



## Space Enabled Maritime Activity-Based Intelligence Data as a Service

VHF Activity Observed by Kleos Satellites  
AIS: Positive

VHF Activity Observed by Kleos Satellites  
AIS: Negative

VHF Activity Observed by Kleos Satellites  
AIS: Positive

VHF Activity Observed by Kleos Satellites  
AIS: Negative

VHF Activity Observed by Kleos Satellites  
AIS: Positive

# INVESTOR PRESENTATION AUGUST 2019

ASX: KSS

KLEOS.SPACE



**“The Earth Observation data market is projected to grow exponentially”**

- Mordor Intelligence

Kleos is engaged with target customers worldwide to help provide answers to major global challenges

# CORPORATE SNAPSHOT

- ☼ Incorporated in Luxembourg June 2017 leveraging 5+ years R&D activity
- ☼ Targeted and experienced team comprising Mission, RF, Data Science & Analytical Engineers
- ☼ Data delivery strategy through critical partnerships
- ☼ Strong non-equity financial support from Luxembourg Government
- ☼ Early adopters pre-orders and sales channel partner contracts signed
- ☼ L3Harris (NYSE:LHX) signed as partner for marketing to government agencies
- ☼ MOU with EarthLab to develop new commercial applications for Kleos Data – targeting the insurance sector and other GEOINT applications
- ☼ Collaboration with Spire Global on ‘Safety at Sea’ project combining Spire AIS data with Kleos data
- ☼ Satellites build complete - launch scheduled for Q4 2019 with a 37 degree inclination orbit delivering more frequent data polling in key regions

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## KEY METRICS

CDIs on Issue	106,627,500
Escrowed CDIs	35,555,000
Tradeable CDIs	71,072,500
Market Cap (at A\$0.30)	A\$31.99 million
CDIs are issued 1:1 with underlying fully paid ordinary shares to facilitate trading in the securities. Kleos is incorporated in Luxembourg. Data at 13 August 2019.	

