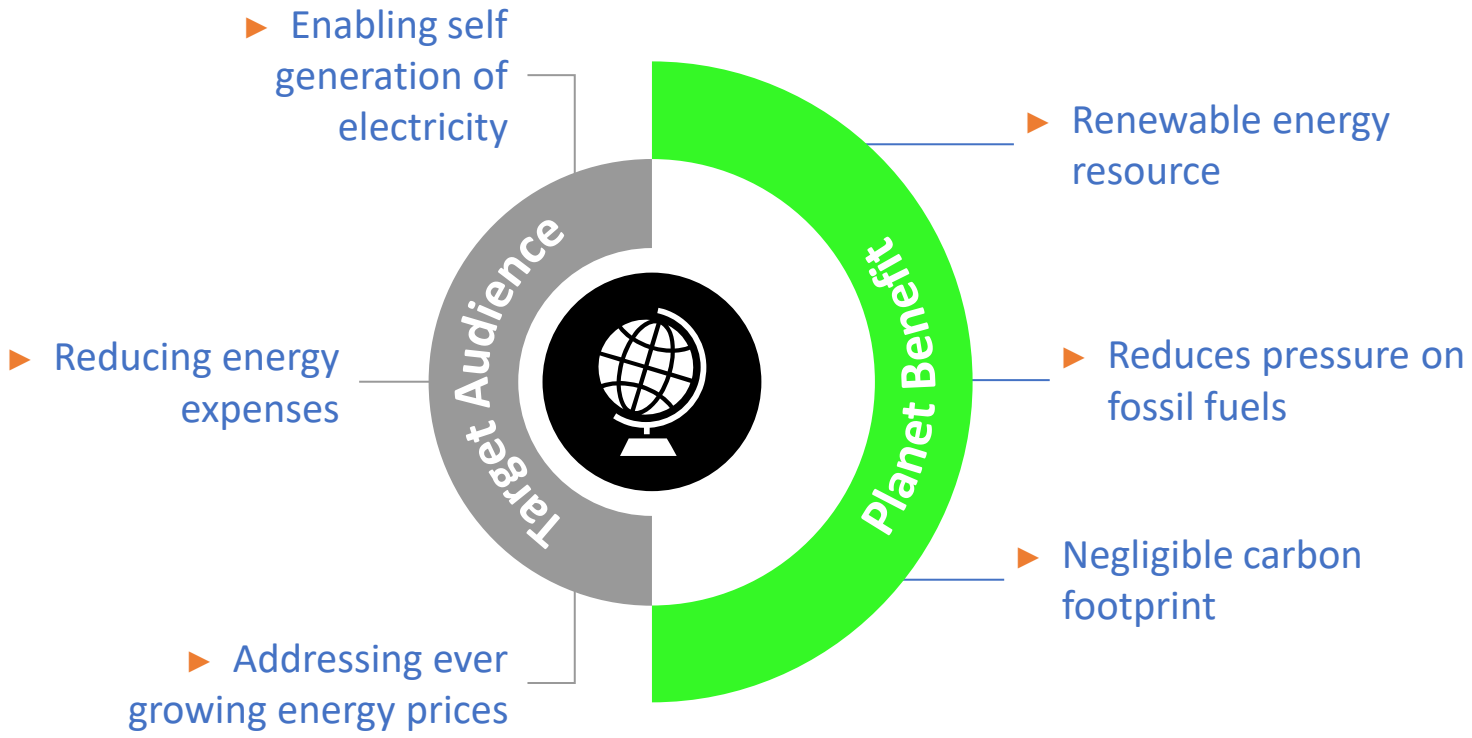
1. Based on the concept of converting mechanical energy to electrical energy

