

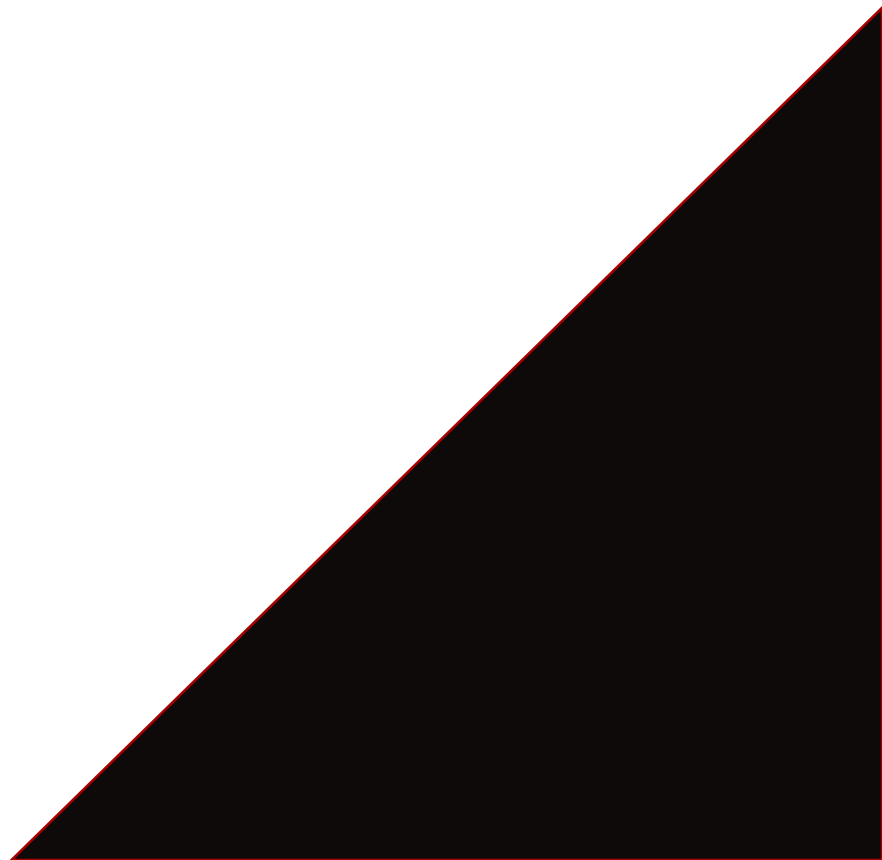
!Pyro

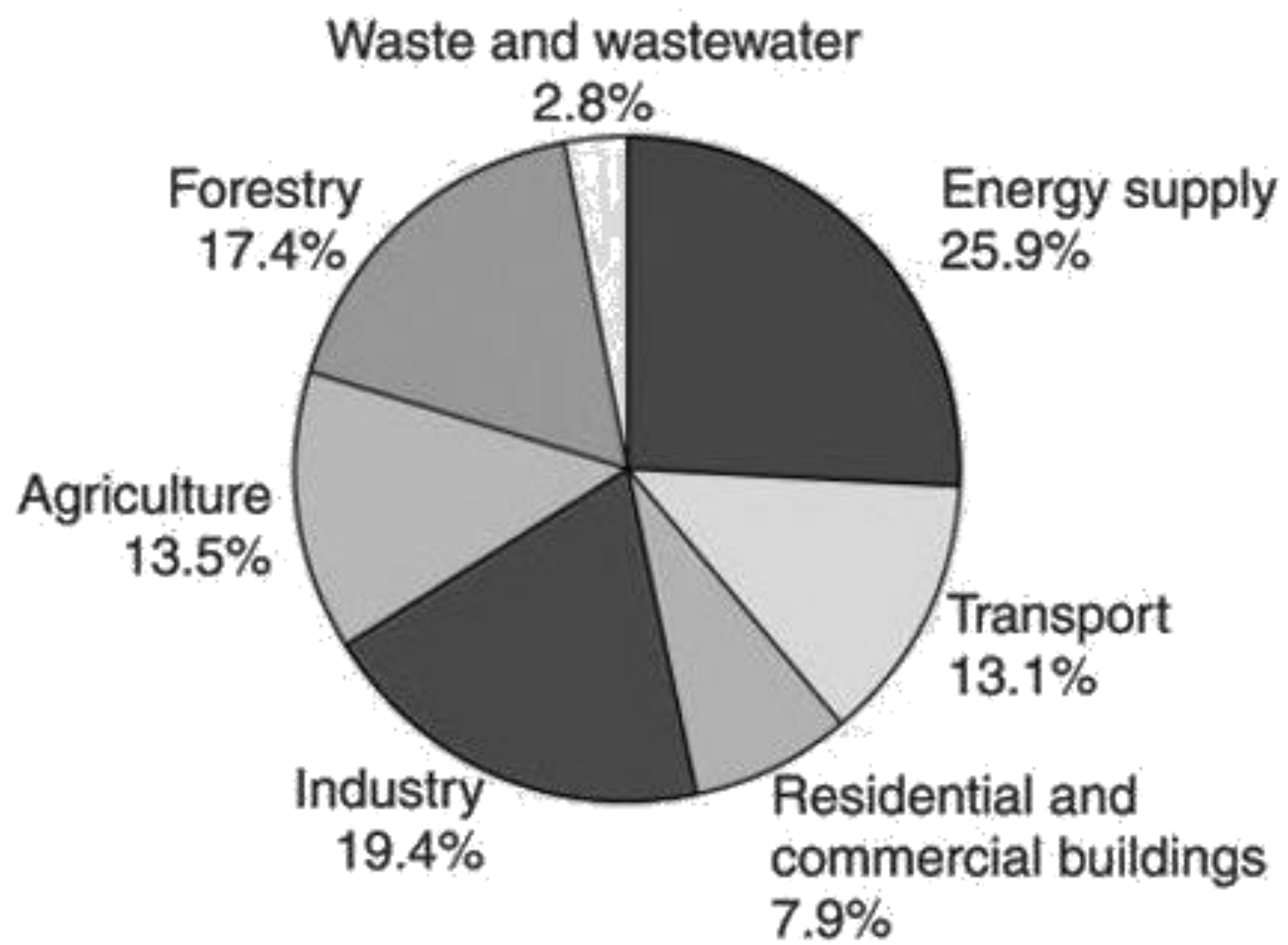
- p5g41t-m1x

A Tango + Mason + Felix production

# THE PROBLEM ?

Global Warming.