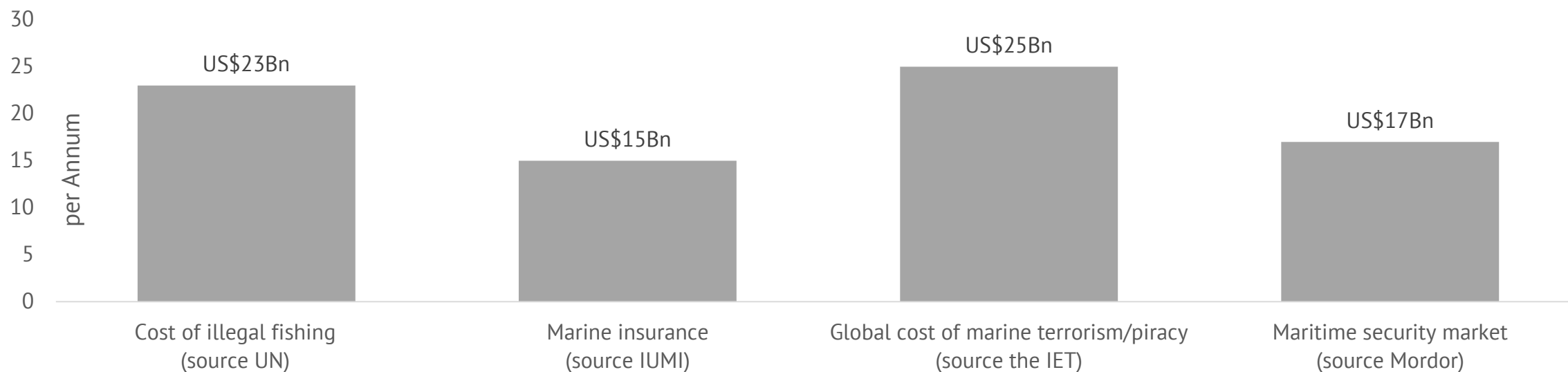
## SHAREHOLDERS

Number of CDI Holders	730
Board and Management	25%
Top 20 Shareholders	59%

## BOARD AND MANAGEMENT

Chairman	Air Commodore Peter Round
Co-Founder & CEO	Andy Bowyer
Co-Founder & CTO	Miles Ashcroft
Non-exec Indep Director	David Christie
International CFO	Iain Hackston
US Strategy Director	Karyn Hayes-Ryan (former Director US National Geospatial Intelligence Agency and US National Reconnaissance Office)
South American Sales Rep	Pierre Duquesne (former Managing Director for Airbus Intelligence South America)

# PRODUCTS TACKLING GLOBAL CHALLENGES (US\$80Bn)



Kleos Data Products		Application	Target Market
Low-Level Data Products	Satellite Data	Maritime situational awareness	Defence & Security
	Georeferenced RF Data	Enhanced maritime situational awareness	Defence & Security, Commercial Geospatial Intel providers
Location enabled analytical data	Maritime Pattern/Anomaly/Comparator Data	Maritime operations, logistics, port and terminal management, maritime trade, risk management, commercial shipping and port stakeholders, fleet capacity analysis and forecasts, reporting on illegal activities	Defence & Security, Search & Rescue, Fishing Monitoring (regulatory) Insurance and Shipping Companies



# A LARGE AND FAST GROWING MARKET

## Targeting diverse, multi-market, high value direct & reseller agreement revenue streams

- 📡 The global space-based Earth observation data products revenues in 2016 was US\$2 billion<sup>1</sup>
- 📡 Global Maritime Information Market expected to be up to US\$1.41 billion<sup>2</sup> by 2020.
  - 📡 *KSS initial target is less than 1.5% of this market by 2020 (revenues of €19.5 million)*

