KEPLER
UNBOUNDED
CONNECTIVITY
2021 VIRTUAL RVTEC
UAF R/V Sikuliaq and Kepler
October 27th, 2021

Kepler at a Glance

84 PERSON TEAM

12 MONTHS
NAPKIN TO ORBIT
1st KU-LEO SAT

PROPRIETARY RADIO /
ANTENNA

GLOBAL KU-BAND
SPECTRUM LICENSE

PATENT FILED

3 TELEPORTS
OPERATING

Commercial Service –
Global Data Service

Where We Operate

Inuvik: Gateway

Svalbard: Gateway

Main HQ: Toronto

UK: Field Engineering

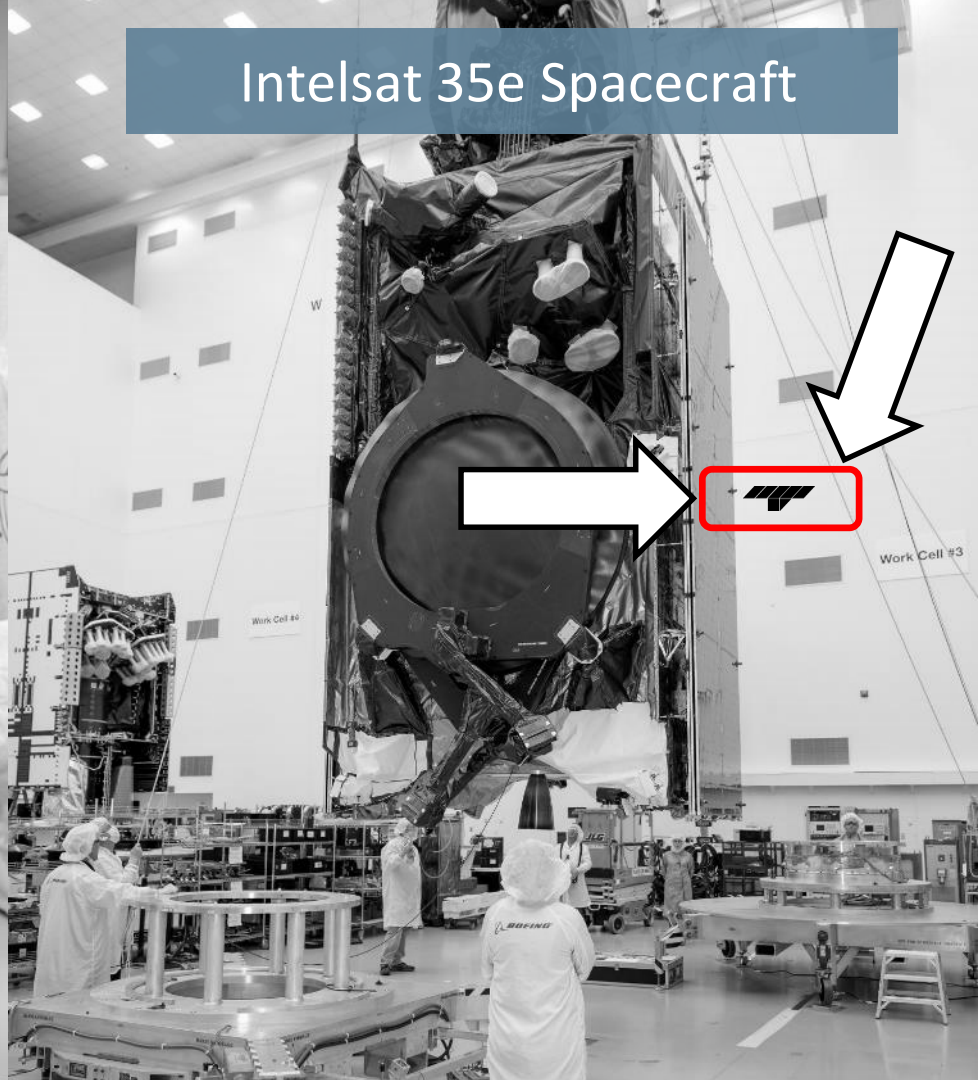
R&D Center

