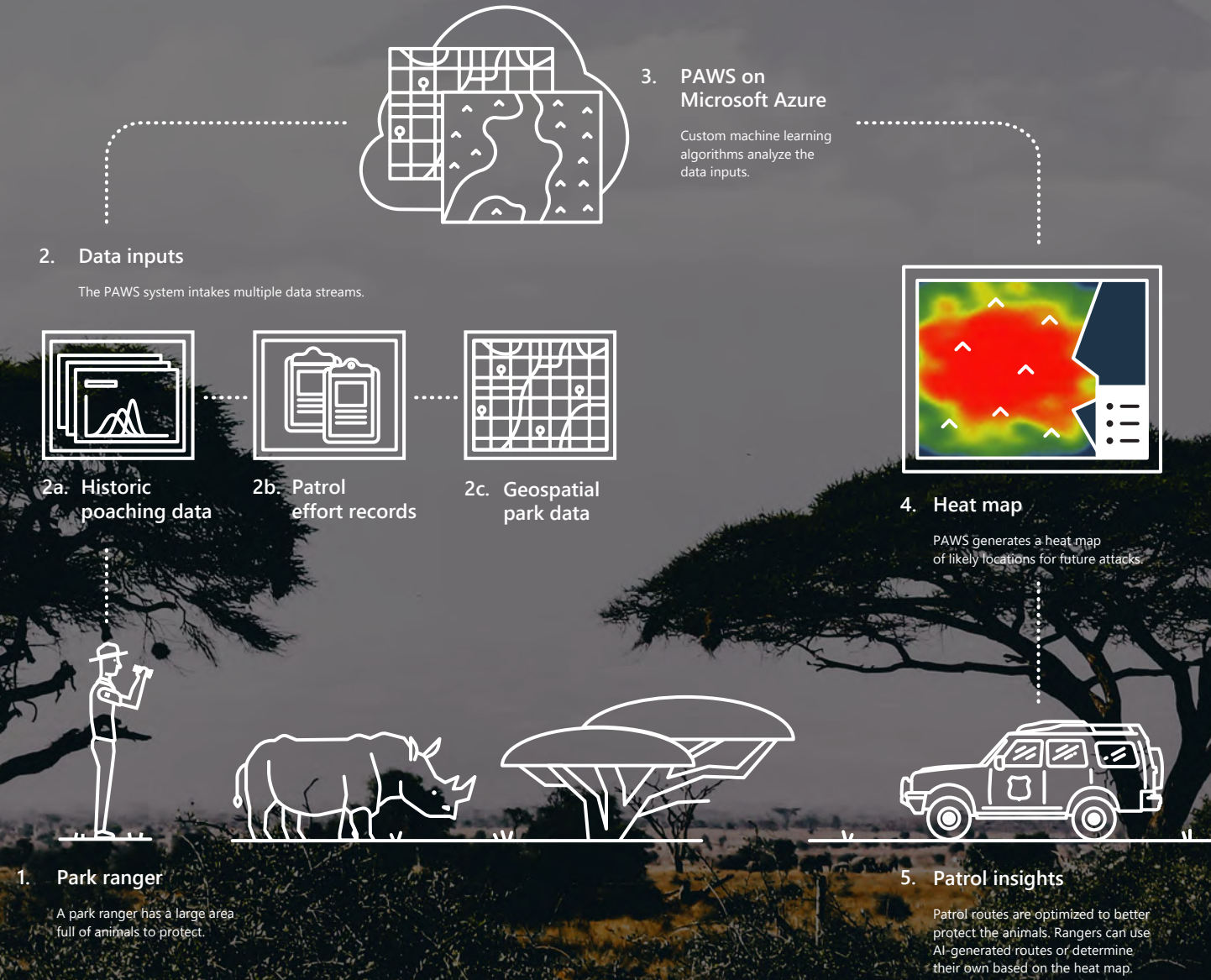AI for Earth

Protection Assistant for Wildlife Security (PAWS)

PAWS identifies where poachers are likely to strike, helping wildlife park rangers optimize patrols and better protect the animals in their care.

3. PAWS on Microsoft Azure

Custom machine learning algorithms analyze the data inputs.

2. Data inputs

The PAWS system intakes multiple data streams.

2a. Historic poaching data

2b. Patrol effort records

2c. Geospatial park data

4. Heat map

PAWS generates a heat map of likely locations for future attacks.

1. Park ranger

A park ranger has a large area full of animals to protect.

5. Patrol insights

Patrol routes are optimized to better protect the animals. Rangers can use AI-generated routes or determine their own based on the heat map.

Challenge

Poaching remains a serious problem in Africa, especially for endangered animals such as elephants and rhinos. Most of these endangered animals exist in vast protected areas, but these areas are often hundreds of miles across. To effectively patrol these areas with limited resources, park rangers need to know where poachers are likely to strike.

Solutions

The Protection Assistant for Wildlife Security (PAWS) system enables park rangers to allocate resources more effectively. Developed by researchers at the University of Southern California Center for Artificial Intelligence in Society (USC CAIS), supercharged by Azure, and packaged as an API by Microsoft and USC CAIS, PAWS analyzes historic poaching data, patrol effect records, and geospatial park data with machine learning algorithms. The system generates heat maps that show likely attack areas and the effort required to reach them, helping rangers plan better patrol routes.

Agriculture   Water   Biodiversity   Climate change

Microsoft