

Starlink & LEO Satellites

Onno W. Purbo
onno@indo.net.id
onno@itts.ac.id

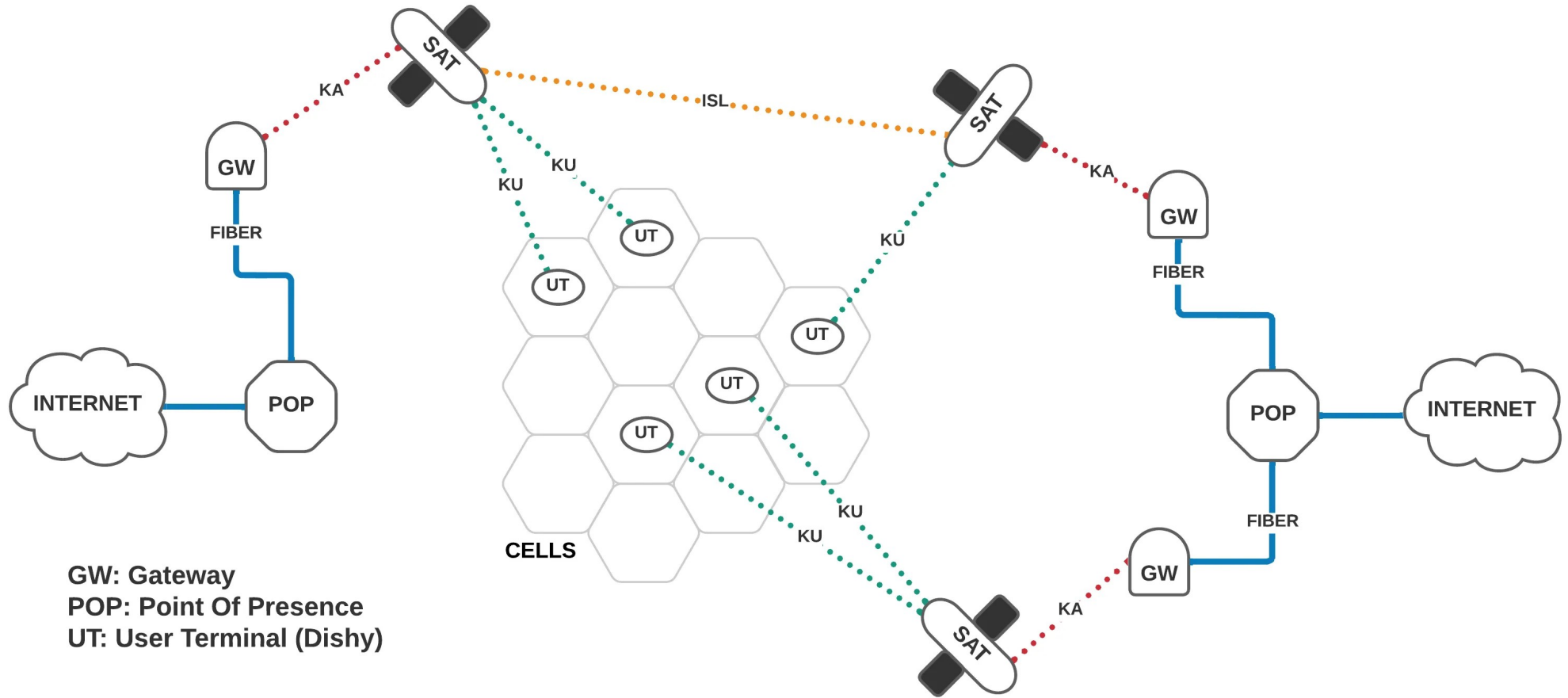
- Starlink
- LAPAN A1, A2, A3, A5, SS-1

StarLink

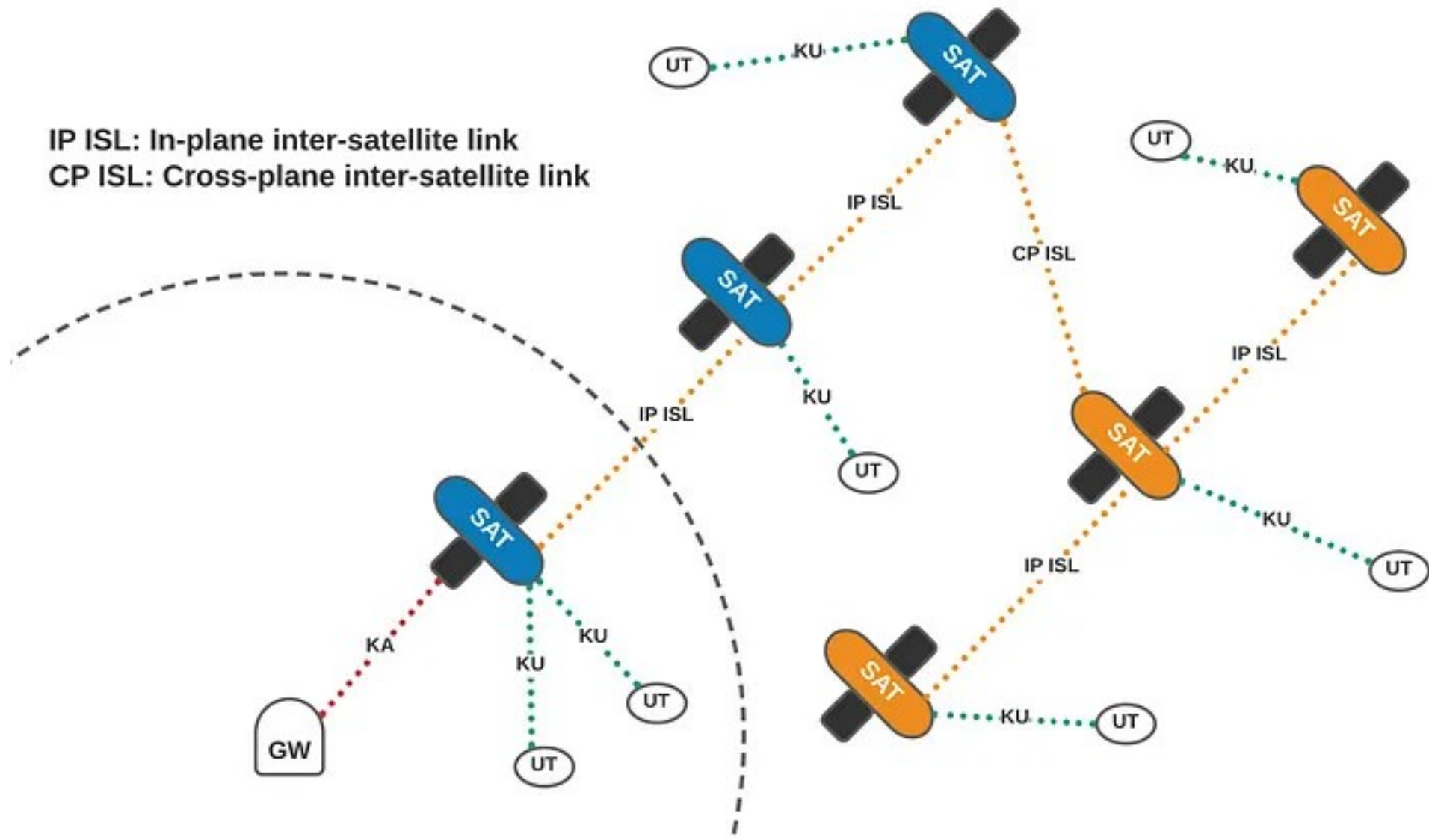
Performance

- Average download throughput ~170 Mbps
- Maximum download throughput ~330 Mbps
- Average upload throughput ~17 Mbps
- Maximum upload throughput ~60 Mbps