Spacecraft Production

Network Operations

Awarua: Gateway

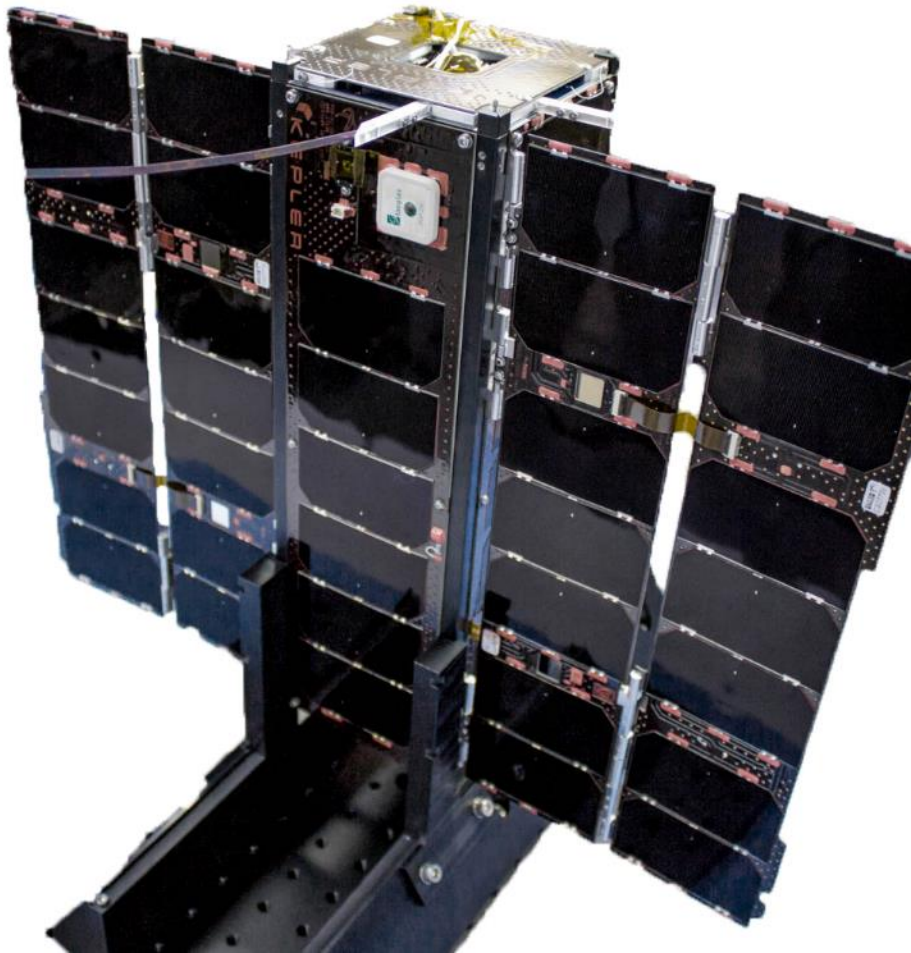
Kepler KIPP Spacecraft



Intelsat 35e Spacecraft

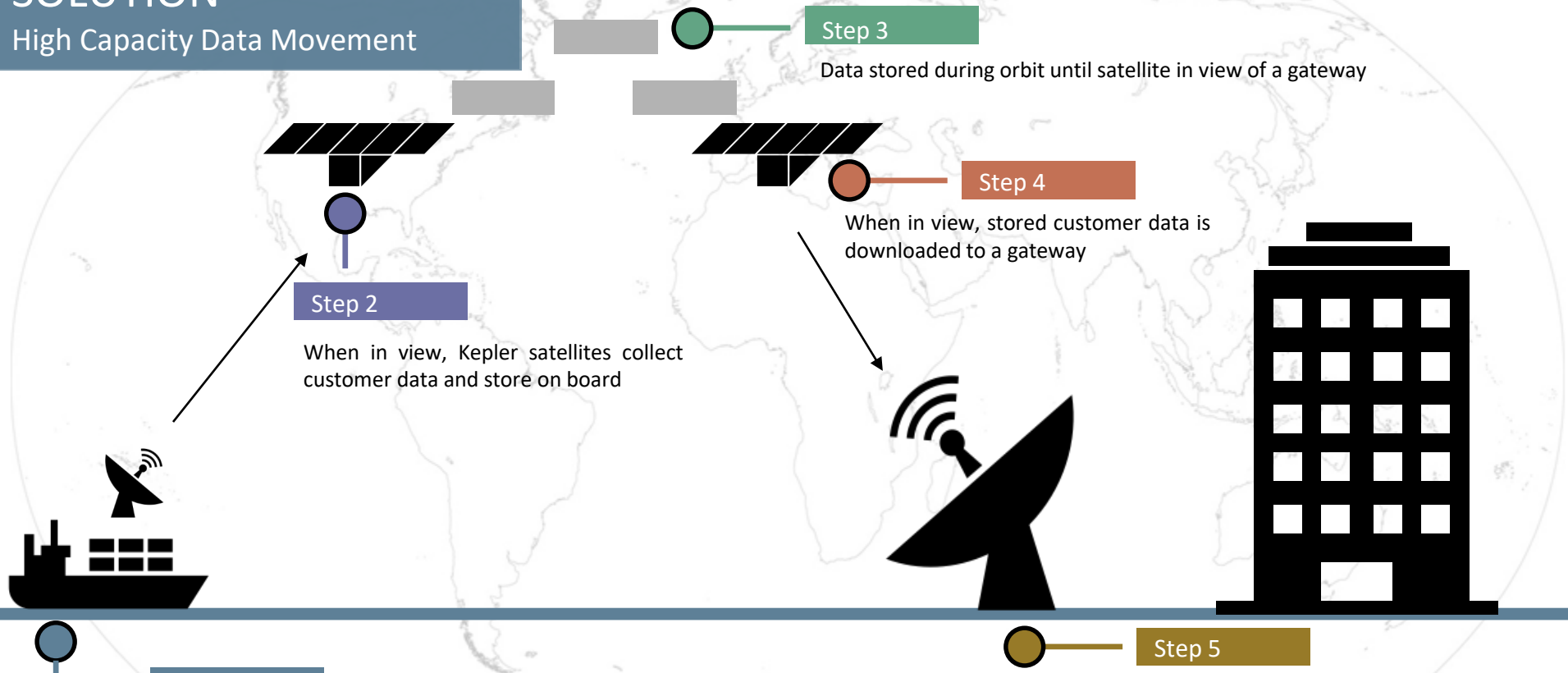
Nanosatellite-Enabled Communications

- ***World's First Ku-band LEO Satellite***
- ***200+ Mbps Bidirectional*** data speeds demonstrated on a 60CM VSAT and Kymeta's U8 ESA
- Compatibility with existing VSATs from C-COM, Cobham, Intellian & Kymeta
