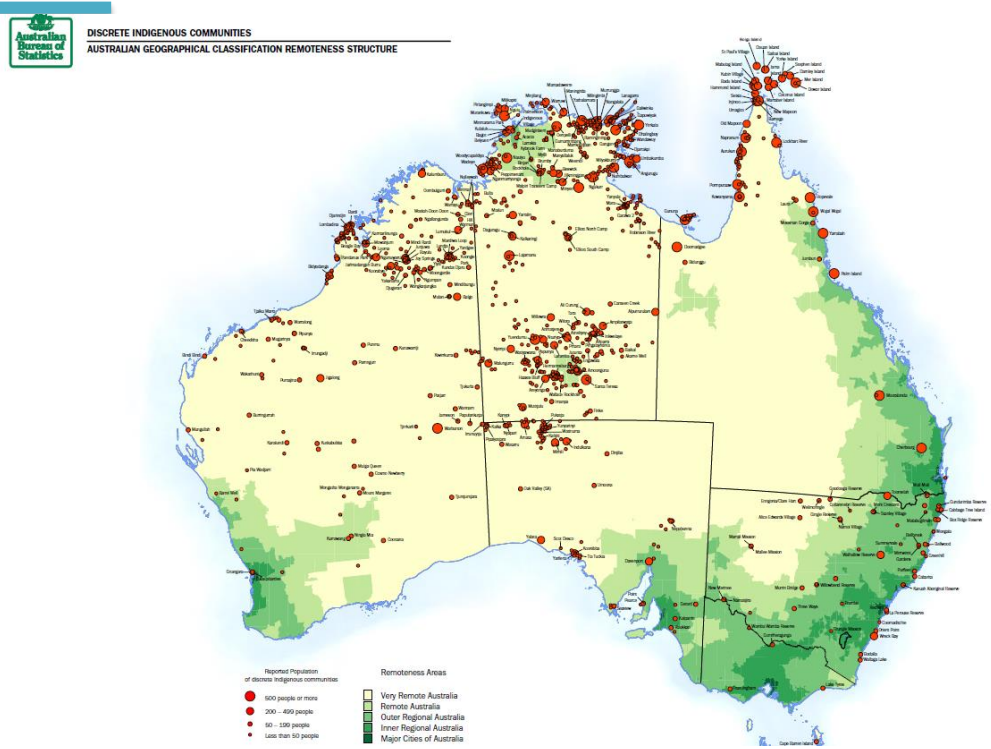
# Indigenous Communities Project




- 1,016 discreet indigenous communities
- Population of approx. 92,960
- We estimate roughly 23,000 dwellings and 1,000 other buildings

# Legacy asbestos challenges in indigenous communities

- the high cost of licensed removal contractors;
- ageing community housing and buildings;
- legacy asbestos lying on the outskirts of communities; and
- limited access to licensed landfills (Matrix, 2017)

# The project aims

- Review past work, identify where gaps exist for Asbestos Containing Materials (ACMs) in Indigenous communities
- Use non-intrusive artificial intelligence, including Google Street view, aerial and satellite imagery, and possibly drones, to identify ACMs in external wall cladding in structures, ACM roofs, illegal dumping, and remaining debris
- Achieve complete mapping and location of ACM in Indigenous communities for the purpose of evidence-based planning
  - Aligning with Target 9 of NSP 2019-23 - to assess the likelihood of ACMs being present in the residential environment

# Previous ASEA collaborations

## South Australian – APY government project

Anangu Pitjantjatjara Yankunytjatjara (APY) lands – 10 of 13 landfills contaminated with ACMs.

We provided funding towards the project to clean up four landfills:

- Iwantja (Indulkana)
- Pukatja (Ernabella)
- Kaltjiti (Fregon)
- Pipalyatjara

## Northern Territory - Central Regional councils project

We contributed toward the project in the Central Desert, Barkley and MacDonnell areas - 11 of 18 remote communities had ACMs deposited outside approved landfills:

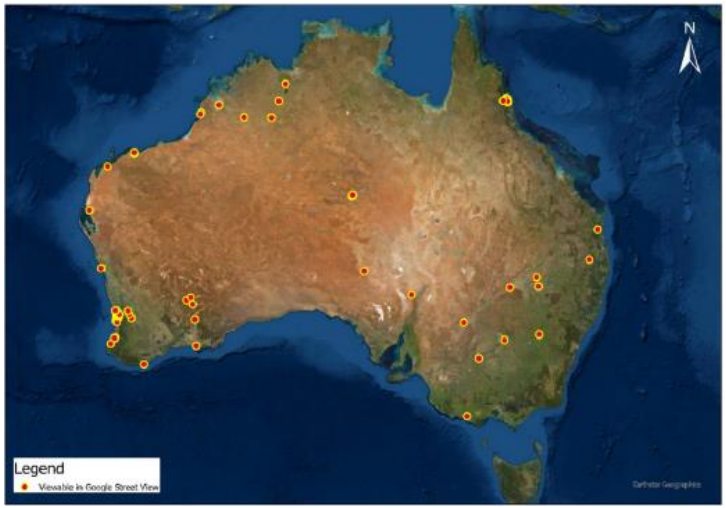
- Yuendumu; Willowra; Lajamanu; Nturiya; Laramba;
- Papunya; Hermannsburg; Santa Teresa; Finke;
- Ali Curung; Elliott.

# Scoping Artificial Intelligence options

- **Google Street view** to detect ACM external wall cladding in structures 
- **Aerial and satellite imagery** to detect ACM illegal dumping 
- **Aerial and satellite imagery** to detect ACM roofing 
- **Drones** for the most remote areas 

# Google Street View

**A sample of Google Street View suggests approx. 49% of Indigenous communities accessible by road have Google Street view imagery**




**Google Street view will identify asbestos is external wall cladding to provide part of the picture, most likely for the larger communities representing a higher proportion of the possible building stock.**

# Plan to achieve complete mapping and location of Asbestos Containing Materials (ACMs) in Indigenous communities for the purpose of evidence based planning

Related work complete | Related work underway | What we are doing | What we need to do

ABS data on Australian Indigenous and remote Geographical Classification

Asbestos Waste in Australia, 2015, mapped landfills accepting asbestos waste in Australia; Data updated in 2020, list on ASEA website. (ASEA and Blue Environment).

ASEA provided funding to the Legacy Asbestos Waste Mapping project (2015-2017) to use Global Information System technology to map ACMs waste deposited outside approved landfills in the **Central Desert, Barkly and MacDonnell regional council areas** in the **Northern Territory**. 11 of the 18 communities were found to have ACMs including: Yuendumu; Willowra; Lajamanu; Nturiya; Laramba; Papunya; Hermannsburg; Santa Teresa; Finke; Ali Curung; and Elliott (ASEA and Central Desert Council NT).

The **New South Wales** "Roads to Home" program commenced in July 2019 to help inform approaches to remote area planning, including communities disproportionally affected by asbestos (NSW Government)

Desktop research of existing work to locate ACMs in Indigenous communities to identify gaps to inform a Project Plan for the schedule of future work

Satellite and aerial imagery for ACM illegal dumping and ACM roofs in structures*

Identify and map remaining debris

The Commonwealth Government provided around $45 million of funding support to the **Northern Territory** Government over four years (2012-16) to remove asbestos from houses and other community buildings in remote areas of the NT. Identification and remediation of ACMs in 54 remote communities in the Northern Territory found 100 of the 330 assessed buildings contained ACMs (Commonwealth and NT Government).

After the **South Australia** government found ten of thirteen landfills in the **Anangu Pitjantjatjara Yankunytjatjara** (APY) lands in the remote north west of South Australia were contaminated with ACMs, ASEA provided funding to the SA Government (2015-16) towards the project to clean up four landfills in Iwantja (Indulkana), Pukatja (Ernabella), Kaltjiti (Fregon) and Pipalyatjara areas (ASEA and SA Government).

Aboriginal settlements Layout Plans in **Western Australia** (WA Government)

National "heat map" of possible location of ACM **roofs** across Australia, including:

- estimation of **external wall cladding** ratio to roofing (ASEA and UACS)

Google Street view to map ACM external wall cladding structures* in approx. 50% of indigenous communities, i.e. those with Google Street view data available

Drones and possible physical inspection of remaining structures* for ACMs within indigenous communities including associated illegal dumping in the most remote areas. Further, utilise drones to remotely inspect identified ACM illegal dumping.

* **structures** describes above-ground building infrastructure within communities across the many types of land uses (residential, community buildings (e.g. library, police station, post office etc.), commercial (e.g. shop etc.), industrial

# Next steps

ASEA to engage National Indigenous Australian Agency (NIAA) to assist with research ethics considerations, privacy matters and the development of the overall Project Plan, and stakeholder engagement.

ASEA, in consultation with NIAA, will engage consultants for the initial work related to the Google Street view technology.

ASEA, in consultation with NIAA, will engage consultants for later phases, including aerial and satellite technologies.