- Latency 30ms – 2s
- Percentage of time latency is below 90ms 98%
- Percentage of time latency is below 50ms 77%
- Down time 2.4%
- Average power consumption 105 W
- Peak power consumption 190 W





IP ISL: In-plane inter-satellite link
CP ISL: Cross-plane inter-satellite link



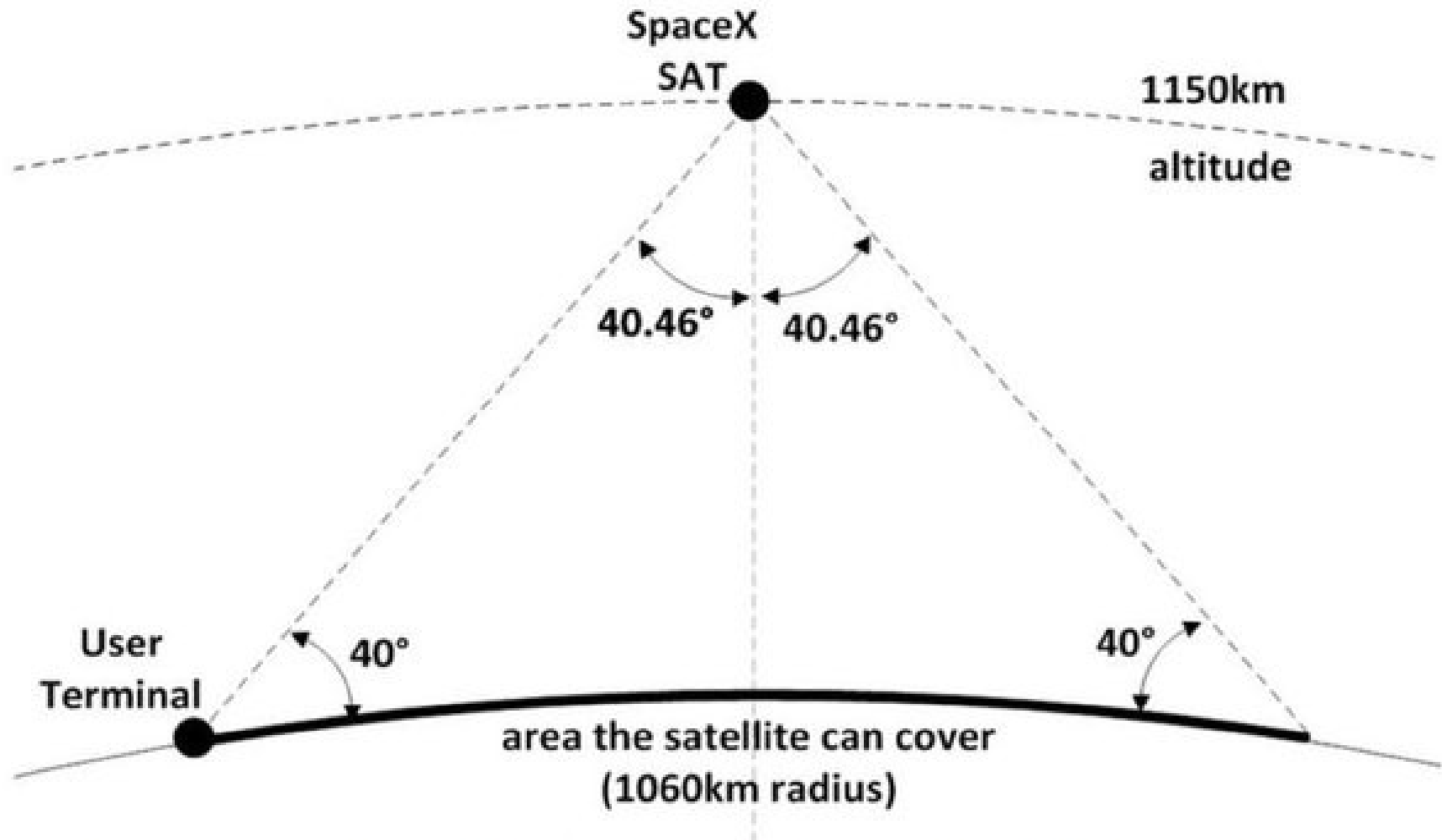
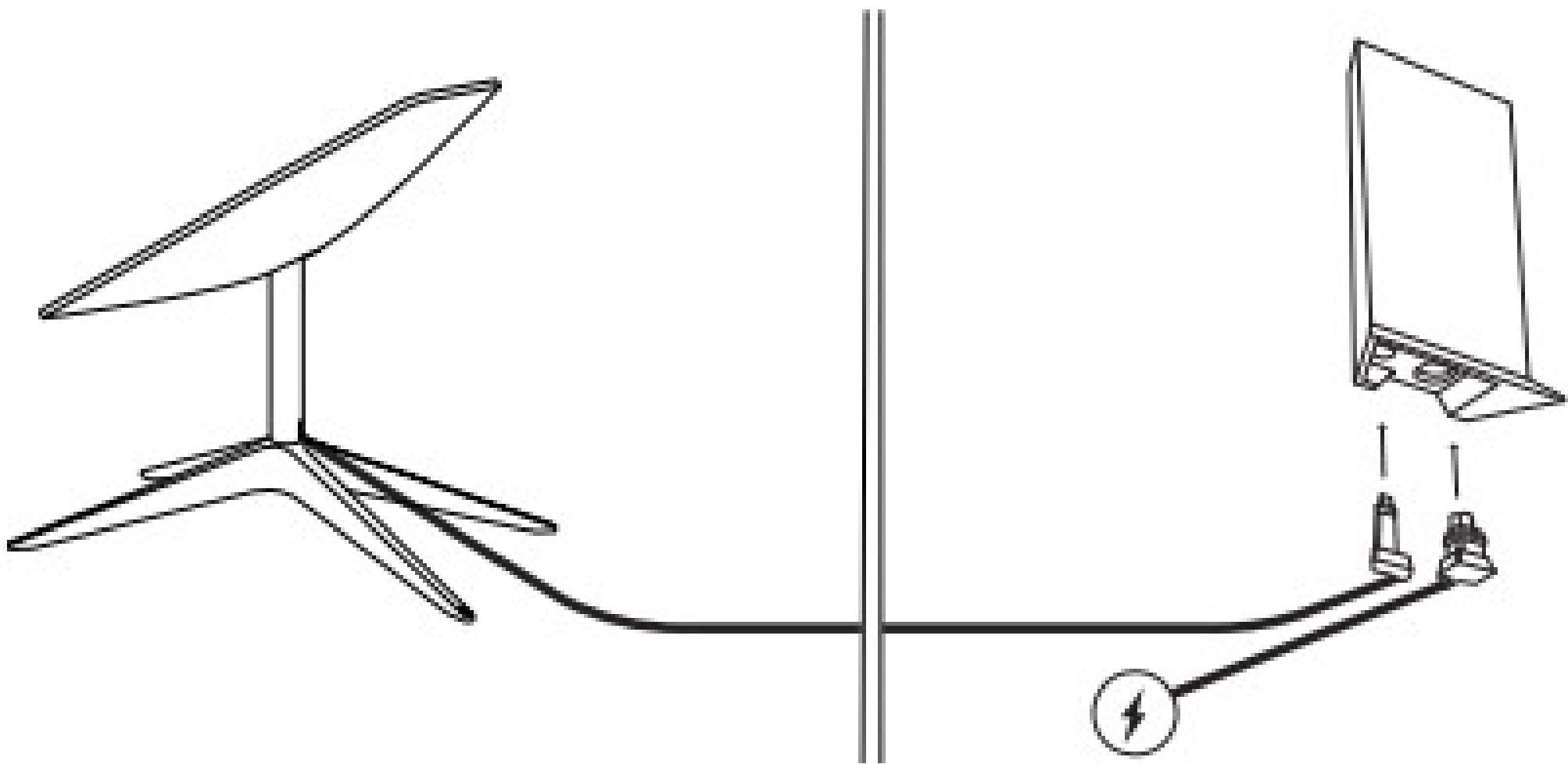