30.9%

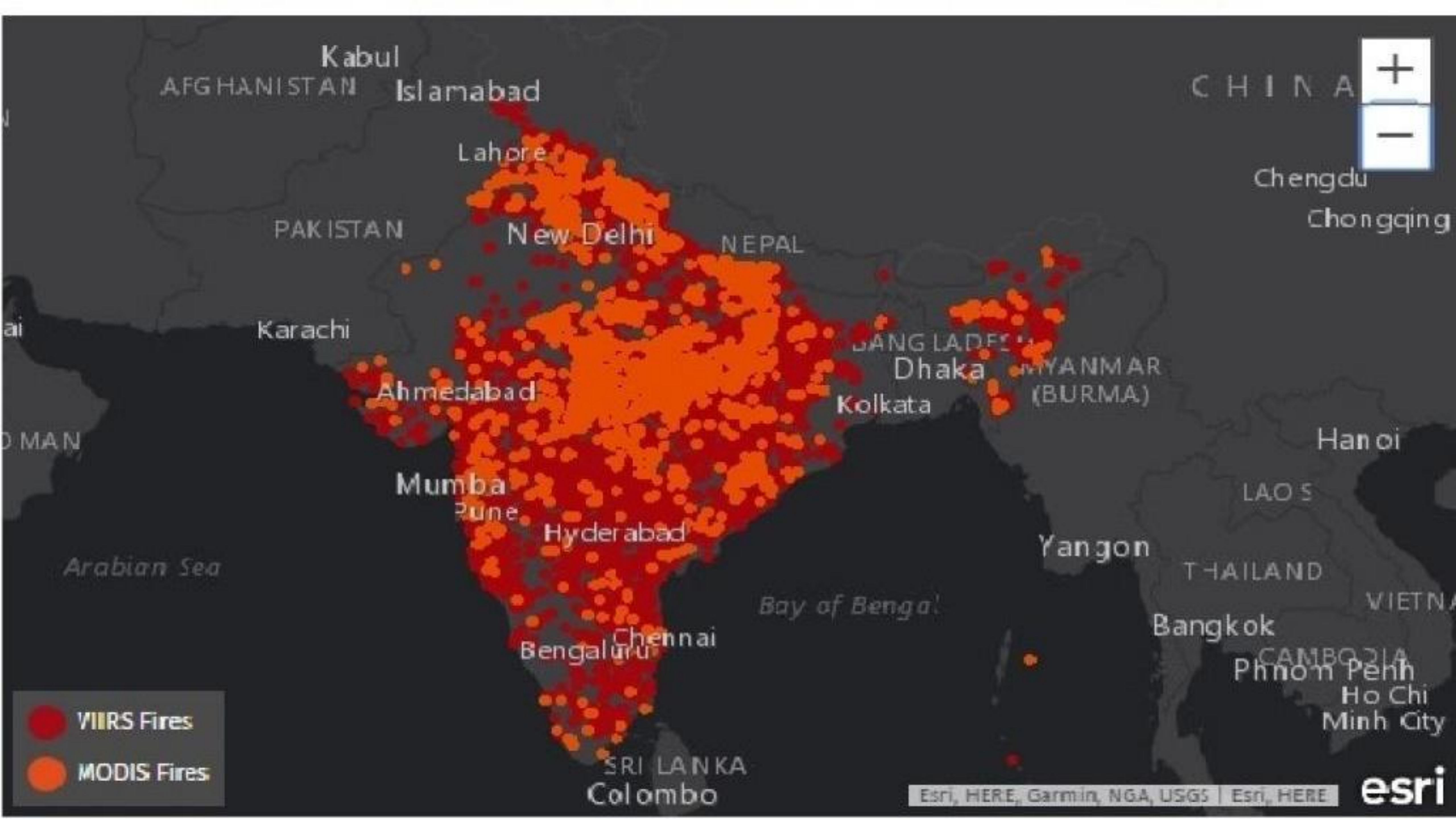
of the land useful to the society is affected by forest fires  
yearly.

**== 49,976 acres**

of precious land which was wasted in forest fires from 2001 to  
2019.














A man with a shaved head, wearing a dark blue suit, white shirt, and red tie, is pointing his right index finger directly at the camera. He has a serious expression. The background is slightly out of focus, showing a building with a lattice window on the left and a stone wall on the right.

natural

~~problems~~ problems require modern solutions



"THERE WAS AN IDEA, TO BRING  
TOGETHER A STACK OF REMARKABLE  
TECHNOLOGY, TO SEE IF THEY CAN BE  
USED TO SOLVE REAL WORLD PROBLEMS."

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"Hence we decided to sleep."

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"Just Kidding."

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"was just trying yo show off my skillz."