- **SDR that supports wideband (Ku) and narrowband/IoT (S-band) from a single platform**



SOLUTION

High Capacity Data Movement



Step 3

Data stored during orbit until satellite in view of a gateway

Step 4

When in view, stored customer data is downloaded to a gateway

Step 2

When in view, Kepler satellites collect customer data and store on board

Step 1

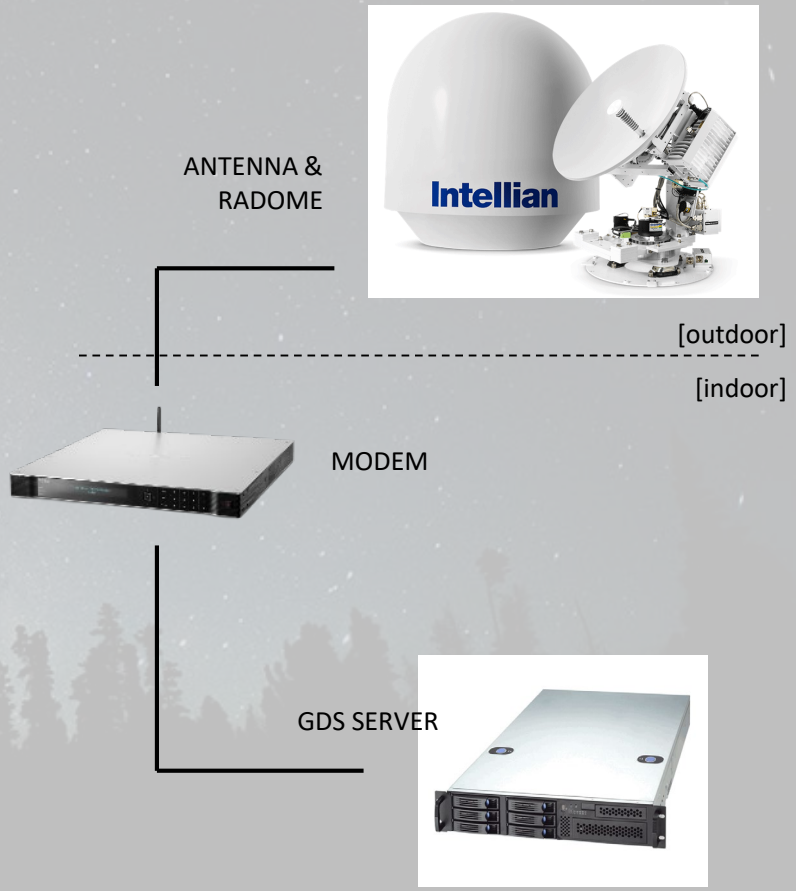
User terminal on customer assets collect and store data until satellite pass