Figure A.3.1-1: Steerable Service Range of Ku-band Beams (1,150 km)

Gateway (GW) Starlink







Cikarang Barat, ID - Almat GW

Description

Cikarang Barat, ID - Almat GW

Notes

adjacent to NTT JKT3

Status

Built

Location

Cikarang Barat, Java, ID

Coords

-6.306293, 107.096755

Ka Operational

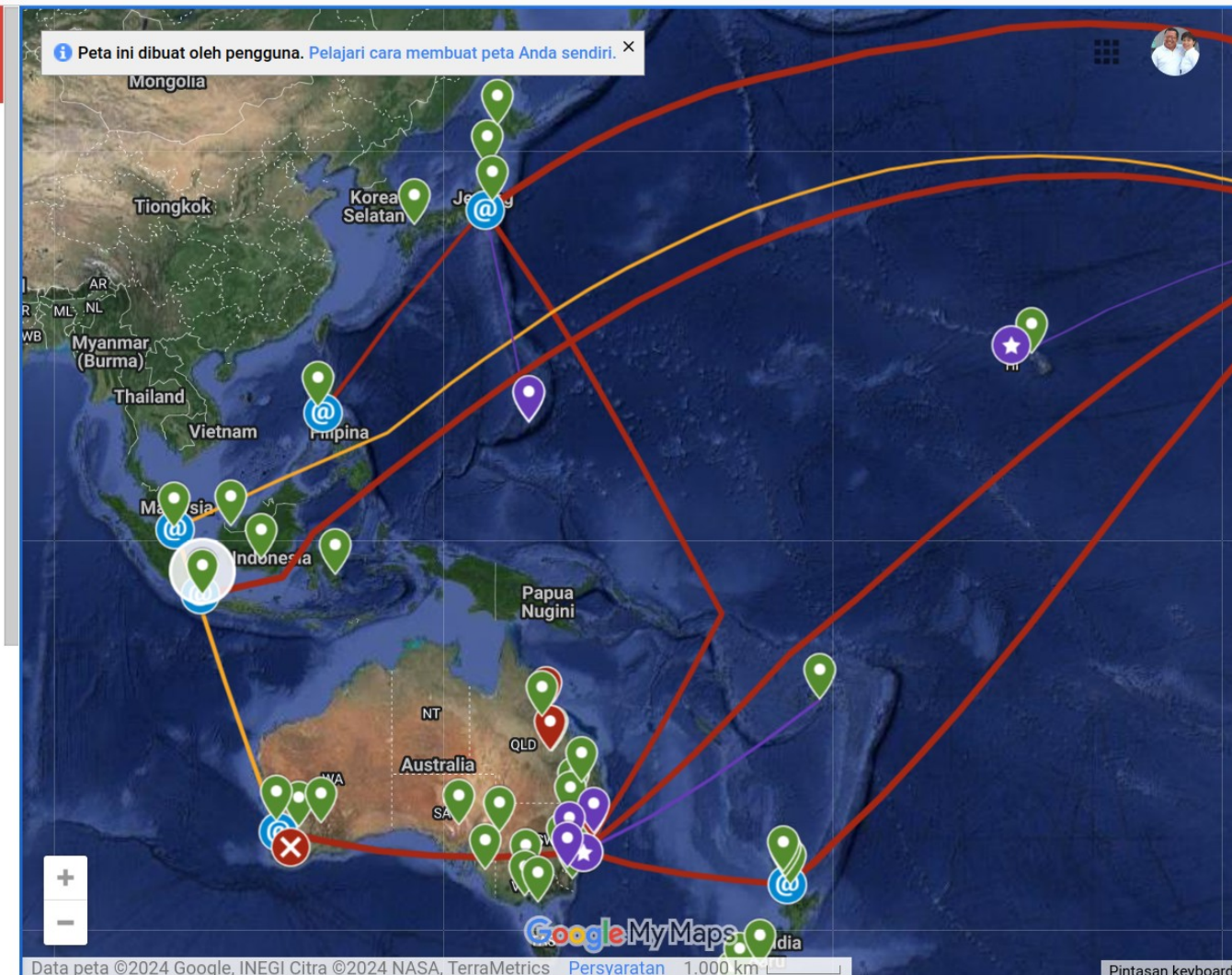
TRUE

E Operational

FALSE

Freq

Ka



CGK - JTNAIDN1

name

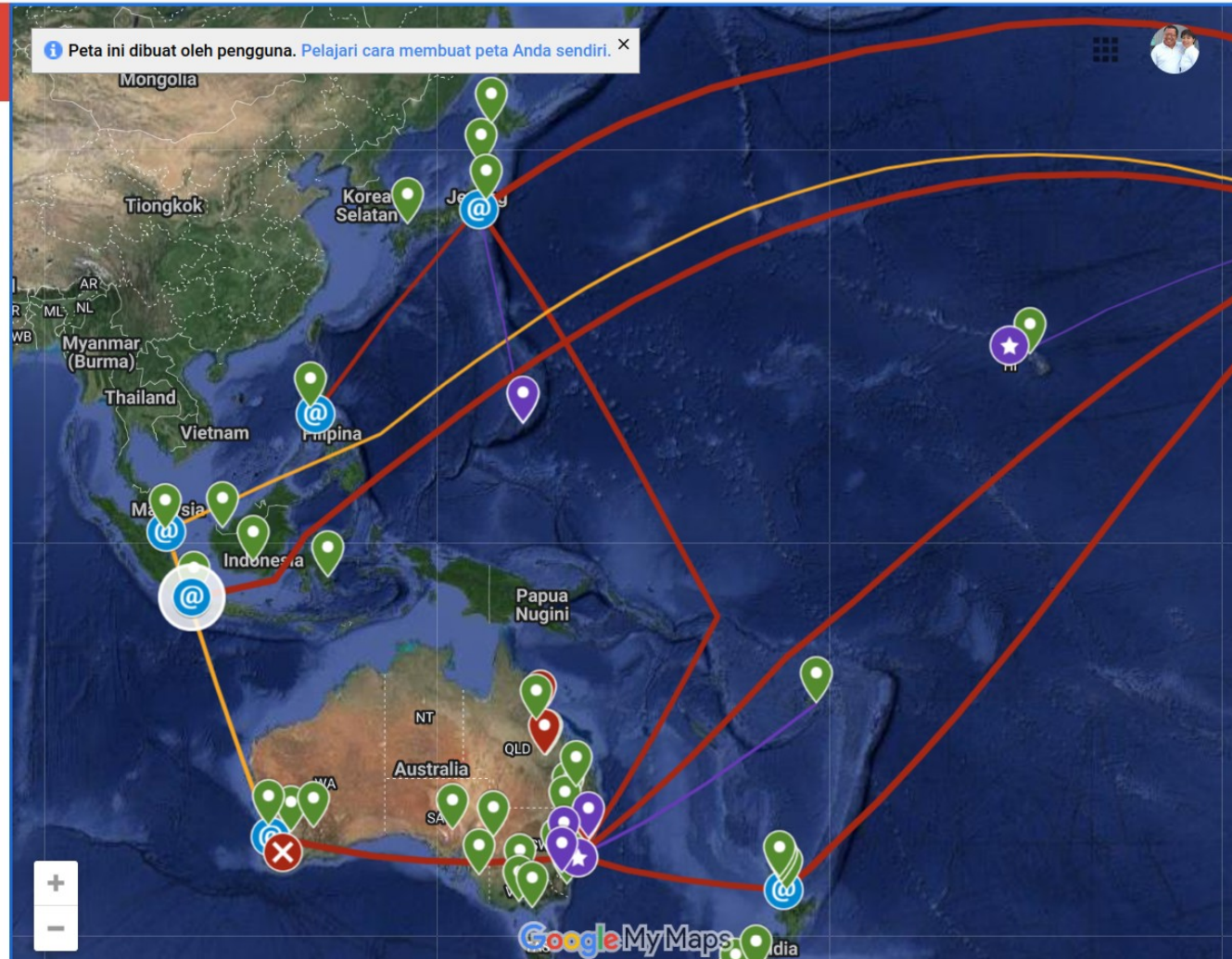
CGK - JTNAIDN1

description

AS45700 PT Starlink Services Indonesia