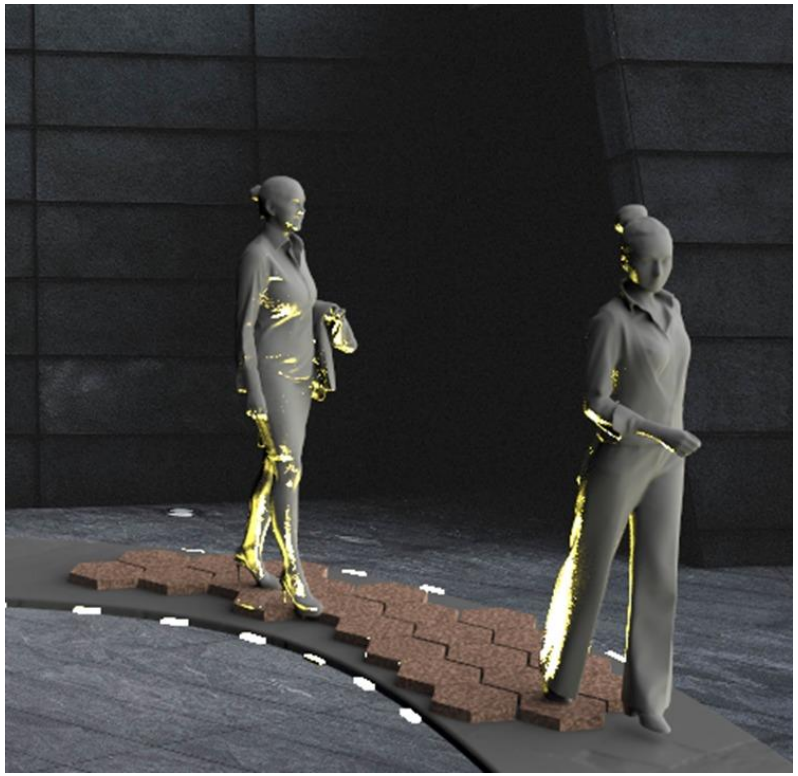
2. Produces energy with zero carbon footprint

3. Requires low maintainance: Fit and forget solution

4. Modular: Can be implemented at many locations

INNOVATION: BASIC IDEA



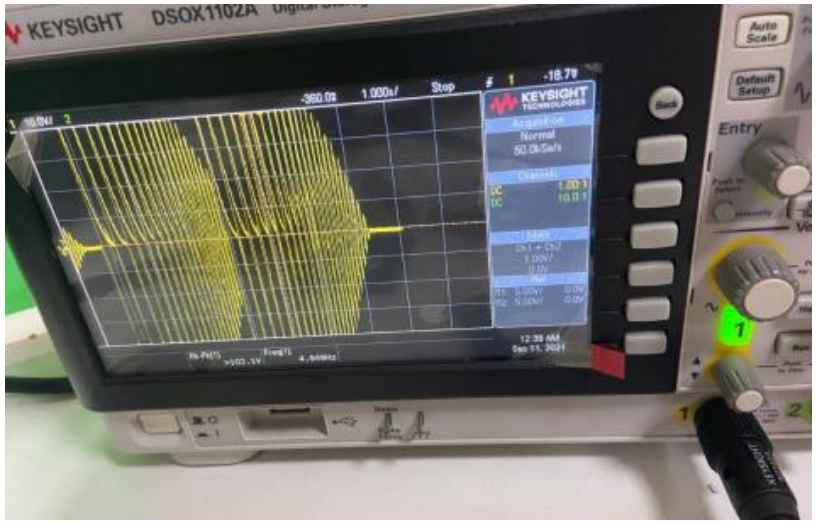


Energy Generation Walkways

INNOVATION: DIFFERENCE

The mechanism in our tile ensures that we are able to generate up to 7 times more energy than the existing solution

