



Capella Space

Analytics Solution

Powered by **EMSI**
ElectroMagnetic Systems, Inc.

Vessel Classification

Reliable vessel classification, day or night, independent of cloud cover

Capella Space offers vessel classification as part of our very high-resolution (VHR) image services for SAR. Customers interested in waterbodies such as ports, anchorages, shipping lanes, channels, canals, rivers, exclusive economic zones or restricted water areas can use vessel classification to automatically and autonomously monitor and extract insights from Capella's imagery products.

Illegal & illicit activity

- Dark vessels
- Ship-to-ship transfers
- Illegal fishing
- Suspicious vessel loitering

Port monitoring

- Port and canal congestion
- Military vessel presence arrival and departure
- Pattern of life vessel movement

Zone monitoring

- Protected areas
- Warzones and no-go areas
- Contested waters

Capella's Vessel Classification is derived from SAR data, which means vessels are visible regardless of cloud cover and during nighttime, twilight, and daylight hours. Utilizing Capella's agile satellite constellation, locations may be tasked on-demand or at regular intervals to monitor critical situations and locations of interest.

Dinghai, China

lat 30.008 | lon 122.088

Capella provides a deep learning, computer vision-based approach for classifying vessels within a Capella SAR image. Capella imagery with Vessel Classification is delivered through the Capella Console web application, API, or to a customer's designated AWS S3 bucket. The analytic product is provided in standard geospatial file formats that can be viewed using any GIS software and easily integrated into existing operational workflows.

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|---|---|---|--|
| Product Description | <ul style="list-style-type: none"> Classifies vessels across the entire image scene Bounding boxes show vessel location Bounding boxes are oriented with vessels | | |
| Classes Identified | <table border="0"> <tr> <td> Military: <ul style="list-style-type: none"> Surface Warship Submarine Aircraft Carrier </td> <td> Commercial: <ul style="list-style-type: none"> Bulk Carrier Container Ship Tanker Roll-on, Roll-off Ferry </td> </tr> </table> | Military: <ul style="list-style-type: none"> Surface Warship Submarine Aircraft Carrier | Commercial: <ul style="list-style-type: none"> Bulk Carrier Container Ship Tanker Roll-on, Roll-off Ferry |
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| Ordering | <ul style="list-style-type: none"> May be automatically applied to any Tasking order May be ordered with any archive image | | |
| Delivery | <ul style="list-style-type: none"> Download from the Capella Console or API Delivered as a vector file (GeoJSON) | | |
| Source Imagery | Available for all imaging modes: spotlight, sliding spotlight, stripmap | | |

Vessel Classification is powered by Electromagnetic Systems, Inc. (EMSI), a provider of high-technology sensor system expertise.

Singapore Strait

lat 1.252 | lon 103.952

About Capella Space

Capella Space is an American space tech company with data and satellite solutions for government and commercial use. A pioneer in the Earth observation industry, Capella is the first U.S. company with a constellation of Synthetic Aperture Radar (SAR) satellites, delivering the best quality, highest resolution SAR imagery commercially available. Capella provides easy access to frequent and timely information affecting dozens of industries worldwide, including defence and intelligence, supply chain, insurance, maritime and others. Its market-leading SAR satellites are matched with unparalleled data infrastructure to quickly deliver reliable global insights that sharpen our understanding of the changing world - improving decisions about commerce, conservation, and security on Earth. Headquartered in San Francisco, California with additional locations in Denver, Colorado and Washington, D.C. Learn more at www.capellaspace.com.