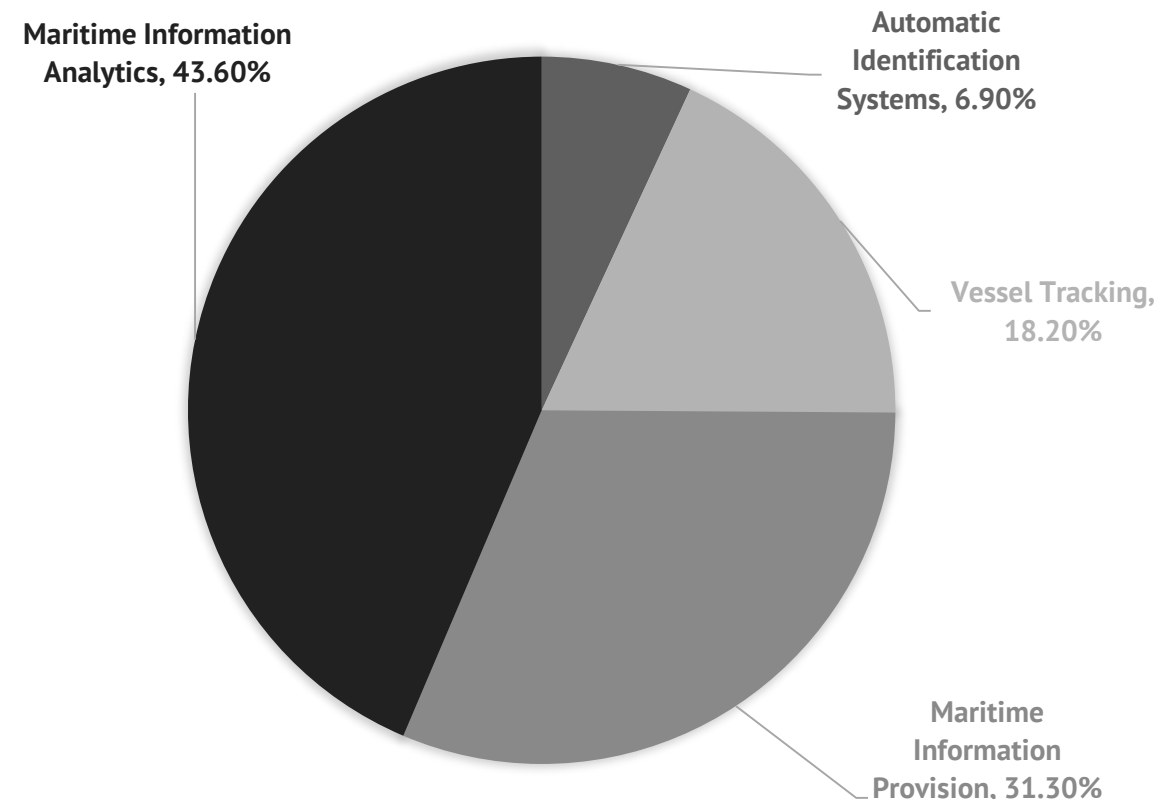
## Competitive environment

- 📡 Only one other known company that is working to create Space collected commercial RF data
  - 📡 Successfully launched the first cluster of three formation-flying satellites
  - 📡 Reported to have over US\$50 million in commercial contracts validating the demand for this data
  - 📡 Previous valuation of US\$200 million
  - 📡 Kleos very well positioned against this peer offering

**"Repeatable, profitable revenue from high quality customers"**

Andy Bowyer, Co-Founder and CEO

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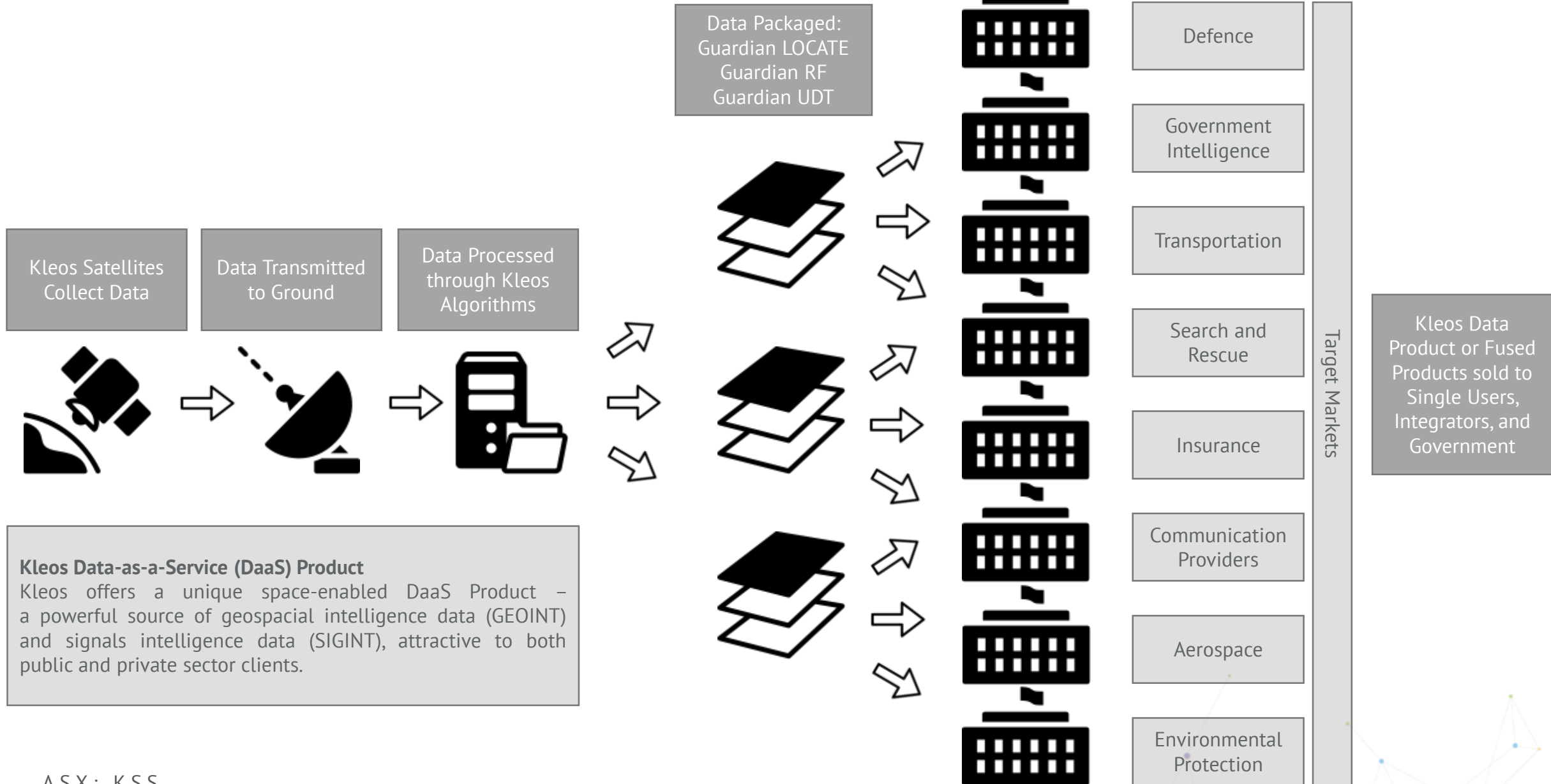