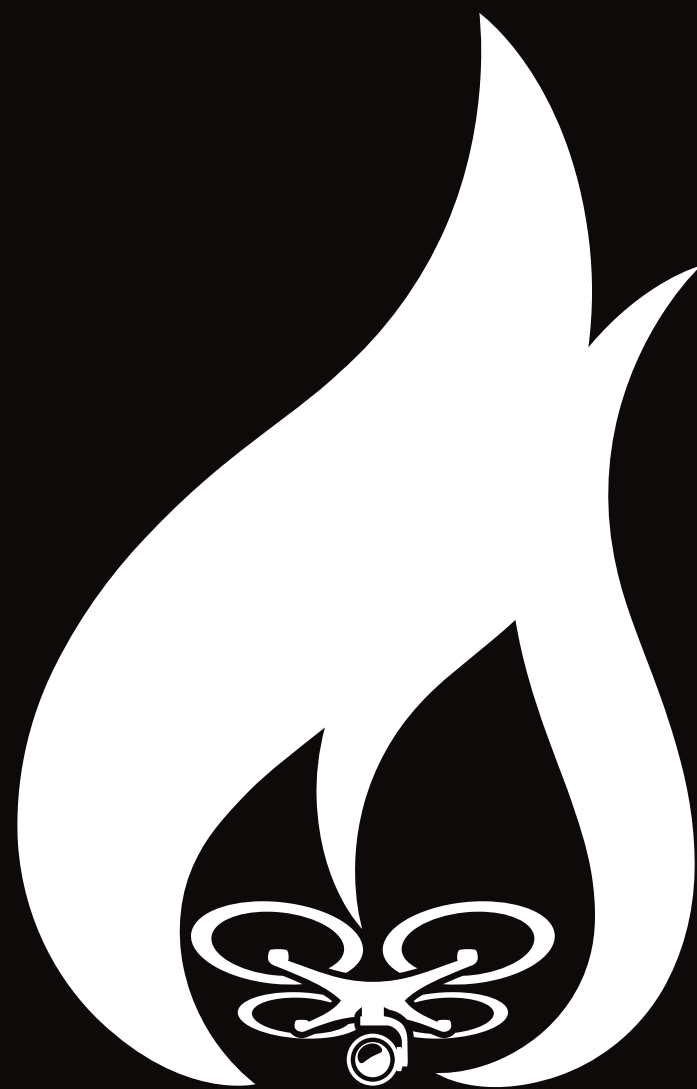
- tango





ML + HW

**ECOSYSTEM**



ML + HW

**ECOSYSTEM**

H/W

**BRAIN**

**Tx/Rx**



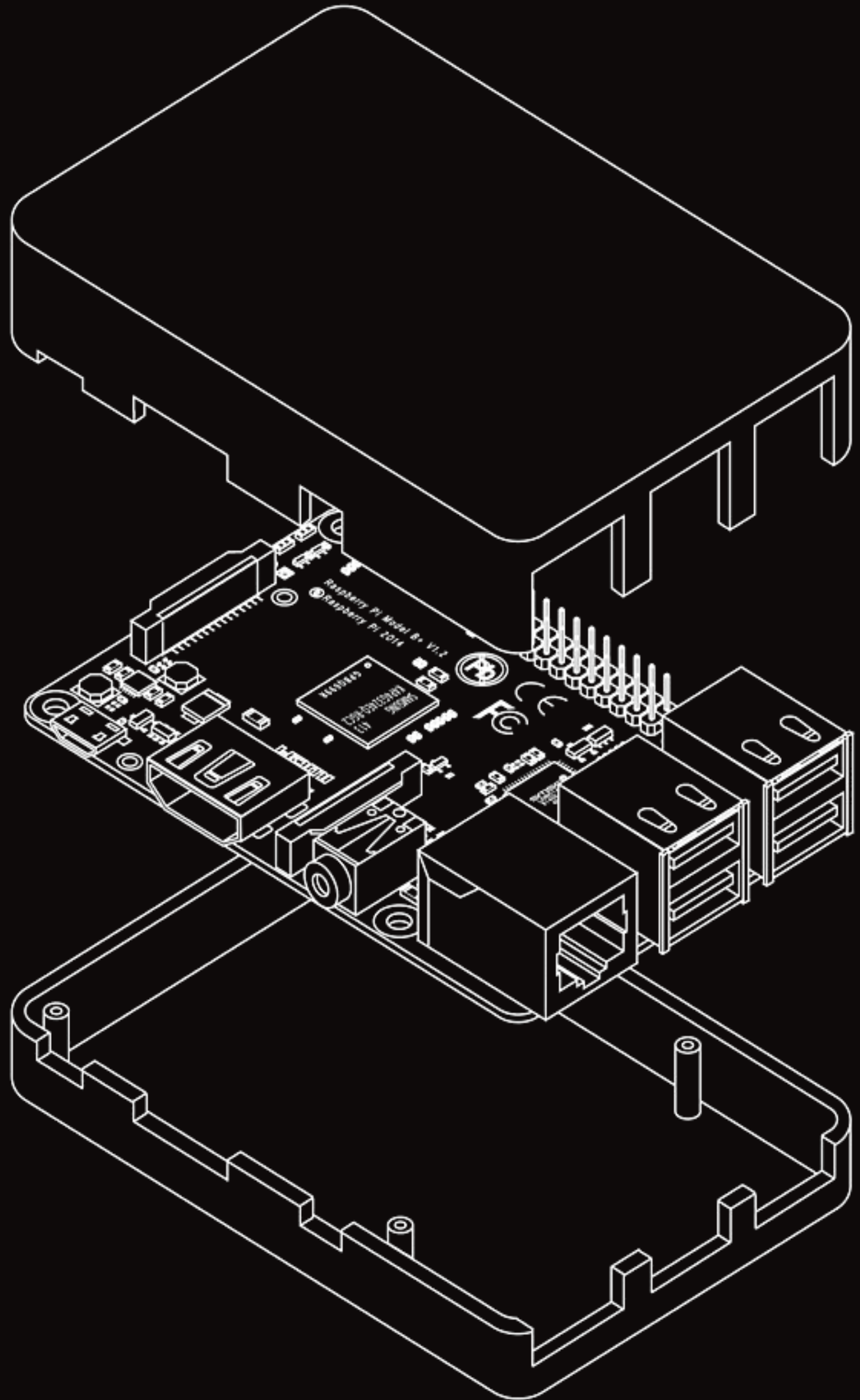
**ML + HW**

**ECOSYSTEM**

**H/W**

Powered by 4 1600KV BLDCs and a RPi as the brain. Fueled with 4s1p/3s Li-Po. Stable at 20M altitude with the help of combined power of PWMs and PIDs implemented in our APAS and armoured with a lightweight but strong carbon fiber body. This rig can fly continuously for 1/2 hr with a 3s and 2/3<sup>rd</sup> hr with a 4s1p.







ML + HW

**ECOSYSTEM**

H/W

**BRAIN**

**Tx/Rx**



**ML + HW**

**ECOSYSTEM**

## **BRAIN**

- RPi + ChibiOS(RTOS) == Magic!
- Python works well, no? But with a RTOS it'll work comparatively good as there'll be no latency.
- RTOS as a brain will help us prioritize stuffs. For example if the batteries are about to die then RTH (Return to Home) feature will be assigned a high priority.
- PiCam will capture HighRes images that will be dumped into a ML program which will interrupt and send the interrupt signal using LoRa to backend.



ML + HW

# ECOSYSTEM

- # IT MATTERS RTOS !

**WHEN IT MATTERS  
IT RUNS RTOS !**



ML + HW

**ECOSYSTEM**

H/W

**BRAIN**

**Tx/Rx**



**ML + HW**

**ECOSYSTEM**

**Tx/Rx**

- We need long range and less power consumption.
- LoRa will work great here as it's cheap too and can transmit upto 60KMs with just a helical antenna and upto 200KMs.
- THE WORLD RECORD IS 702KMs