With Mechanism

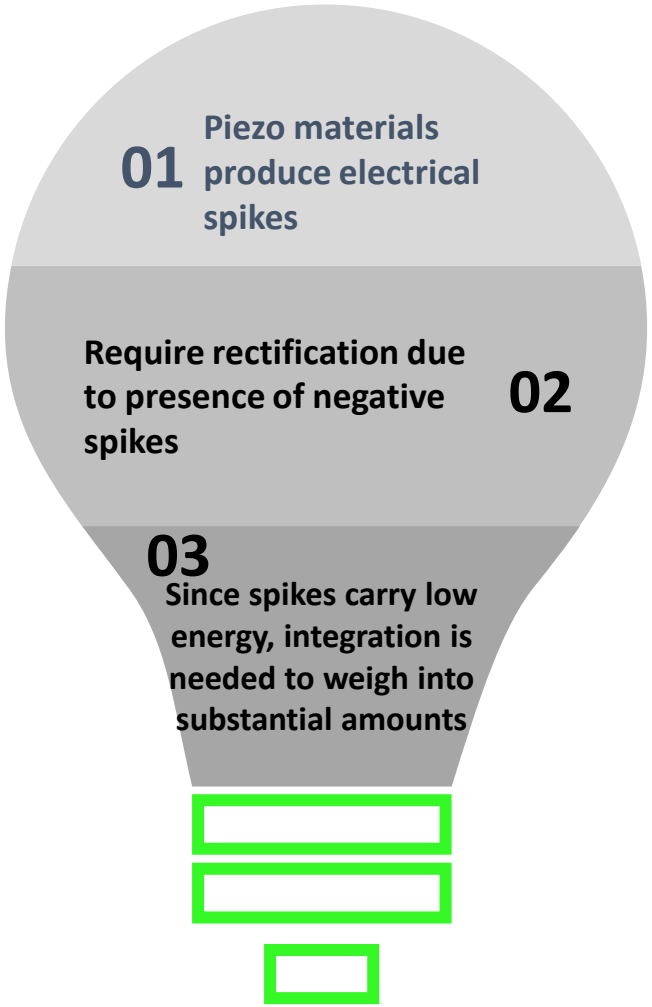


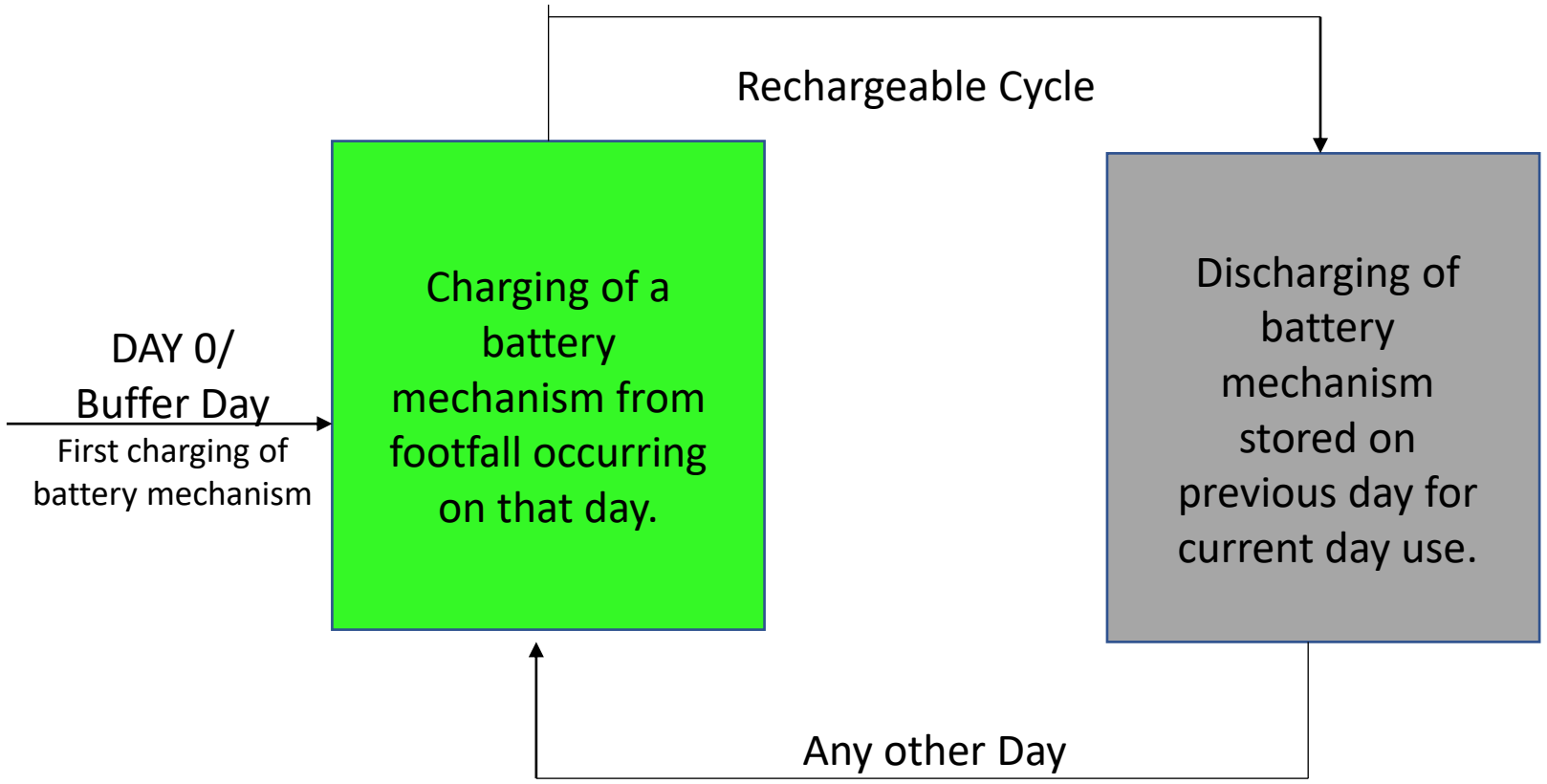
Without Mechanism

Peak to Peak voltage	60V-80V	60V-80V
Energy generated per footstep	0.5695 Joules	0.009 Joules