## GLOBAL MARITIME INFORMATION MARKETS

<sup>1</sup> 2017 State of the Satellite Industry Report

<sup>2</sup> Global Maritime Information Market 2016-2020, Technavio

# INITIAL GO TO MARKET STRATEGY



<b>Guardian LOCATE</b> Geolocated data (analytic ready)	<ul style="list-style-type: none"> <li>Processed to deliver geolocated RF activity and capture metrics which is ready for further analytical activity by the customer within GEOINT and data fusion platforms</li> <li>First Kleos DaaS Product: highly flexible pre-processed data attractive to a broad range of customers</li> </ul>
<b>Guardian RF</b> Satellite RF data	<ul style="list-style-type: none"> <li>Raw data that has not been processed through Kleos geolocation algorithms for customers who have their own geolocation/ signals intelligence capability.</li> <li>Provided as a structured time aligned I/Q Level X data stream</li> <li>Primarily for highly sophisticated customers with in-house data processing capability</li> </ul>
<b>Guardian UDT</b> User defined data set	<ul style="list-style-type: none"> <li>A customised data set driven by customers requirements and bespoke quotation prior to order</li> <li>Common customisation variables may include;                         <ul style="list-style-type: none"> <li>Specific AOI, data frequency (geospatial filtering)</li> <li>Specific time (temporal filtering)</li> <li>Ground, ground station/s</li> <li>Enhanced security</li> <li>Event based triggers</li> </ul> </li> <li>Customisable high value data to be processed and packaged for bespoke applications</li> </ul>

Monthly/yearly automated and programmatic ordering, available invoicing and usage reports

## ANNUAL REVENUE PER 'GUARDIAN LOCATE' CUSTOMER

Daily Data Revisit Points	User Type	Annual Revenue Per Customer	
		US\$	AU\$
1	Single User	90,000	128,571
	Integrator	340,000	485,714
	Government	680,000	971,429
2	Single User	140,000	200,000
	Integrator	510,000	728,571
	Government	1,020,000	1,457,143
5	Single User	280,000	400,000
	Integrator	1,020,000	1,457,143
	Government	2,040,000	2,914,286

- ❖ Revenue is driven by the frequency of the revisits in specific locations the Kleos satellites can provide within a 24 hour period
- ❖ Per customer annual revenue is indicative – pricing model subject to change.
- ❖ Excludes revenue from fused data products
- ❖ Excludes revenue from any Guardian RF or Guardian UDT sales which has own pricing model
- ❖ Single Users, Integrators, and Government may also purchase Guardian RF or Guardian UDT