P1  
830m  
Through  
4 buildings

560m  
Through  
14 buildings

P3  
1070m  
Through  
6 buildings

P5  
863m  
Through  
6 buildings

Meshlium  
GW

libelium



OUR PROCESS IS EASY

**RPi + APAS + ChibiOS  
RTOS + PiCam  
+ LoRa + Drone = the solution**



**ChibiOS**

**RPi + APAS + RTOS + PiCam**

**+ LoRa + Drone =** 

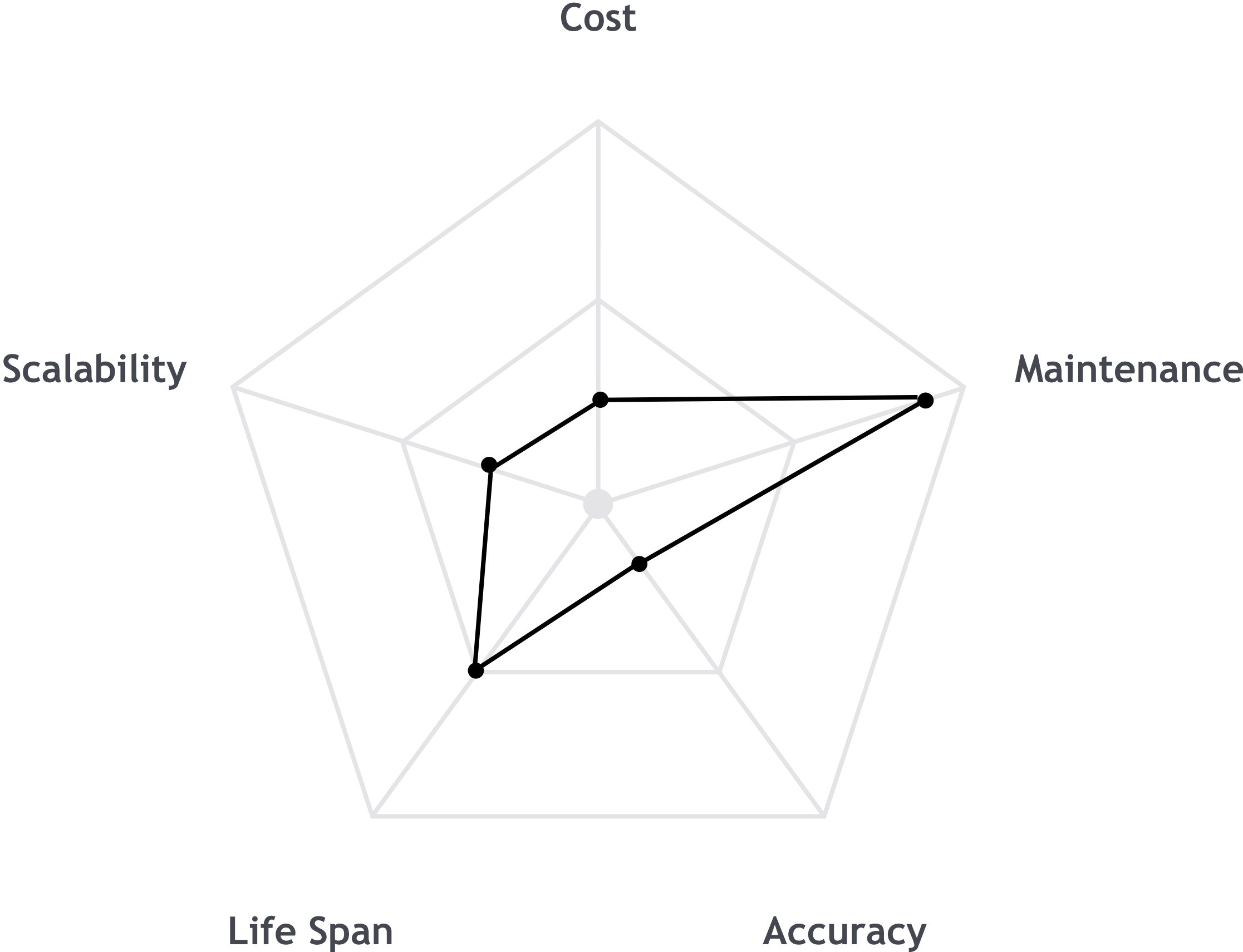




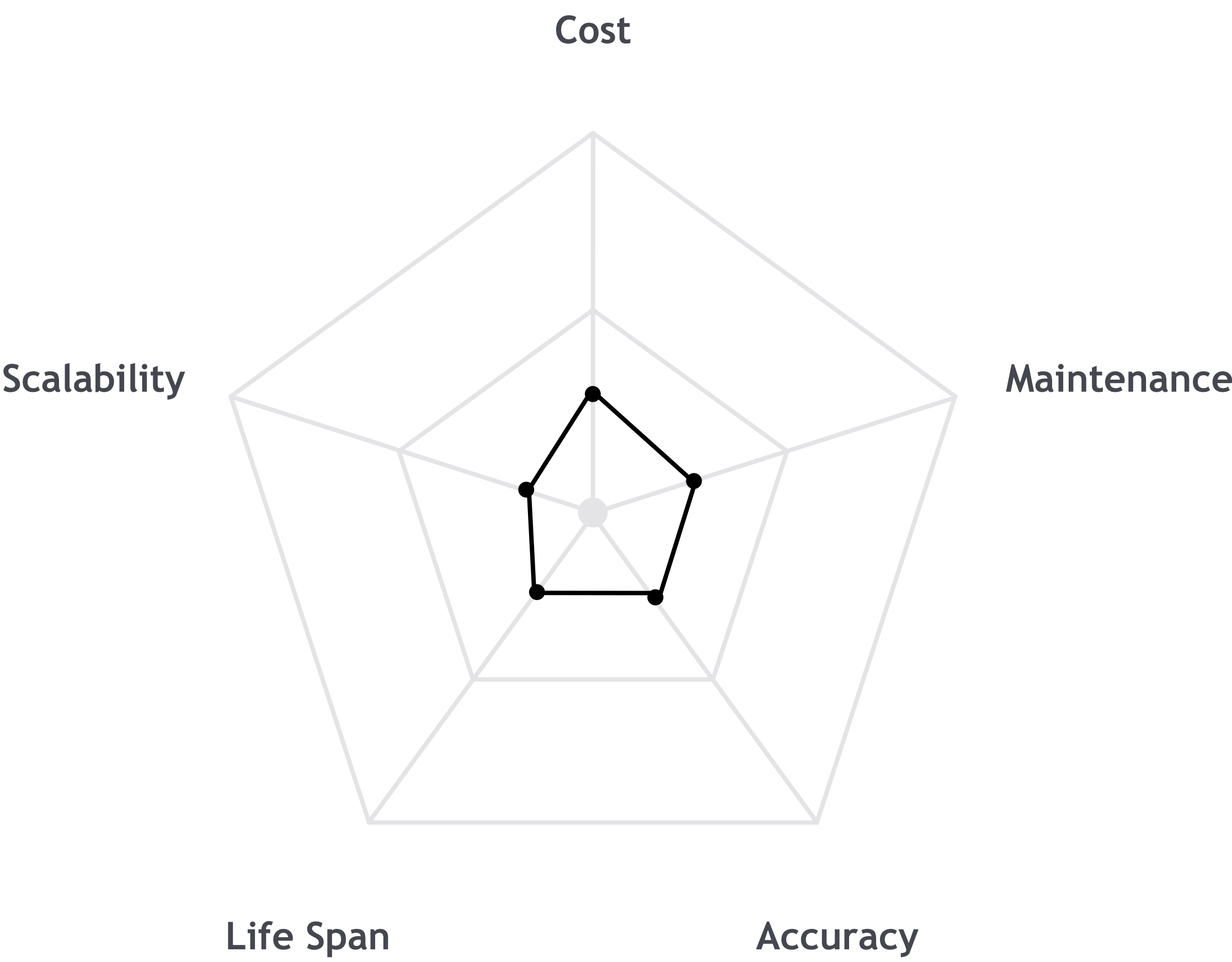


HOW ARE WE BETTER ?