IIX-Jarkata: 2x 100G

JKT-IX: 2x 200G



PT Starlink Services Indonesia

AS Number **45700**

Website <https://www.spacex.com>



Overview

Prefixes

Connectivity

Whois

IX

Network status

Active, Allocated under APNIC

Network type

Eyeball

Prefixes Originated

7 IPv4, 0 IPv6

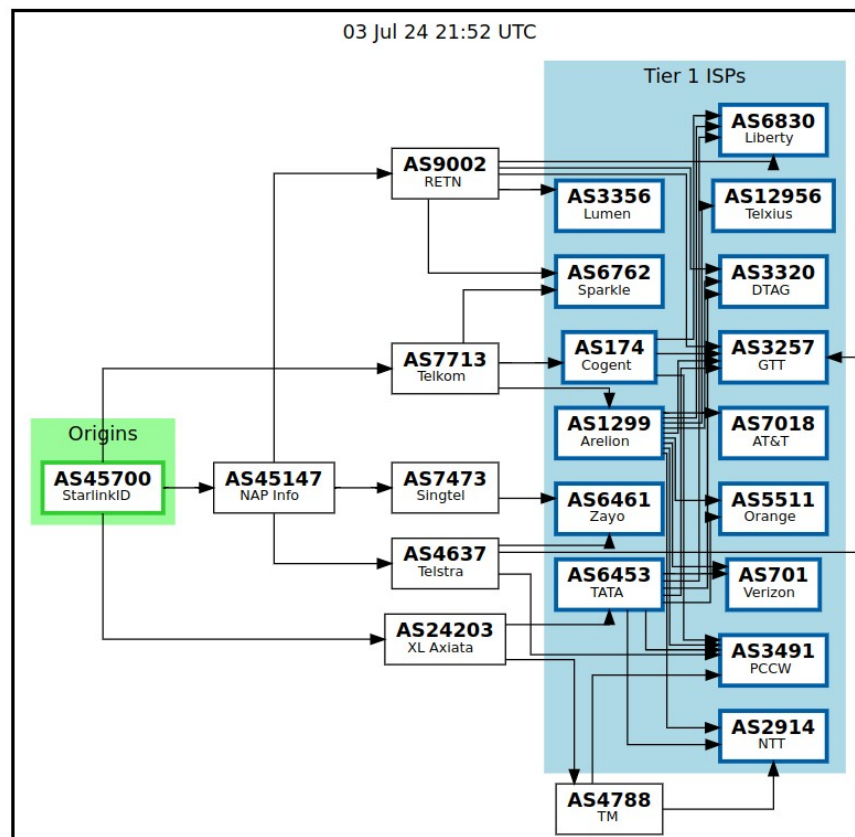
Upstreams

- [AS7713](#) - PT Telkom Indonesia Tbk
- [AS24203](#) - PT XL Axiata Tbk
- [AS45147](#) - PT NAP Info Lintas Nusa

Rankings

- #86 for [Estimated Eyeballs in Indonesia](#)