## CUSTOMER PROFILES

Single User	<ul style="list-style-type: none"> <li>❖ Licence for single user (seat) locked to a single computer</li> <li>❖ Primarily data viewing and local integration into existing workflows</li> <li>❖ No reselling of data</li> </ul>
Integrator	<ul style="list-style-type: none"> <li>❖ Licence for a single site</li> <li>❖ Licence to allow for integration into other fused data products</li> <li>❖ Reselling permitted if within fused data product</li> </ul>
Government	<ul style="list-style-type: none"> <li>❖ Single site licence allowing for integration into other fused data outputs</li> <li>❖ No reselling permitted</li> <li>❖ Transfer/sharing with other government agencies permitted if within home country</li> </ul>



- ③ First product launch to be Guardian Locate – Kleos processed geolocated RF data
- ③ Guardian Locate targeted towards customers with existing GEOINT or data fusion processing capabilities in existing workflows
- ③ Variable pricing to users dependent on daily data point re-visits provided
- ③ DaaS model allows an ‘unlimited’ number of potential customers
- ③ Existing two signed contracts are Integrator Users – additional Single User and Integrator contracts in negotiation
- ③ L3Harris (NYSE:LHX) Sales Channel Agreement for marketing of Kleos primarily to US Government agencies and other users
- ③ Kleos placed on GSA Portal – GSA contracts account for US\$45bn in annual sales to US Govt agencies
- ③ New agreements with Spire Global and EarthLab partnering to increase value of Kleos data (fused data products) and develop new unique commercial applications



- ④ Significant progress made engaging the market with:
  - ④ Organisational memberships and conferences
  - ④ Development of Memorandum of Understandings
  - ④ Channel Partner Agreements
  - ④ Government Procurement Portals
  - ④ Pre-orders
- ④ A broad spectrum customer base with signed engagement from focussed small enterprises to global defence contractors such as:
  - ④ L3Harris
  - ④ Orbital Insight
  - ④ Airbus
  - ④ Ball Aerospace
  - ④ IMSL
  - ④ ImageSat International
  - ④ Multiple significant US defence contractors
- ④ Innovative collaborations, delivering value add solutions:
  - ④ 'Safety at Sea' project with Spire combining maritime data
  - ④ EarthLab developing new commercial GEOINT applications for Kleos data