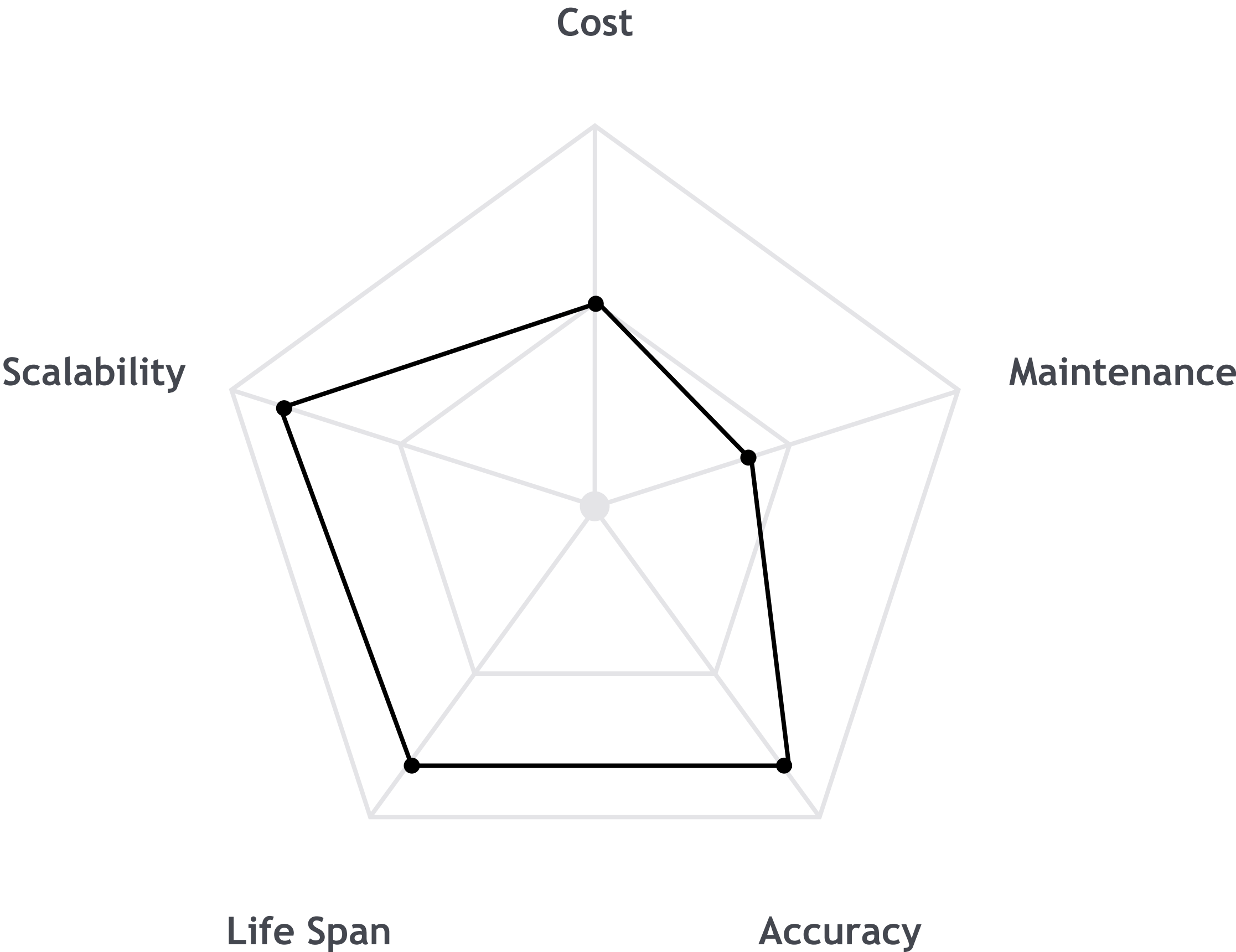
SENSOR BASED  
approach



Satellite Thermal Imaging  
approach



OUR  
approach  
!PYRO





# TEAM p5g41t-m1x

## DEVELOPERS, DESIGNERS, THINKERS

We are a group of engineers, who dream to solve  
real world problems, with minimal cost, and  
maximum awesome.



THANK YOU

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