Global Aggregation



LAPAN A1, A2, A3, A5, SS1

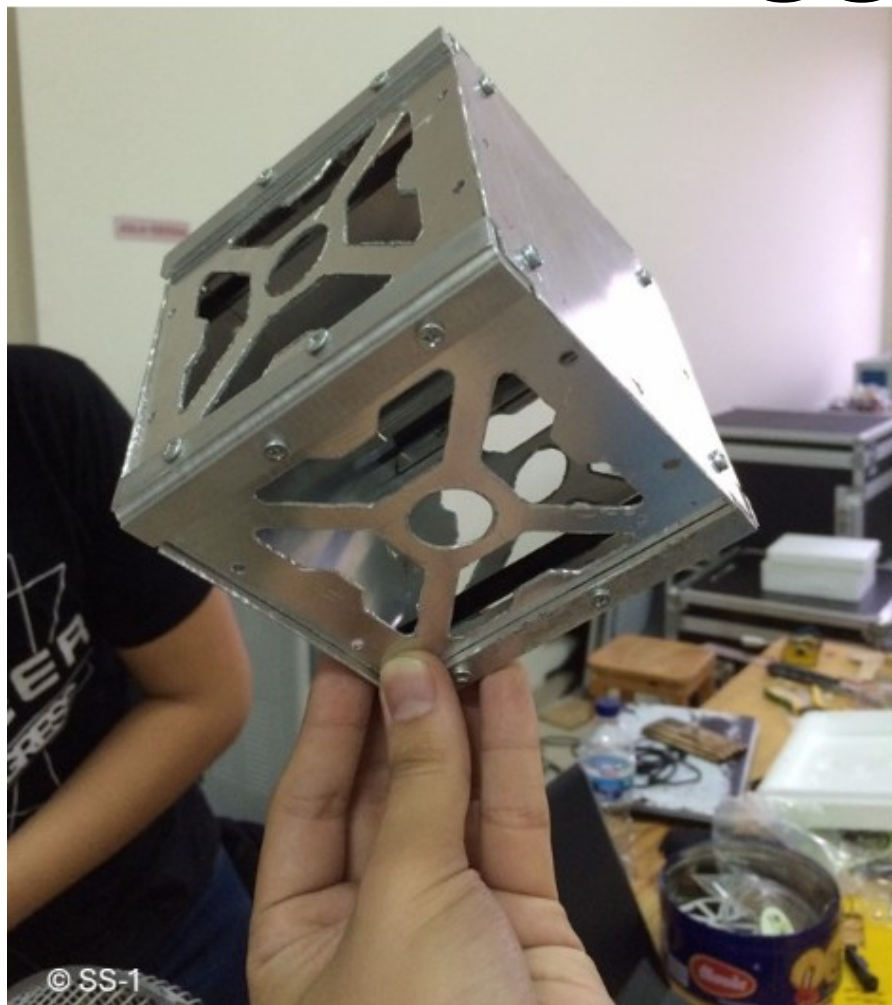
LAPAN A1



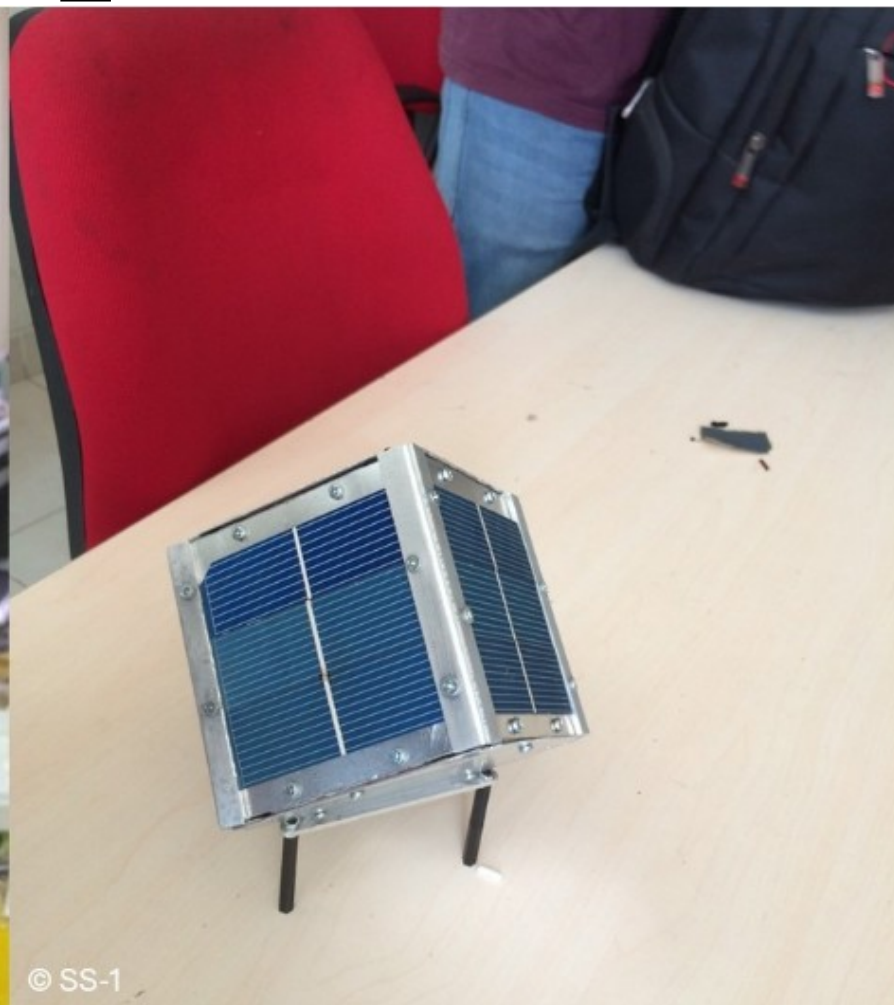
