



*intelligent data from space*

Richard Blain, CEO Earth-i Ltd  
**Satellite Video Constellations –  
Mastering the Fourth Dimension of Earth Observation**

Supply data globally from the DMC3 / TripleSat and KOMPSat Constellations

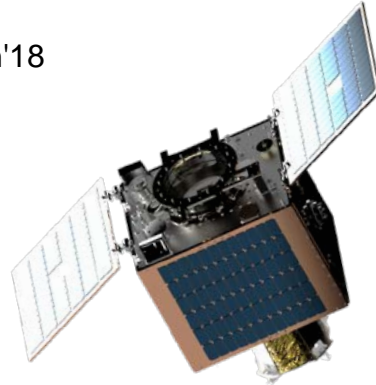
Co-funding SSTL's "Carbonite" MicroSat project

Launching a constellation of very high resolution video & still EO satellites

- Tech demonstrator launched July;15
- Pre-production prototype scheduled for launch Jan'18
- Systems for image handling and data analytics

Commercial deployment of British Innovation

Rapidly growing company

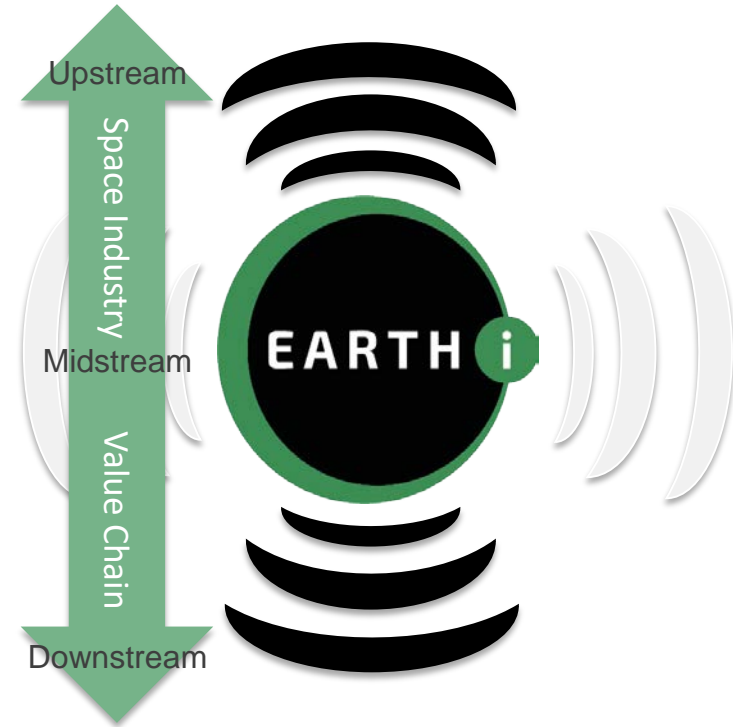




The midstream satellite operator role is crucial part of UK EO market

Creates pull through of upstream technology and launch

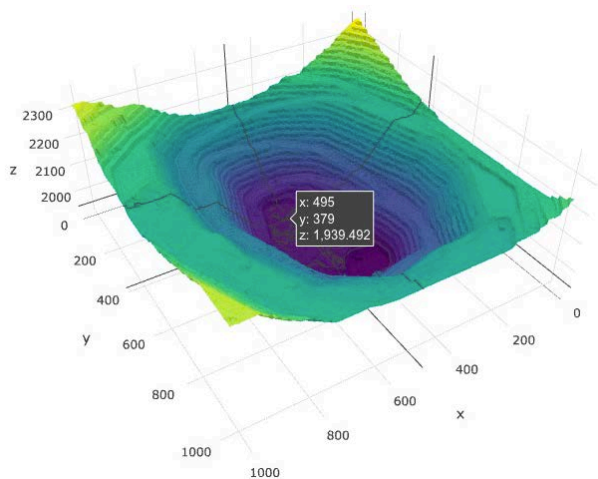
Creates greater opportunities for downstream applications