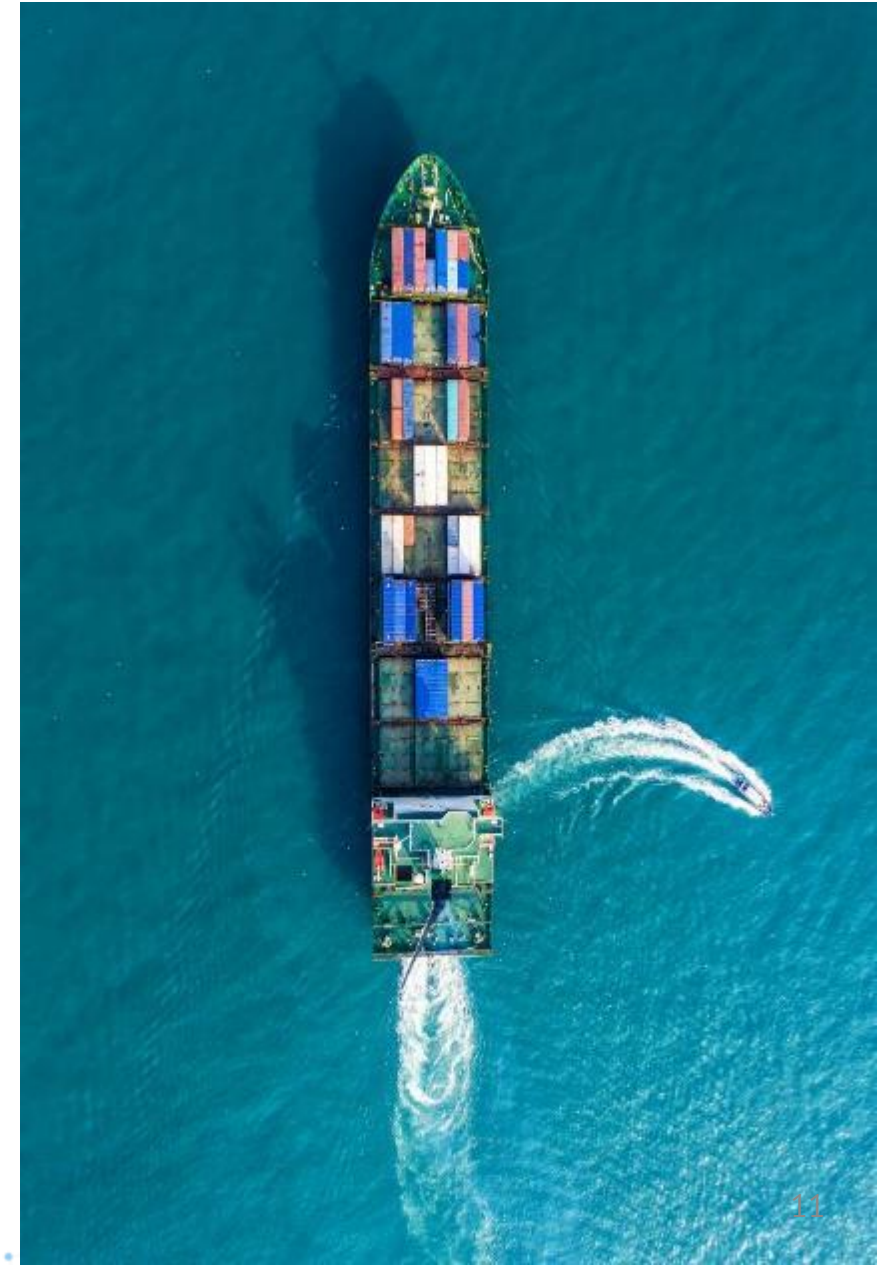


**"Our early adopters represent many end-users, each a possible further revenue source to Kleos as we roll out our DaaS Model"**

Andy Bowyer, Co-Founder and CEO

## **Kleos to deliver maritime RF activity data to help disrupt US\$80bn+ illegal fishing, smuggling, trafficking and security & border challenges**

- 📡 Independently geolocating VHF transmissions to reveal dark, unseen, unlocatable, obscured, obfuscated, covert Maritime activity
- 📡 Complimentary to S-AIS/SAR/Imagery EO
- 📡 Data provided as-a-Service (DaaS), we aim to be:
  - 📡 Reliable
  - 📡 Repeatable
  - 📡 Easy to ingest via API
- 📡 Collection capability will grow to near real-time collection by launching:
  - 📡 further satellites (10x clusters targeted)
  - 📡 enhanced payload
- 📡 The data will be offered at a variety of levels from raw to processed to be 'analytic ready'
- 📡 Distribution to be 'integration partner' centric



# HOW THE CUSTOMER WILL USE THE DATA



Kleos data delivers a cost effective input for ABI 'tipping and cueing' of other EO and ISR Assets