Step 5

Data is sent via IP from the Kepler gateway to the end user

User Terminal

Outdoor Equipment | Antenna & Radome	
Radome Size (D x H)	113 x 120 cm
Weight	90 kg
Indoor Equipment | Modem	
Dimensions (H x W x D)	43 x 41 x 4.5 cm (1U)
Indoor Equipment | GDS Server	
Dimensions (H x W x D)	43 x 41 x 4.5 cm (1U)
Data Interfaces	USB3.0, GigE



Global Data Service Applications

SEISMIC

POLAR

SCIENCE

HYDROGRAPHY

SEISMIC VESSELS

Cost-effective means to deliver seismic data to customer servers and improve survey efficiency.

POLAR WIDEBAND

World's only pole-to-pole wideband data service for civilian and government applications

SCIENCE

Offering a low-cost alternative to move bulk scientific data from remote stations

HYDROGRAPHY

Improve the operational effectiveness of hydrographic and oceanographic surveys

Use Case:
German *Polarstern* Icebreaker

POLAR OPERATIONS

90% of service life is in polar regions outside of traditional GEO satellite coverage

Solution: LEO nanosatellites provide polar coverage

LARGE DATA NEEDS

Required wideband connectivity solution for operational and public-engagement data needs

Solution: Provide up to 500GB/mo capacity

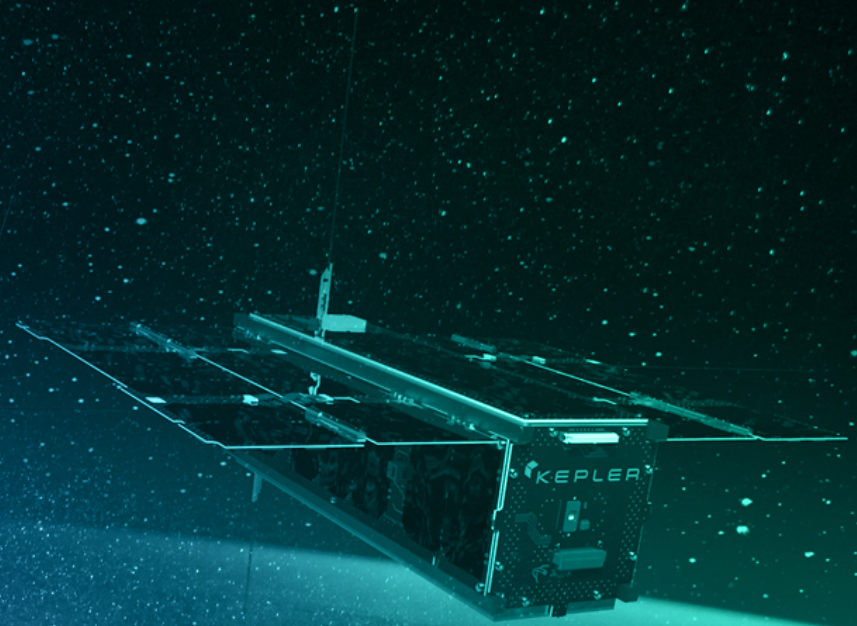
BACKWARDS COMPATIBILITY

Recent deployment of SeaTel 9711 Ku/C dual-band system without deck space for new antennas

Solution: System designed as backwards compatible with Ku-band VSAT

R/V Sikuliaq Deployment

CONTACT US TO DISCOVER HOW TO TAKE ADVANTAGE OF LEO SATELLITES FOR YOUR OPERATIONS



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