INNOVATION: RECHARGEABLE CYCLE

Rechargeable cycle: Unique cycle to store generated energy and store it in real life





INNOVATION: COMPARISION

9 MONTHS INTO INNOVATION OUR ESTIMATED PRODUCTION OF ENERGY IS COMPARABLE TO THE DECADE OLD SOLAR TECHNOLOGY. FURTHER RESEARCH SEEMS PROMISING.

Energy Generated per day per sq . meter	2.65 KWh	4-7 KWh
Cost per sq. meter	Rs. 1500	Rs. 3600

CUSTOMER VALUE PROPOSITION

Targeted Companies

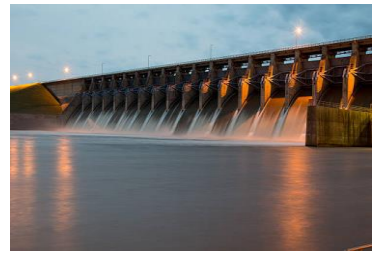
Private

Public

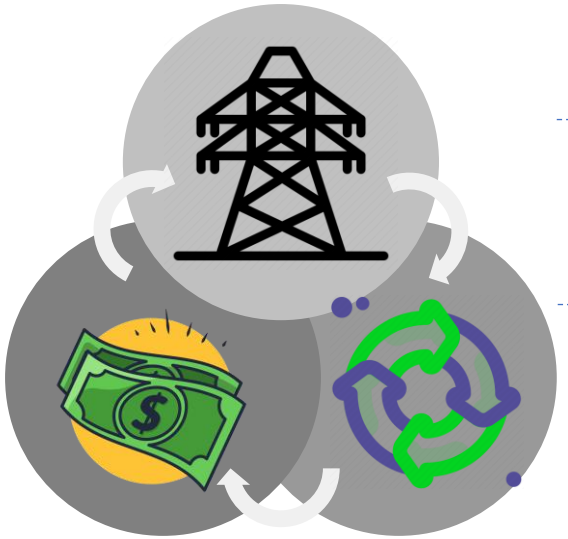
Substitutes and Competitors

