



Polar Star Space Co., Ltd.



- ❑ Address: Chuo-ku, Tokyo
- ❑ Employees: 5
- ❑ Established in 2017
- ❑ Business: Proposal of solutions using micro satellites, drones, ground measuring equipment, etc.

<http://polarstarspace.com/ENG/index.html>

Outline of the demonstration project

- Oil palm disease early detection business by ultra-high precision spectrum measurement

Cooperation with local companies/governments

- Local partners: FELCRA BERHAD, etc.
- Details of cooperation and collaboration: Provision of farms for experimental use, support of local experiments, etc.



Targeted economic/social issues

- Palm oil production is a major industry in ASEAN including Malaysia.
- In large-scale palm farms, 10% to 15% of the damage is caused by diseases every year (amounting to over 400 billion yen annually), and it is a serious issue for farm management.

Details of demonstration

- Drone monitoring demonstrates early detection of diseased palm trees.
- An ultra-high-definition hyper-spectrum camera is mounted on a drone to obtain a large amount of detailed information specific to disease-infected trees.
- We have built a system for early detection of diseases through our original AI image analysis and learning. Inexpensive cameras are used to realize low-cost monitoring in operation.

Expected outcome of beneficiary effects

- It is expected to reduce the loss incurred due to the large-scale expansion of diseases (about 200 billion yen in Malaysia) by 20% in the initial stage and by around 60% ultimately through early detection and improvement in accuracy by deepening the machine learning.
- It can also be applied to the early detection of diseases in other crops and low-cost monitoring of the growth of crops.