# Mastering The Fourth Dimension



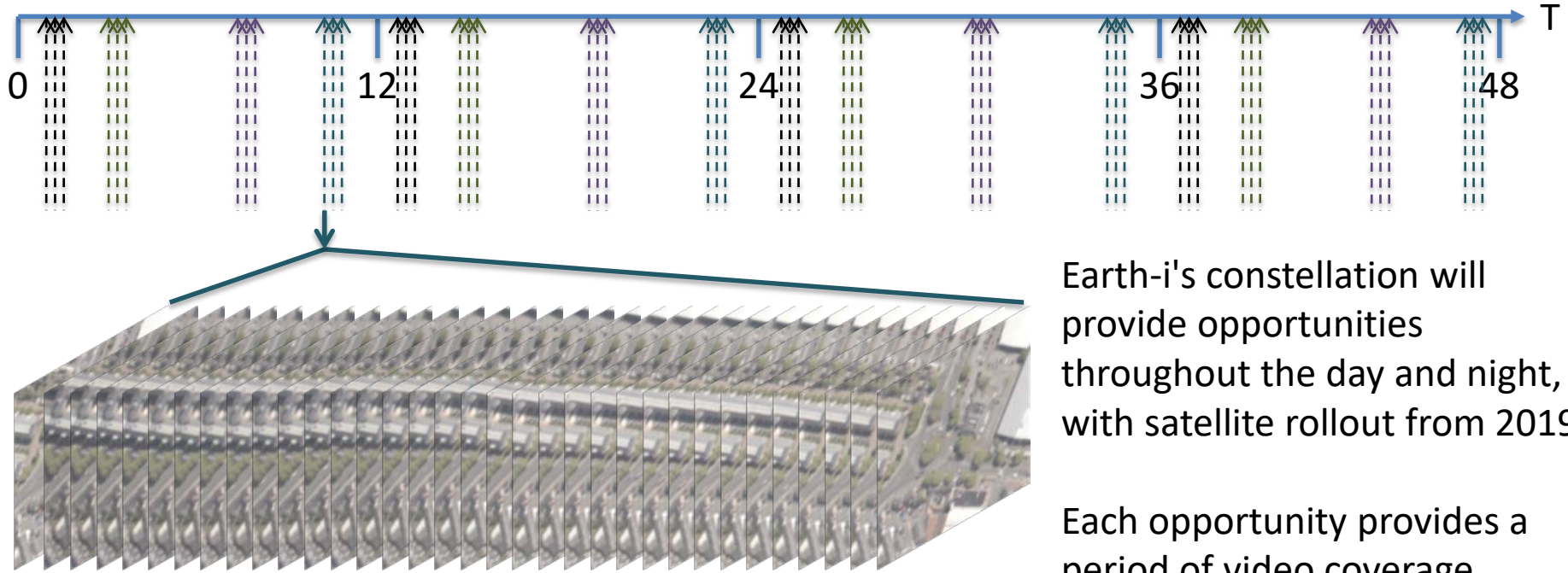
- ✓ Satellite imaging offers the ONLY way to observe any global location at short notice.
- ✓ Opportunity to expand operational use and range of applications by increasing temporal resolution



In general, satellites pass the same time each day (SSO) for optimal atmospheric and lighting conditions, a historical necessity for high value assets.

- **Earth-i's constellation offers high temporal re-visits, throughout the day.**
- **Video provides ultra-high temporal; up to 50fps**
- **Fuse this Planetary Big Data with other data sources**

# Mastering the Fourth Dimension



Earth-i's constellation will provide opportunities throughout the day and night, with satellite rollout from 2019

Each opportunity provides a period of video coverage

# The thinking around small satellite video



Why video?

What can I get from video?

Video requires persistence & stare

Indirect video technology exploitation

What can I not see in still images

Video is another dimension to space imaging

Just like spectral, radar or coincident signals such as AIS

It provides additional information content

# Actual Satellite Video (Launched 2015)





# Simulated Satellite Video (next launch Dec'17)



Simulated video

Accurate 3D model  
from every video

Hundreds of new  
applications



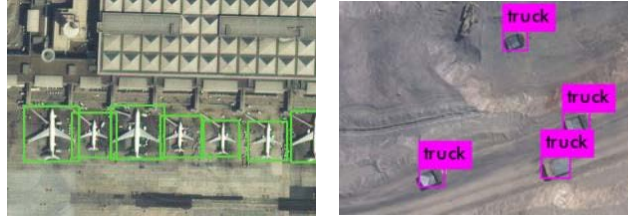
# Automated Analytics Capabilities



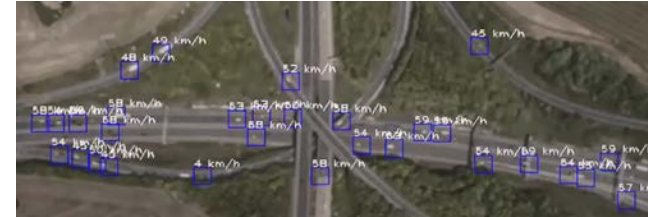
## Automated Mapping



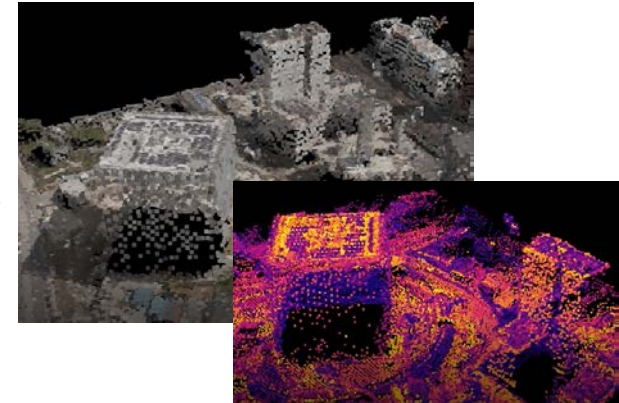
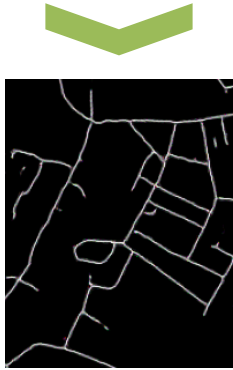
## Object Recognition



## Velocity Vector Extraction from Satellite Video



## Extraction of 3D Model and Point Cloud from Satellite Video



# Earth-i Constellation



Deploying a large constellation of EO satellites capturing still and video images

Offering temporal, spatial and thematic advances

Provides a new data type for the UK and Europe, to lead the world in analytics



An aerial photograph of a coastal town. The top half shows a residential area with houses, streets, and a large white building. A road runs along the coast, leading to a sandy beach and the ocean. The bottom half of the image is a dark green overlay with a faint map pattern.

EARTH <sup>i</sup>

Thank you