Wind energy

Solar energy



Hydro energy



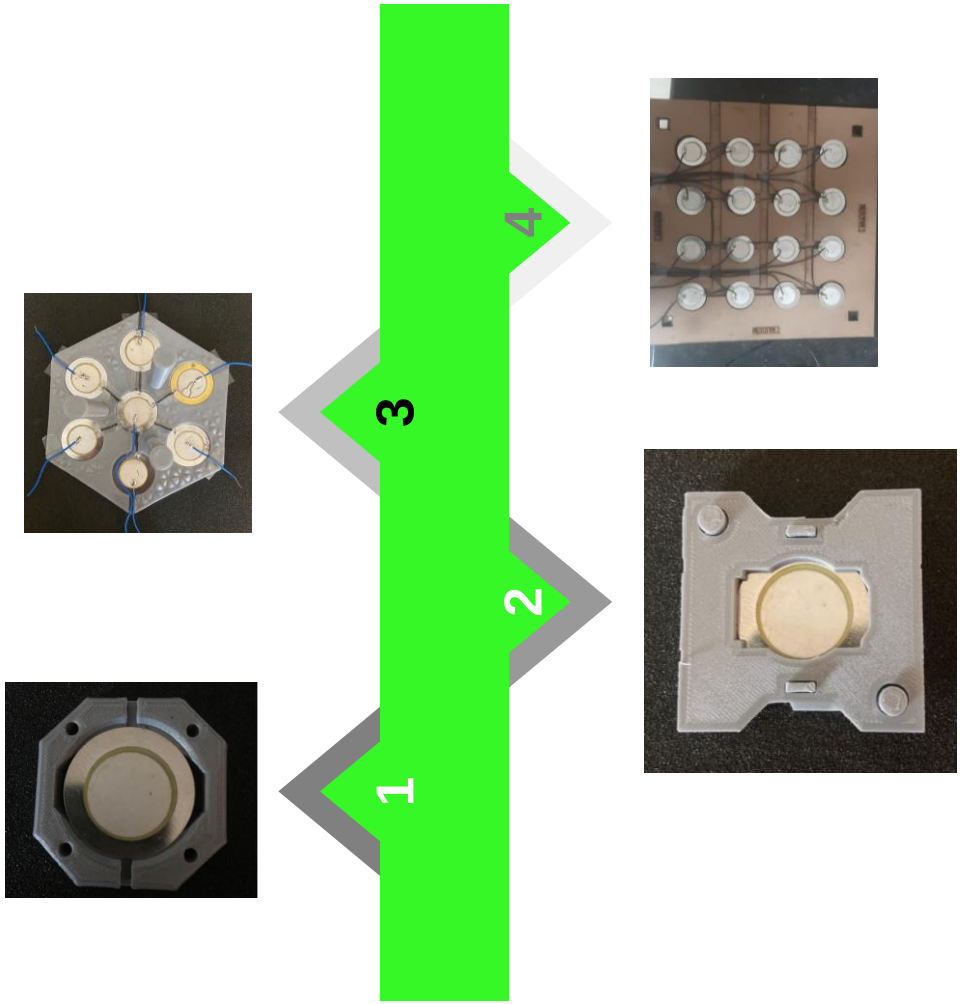
Enabling Self Energy Generation

Reducing Energy Expenses

Rechargeable Cycle Ensures Durable Energy Sources

PRODUCT DESCRIPTION

Product Journey from a small single disc modules to a complete tile holding 16 discs



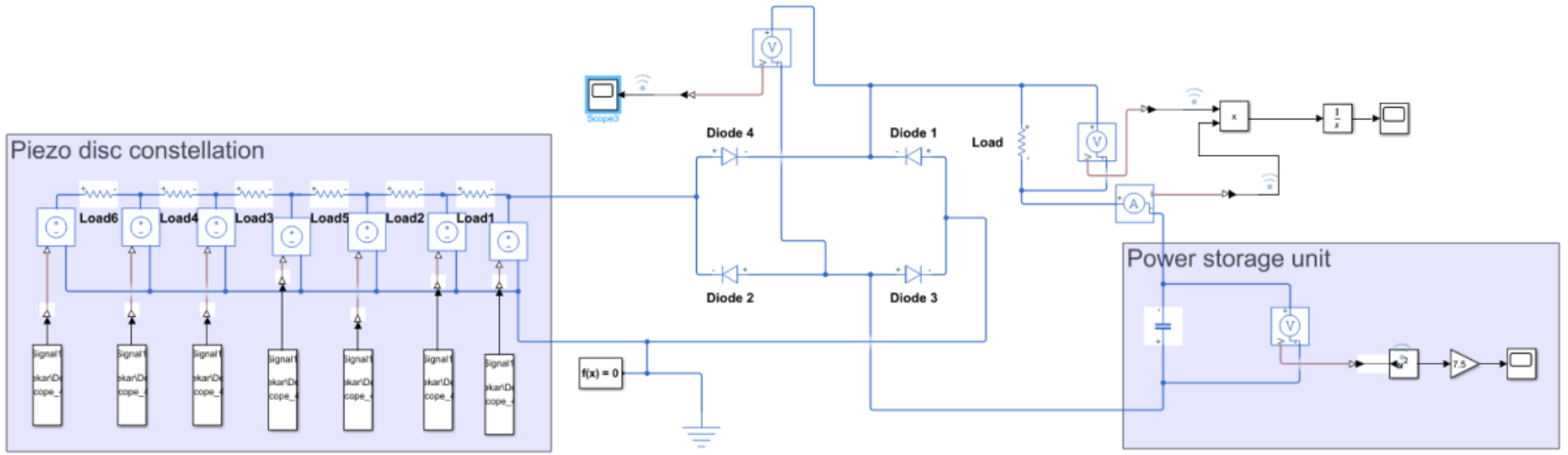
1

- Bottom most layer holds the disks
- Springs sit on top of each disk
- Mass sits on the springs

2

- Each footstep sets the upper plate into oscillations
- Mimics the behaviour of multiple footstep with just one