LAPAN A2



SS-1



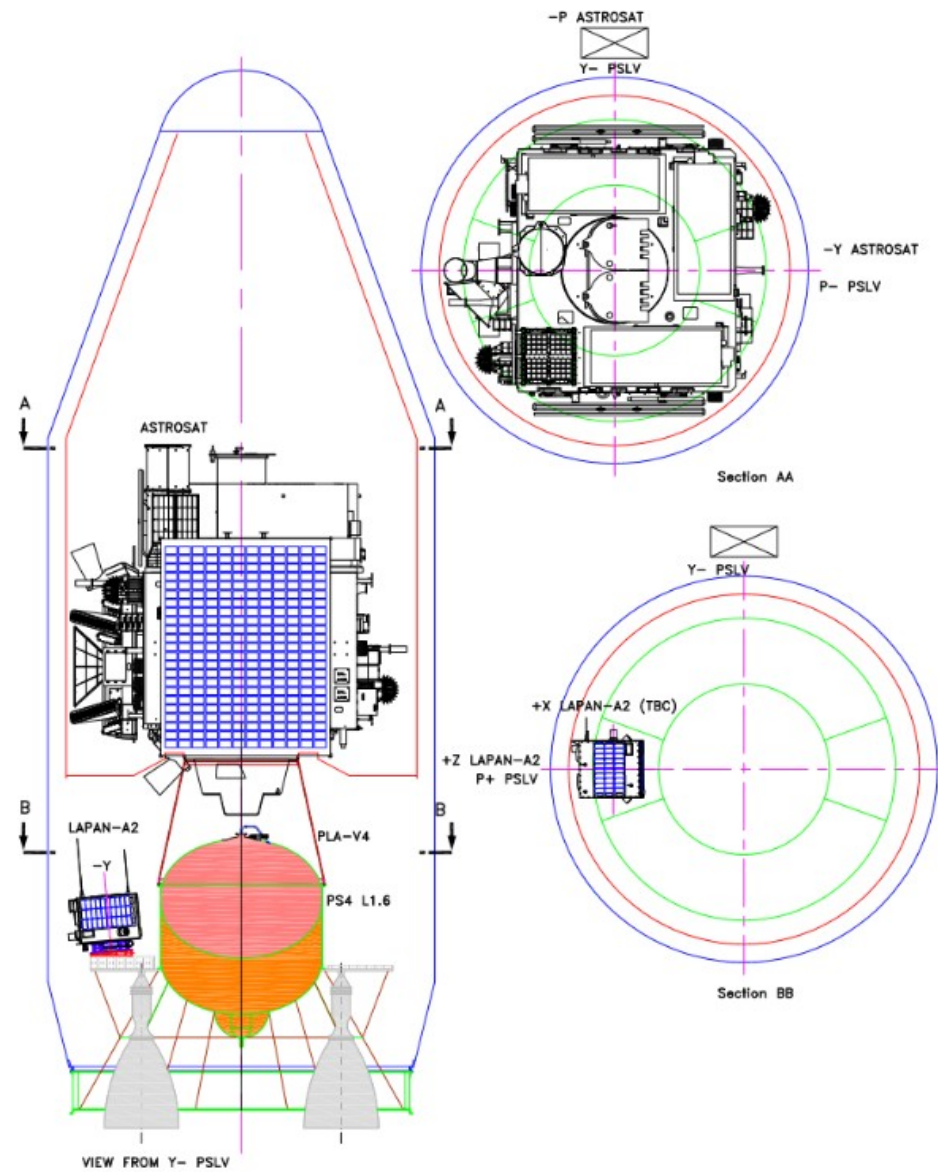
© SS-1

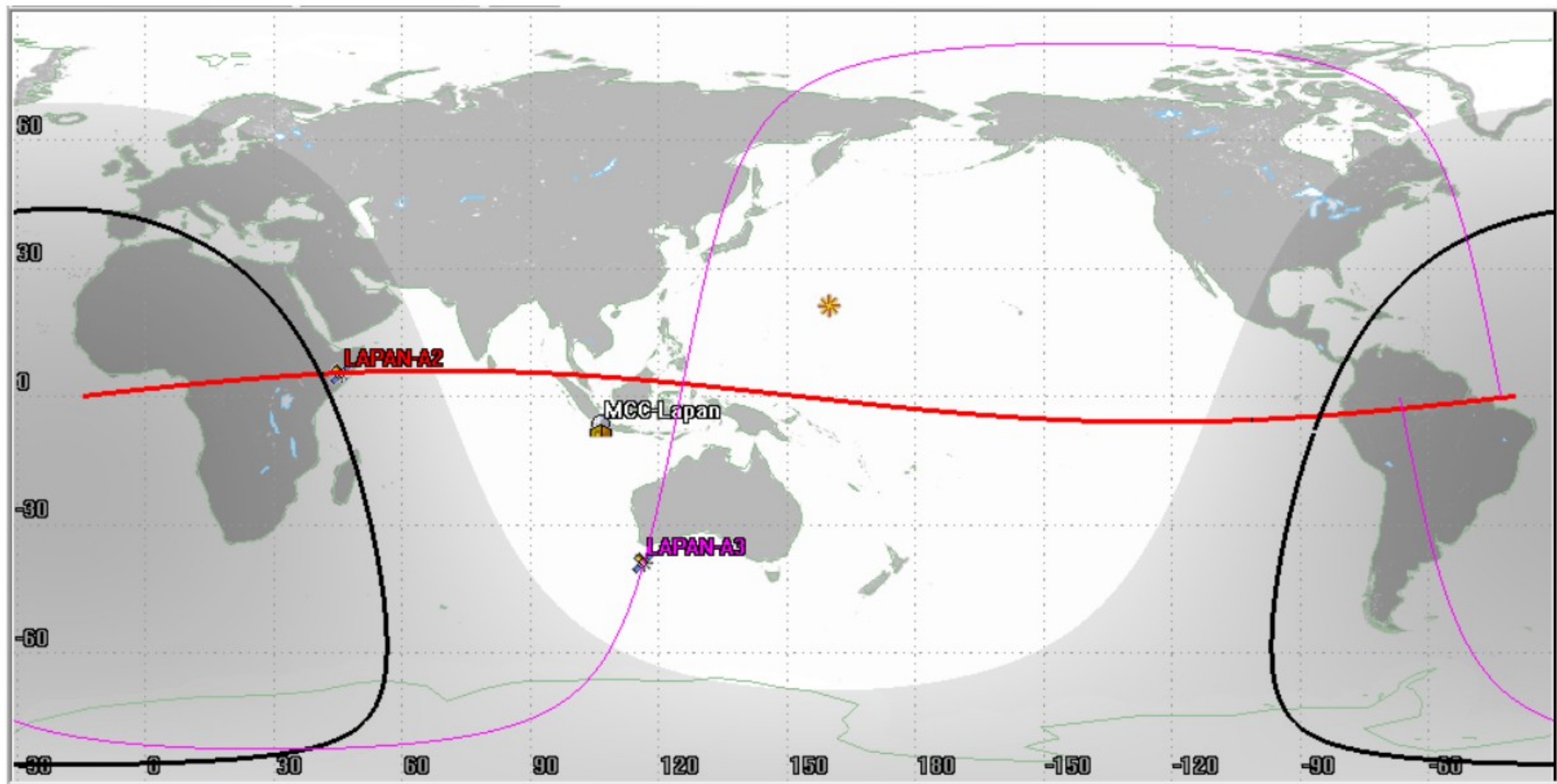