## Example Target Sectors:

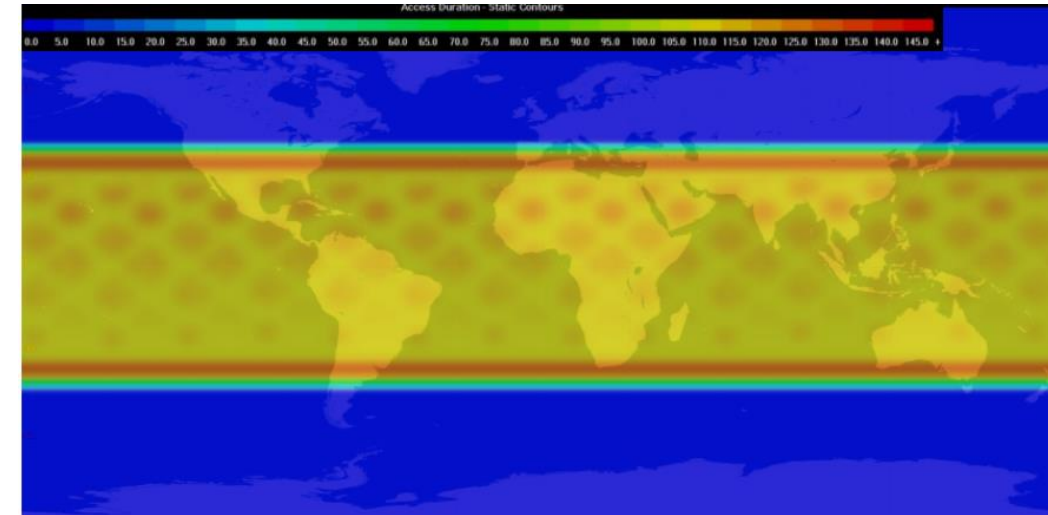
- 📡 Defence and Security
  - 📡 Intelligence
  - 📡 Border Protection and Control
- 📡 Regulation
  - 📡 Fishery Protection
  - 📡 Pollution Control
- 📡 Commercial
  - 📡 Insurance
  - 📡 Asset Ownership

Enhancing maritime situational awareness through delivering data stream of geolocated VHF communication transmissions and delivering a cueing capability data stream of geolocated VHF communication transmissions



# TARGETING HIGH ACTIVITY CORRIDOR

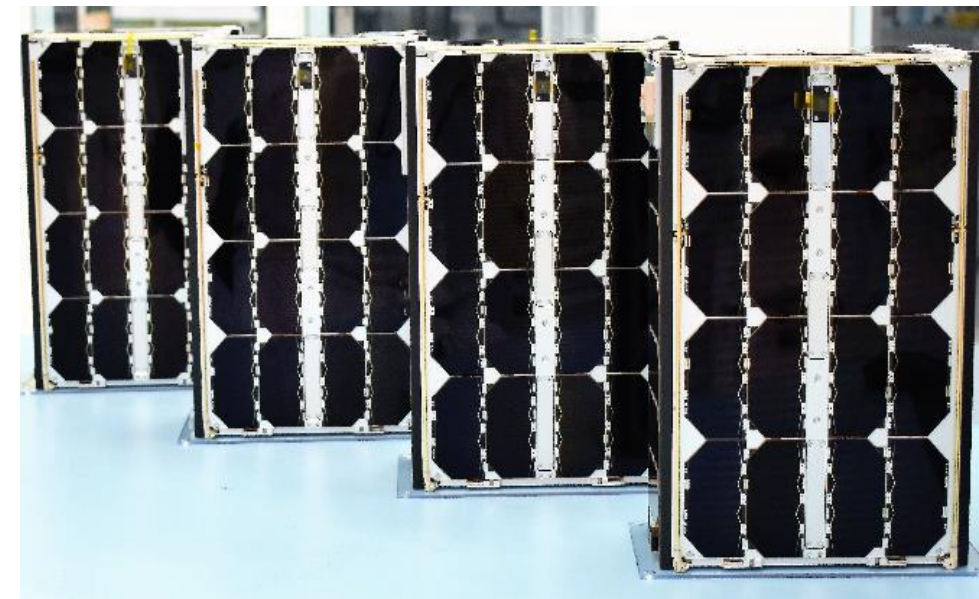
- ④ Launch Provider for Kleos Scouting Mission changed to the Polar Satellite Launch Vehicle (PSLV)
- ④ PSLV launch gives Kleos satellites a  $37^\circ$  inclination orbit
- ④ Orbit increases data collection capability of up to 4.5 times in the corridor with highest global maritime activity when compared with the previous Sun Synchronous Orbit
- ④ Significant increase in collection and value of data without launch of additional satellite clusters
- ④ Area covered includes high-activity high-demand maritime areas: Strait of Hormuz, South China Sea, Australian Coast, Southern US Coast and both East & Western African Coast
- ④ PSLV operated by the Indian Space Research Organisation – highly respected and reliable operator