PRODUCT DESCRIPTION



Discs of each tile is connected in parallel

Voltage is rectified and current generated is added

Energy produced is stored in a storage unit, which is later distributed

PRODUCT DESCRIPTION

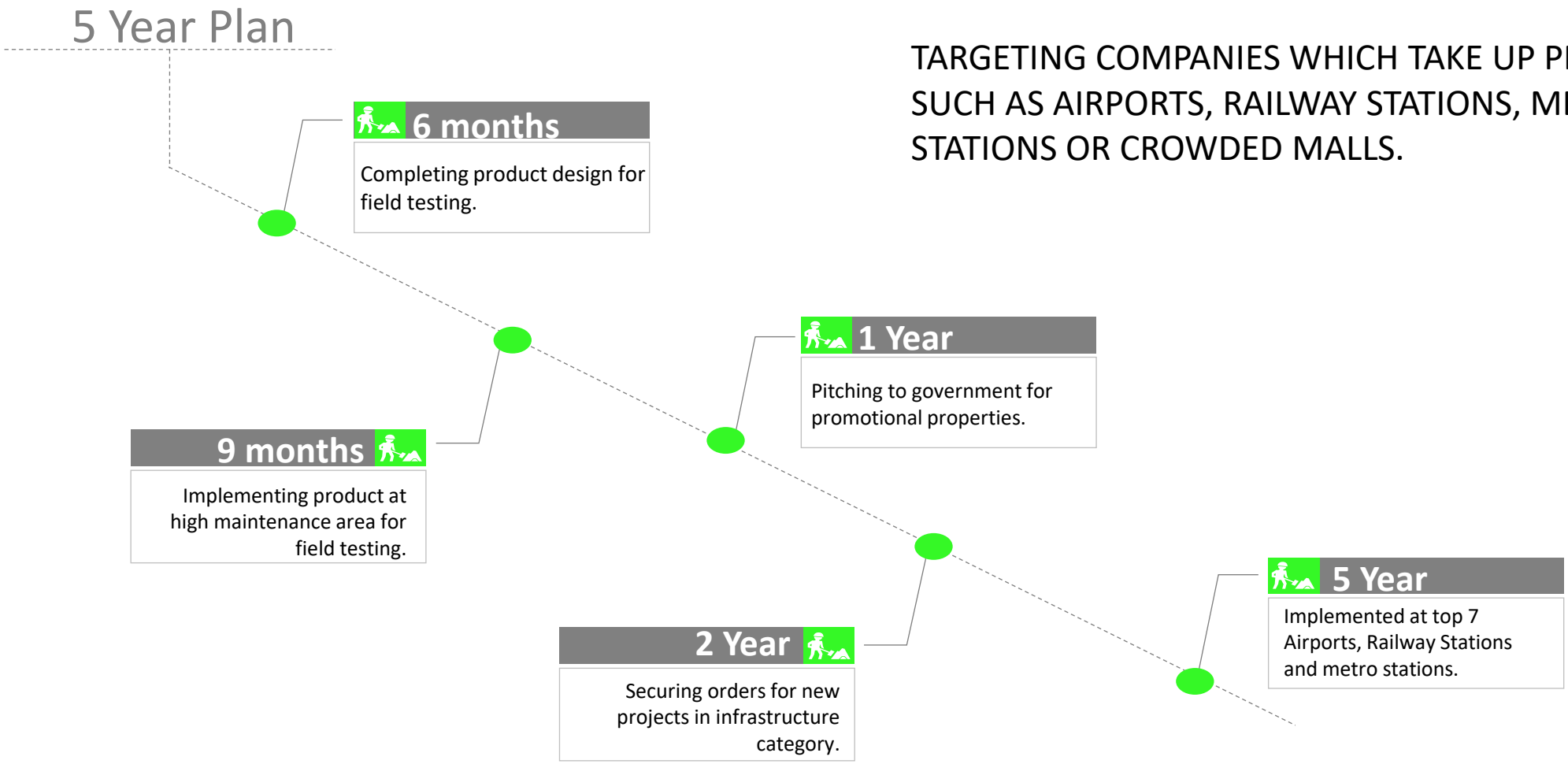
Aligns with National as well as Global Interests

Scarcity of coal and nation's plan to shut down thermal power stations

United Nation's appeal to reduce use of nuclear materials

7th sustainable development goal to produce affordable and clean energy

MARKET POTENTIAL



BUSINESS TO BUSINESS MODEL

TARGETING COMPANIES WHICH TAKE UP PROJECTS SUCH AS AIRPORTS, RAILWAY STATIONS, METRO STATIONS OR CROWDED MALLS.

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THANK YOU!

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