© SS-1

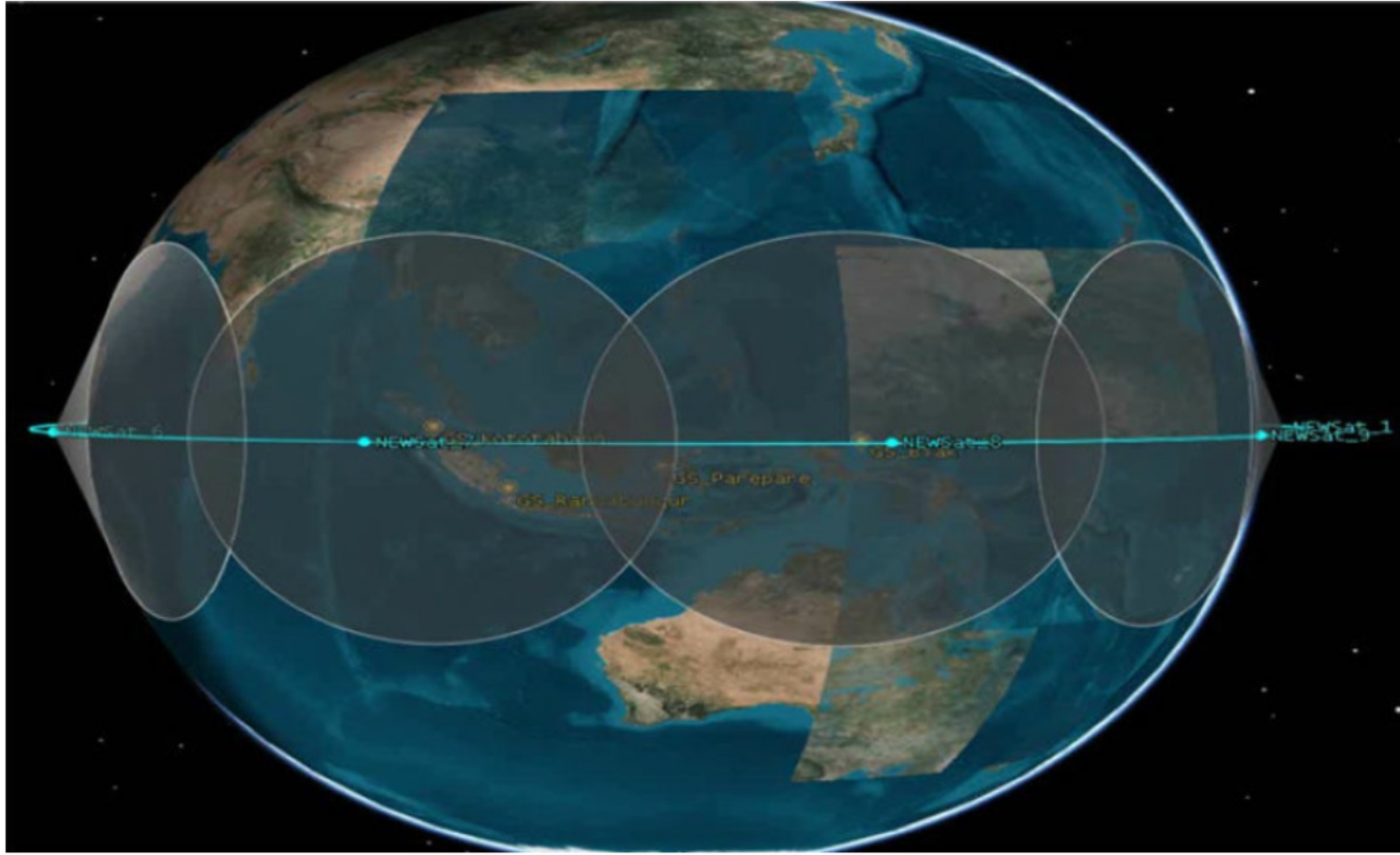








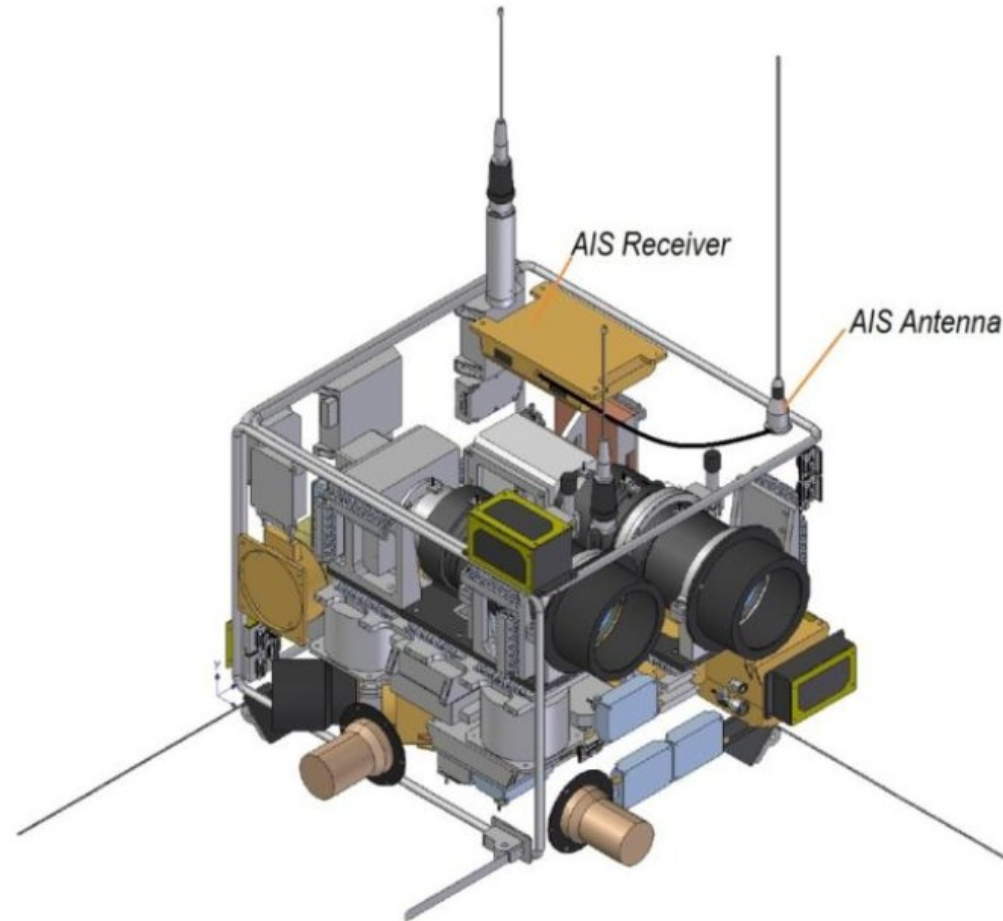
Konstalasi LAPAN A5 (5 LEO Sat)