Kleos Satellite access duration on  $37^\circ$  inclination orbit  
targeting highest activity maritime corridor  
Red = higher access duration









- 🕒 IPO August 2018
- 🕒 Scouting Mission satellites pass final milestone; ready for launch
- 🕒 Contract signed with L3 Harris (NYSE: LHX), 6th largest US defence company and top 10 globally – market cap US\$42B
- 🕒 Kleos on US Government Procurement platform – GSA Portal
- 🕒 Expansion into South American market – Ex Airbus Intelligence Managing Director
- 🕒 Initial Early Adopters contracts signed with leading Defence and Security Contractors
- 🕒 Kongsberg Satellite Services (KSAT) appointed ground station service provider
- 🕒 Release of initial product range, pricing strategy and pre-order functionality
- 🕒 Targeting additional pre-orders and delivery contracts ahead of launch – taking advantage of improved launch orbit
- 🕒 Q4 2019 PSLV launch contract signed with better outcome for Kleos



Kleos Satellites Assembled



-  [Video Interview: Kleos Space business model](https://youtu.be/hjveszsz-28)  
<https://youtu.be/hjveszsz-28>
-  [Video Interview: Kleos Space funding model](https://youtu.be/GPssmOUTgp4)  
<https://youtu.be/GPssmOUTgp4>
-  [Video Interview: GEOINT2019](https://www.youtube.com/watch?v=sojR3bOBN9I)  
<https://www.youtube.com/watch?v=sojR3bOBN9I>
-  [Written Interview: Kleos Space background](https://space-agency.public.lu/en/actualites/2019/A-space-powered-data-business.html)  
<https://space-agency.public.lu/en/actualites/2019/A-space-powered-data-business.html>
-  [AGM Presentation](https://vimeo.com/344764586)  
<https://vimeo.com/344764586>
-  [Scouting Mission animation](https://vimeo.com/339550512)  
<https://vimeo.com/339550512>



# UPCOMING MILESTONES

July 2019	Expansion of Development Expansion of Sales Team
Q4 2019	Satellites Launch
Q4 2019/Q1 2020	Satellites Commissioned Revenues Commence & Contract Ramp-Up
Q2 2020	2nd Cluster Launch Additional Higher Value Product Range
Q4 2020	3rd Cluster Launch Further Increase to Revenues



Launch Scheduled for Q4 2019

## Forward-Looking Statements

This presentation contains forward-looking statements. All statements that address operating performance, events or developments that we expect or anticipate will occur in the future are forward-looking statements. These forward-looking statements are based on management's beliefs and assumptions and on information currently available to our management. The Company's management believes that these forward-looking statements are reasonable as and when made. However, you should not place undue reliance on any such forward-looking statements because such statements speak only as of the date when made. We do not undertake any obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law or the ASX Listing Rules. In addition, forward-looking statements are subject to certain risks and uncertainties that could cause actual results, events and developments to differ materially from our historical experience and our present expectations or projections.

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## INVESTOR CONTACT

Europe:  
Andrew Bowyer  
[andy.bowyer@kleosglobal.com](mailto:andy.bowyer@kleosglobal.com)

Rest of World:  
MMR Corporate Services  
[kleos@mmrcorporate.com](mailto:kleos@mmrcorporate.com)

[kleos.space/investors/](https://kleos.space/investors/)

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