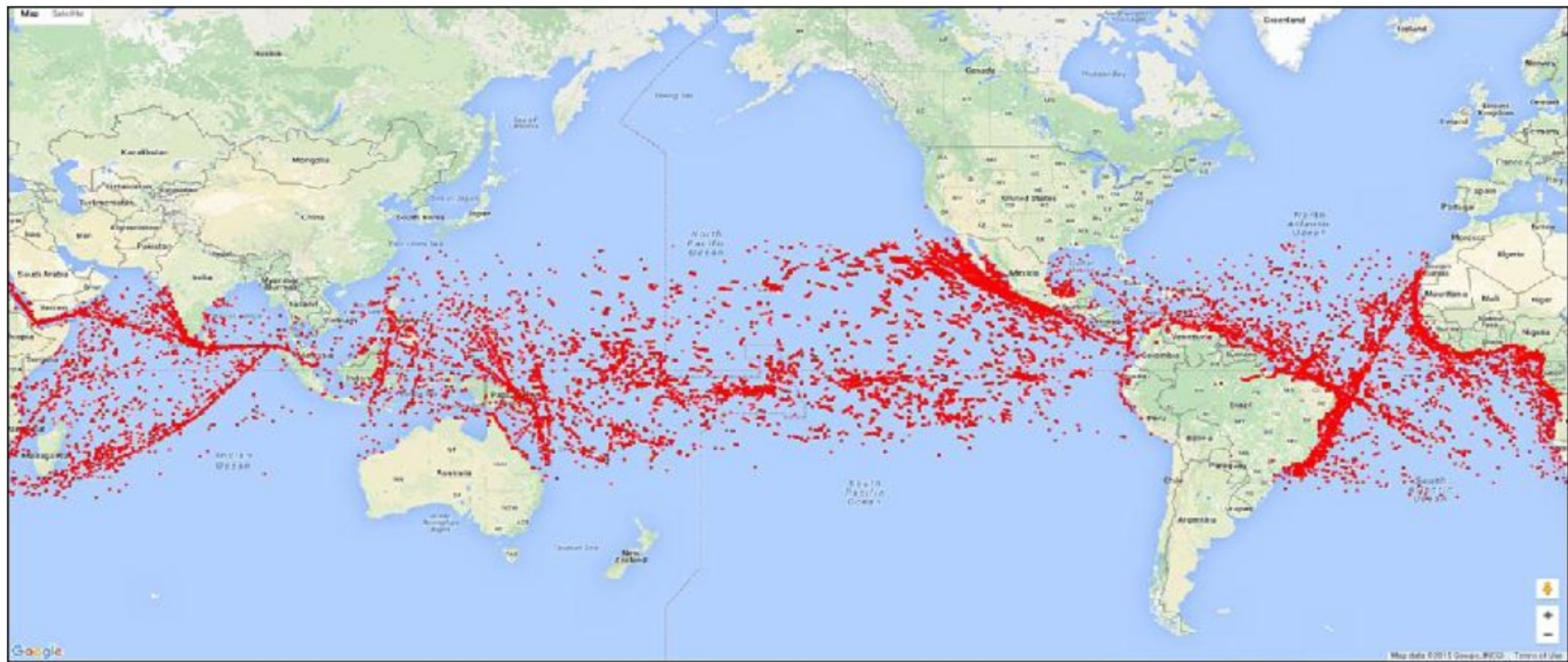




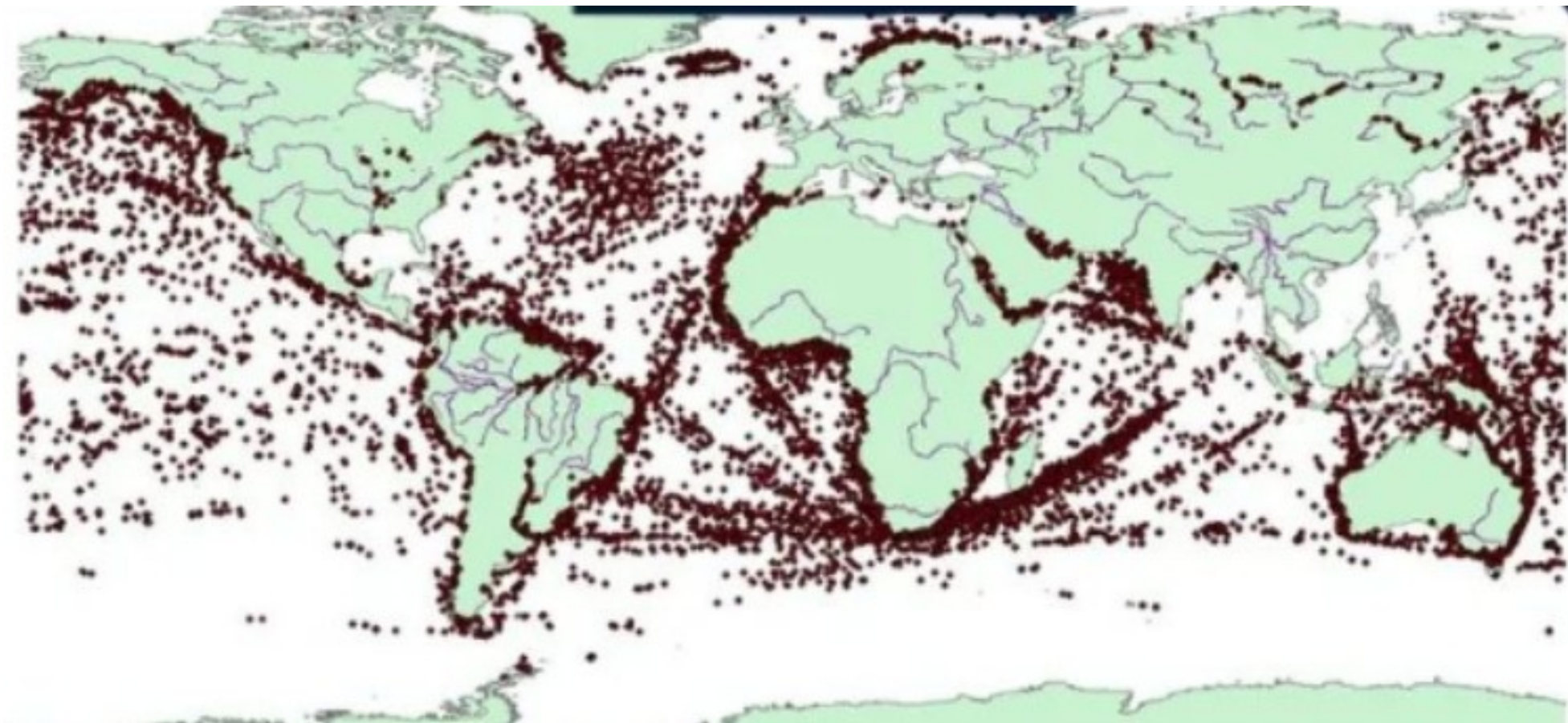


AIS on Board LEO Sat





AIS di LAPAN A3



AIS Operation System of LAPAN-A2 Satellite

