ZAITRA

We optimize space data delivery by providing on-board data processing products and services

WHAT TO EXPECT

Cost reduction
By not downloading cloudy images

Saved bandwidth
For more useful data

High reusability
Most common sensors and DPUs supported
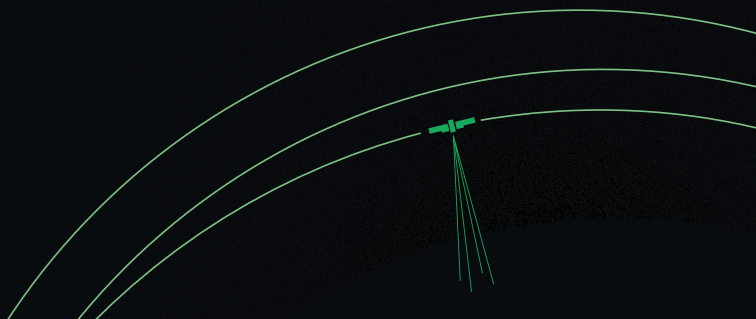
Rapid response
Faster access to critical data

Satellite autonomy
Autonomous on-board decisions

Return on investment
Mostly expected in months

Optimize downlink by minimizing unnecessary data transmission

With SKAISEN, you can effectively support your mission's goal, while saving costs associated with data transfer while empowering mission autonomy. SKAISEN is an on-board cloud detection solution designed for EO missions supporting a wide range of optical sensors. Powered by AI algorithms, SKAISEN detects pixels polluted by clouds directly on-board the spacecraft and offers multiple benefits, such as cost reduction by avoiding the download of unnecessary pixels, saving communication bandwidth for more valuable data, and faster access to critical data through prioritisation. SKAISEN is currently compatible with several sensors (multispectral/hyperspectral cameras) and supports deployment to hardware on-board units.

ROI use cases HOW IT WORKS?

ILLUSTRATIVE EXAMPLE 1

SKAISEN estimates cloud coverage on the satellite image and relays this information to the satellite operator or customer. Based on that, the customer can make informed decisions and avoid downloading cloudy imagery.

WHO IS IT FOR?

Missions that have limited access to download data due to a restricted connection time with the ground station. These missions often need to prioritise which data to download first based on its critical importance.

WHO IS IT FOR?

End users don't want to download cloudy pixels, because they have no value for them. This data cannot be resold.

ILLUSTRATIVE EXAMPLE 2

The customer sets a maximum cloud coverage threshold for the satellite image. Using this criterion SKAISEN autonomously creates masks on-board and removes cloudy pixels.

FLIGHT PROVEN

SKAISEN builds on the proven data processing capabilities demonstrated on the VZLUSAT-2 CubeSat mission, which was equipped with an EO camera. The full product will be demonstrated on the upcoming TROLL mission in Q4 2024, incorporating a hyperspectral camera and DPU payload provided by Zaitra. Additionally, there are scheduled missions for 2024 where undisclosed customers will utilize SKAISEN technology on-board.

SKAISEN is available in multiple configurations. To ensure clear pricing, we have designed two types of licenses:

SKAISEN SPACECRAFT LICENSING

linked to specific satellites/projects and suitable for Data Providers, Mission Owners, System Integrators, and Satellite Manufacturers. All new licenses will come with a progressive discount that considers the total number of SKAISEN licenses already obtained.

SKAISEN INSTRUMENT LICENSING

associated with specific payloads, such as EO cameras or computation boards, and permits their implementation on identical devices as an integrated component of the product. Ideal for Payload Developers with an option to resell SKAISEN as a default part of their product offering.

Parameters	Case study 1
GSD Resolution (m)	5
Data volume captured (GB per day)	232
Estimated communication time (minutes per day)	48
Ground station pricing (€ per minute)	10
Avarage useful data rate (Mbps)	4.3
SKAISEN data filtered (between 30-90%)	70.00%

Parameters	Case study 1
GSD Resolution (m)	5
Data volume captured (GB per day)	477
Estimated communication time (minutes per day)	160
Ground station pricing (€ per minute)	4
Avarage useful data rate (Mbps)	15
SKAISEN data filtered (between 30-90%)	70.00%

SKAISEN spacecraft licensing ROI

- Price for data downlink with lifetime SKAISEN OS license
- Price for data downlink without lifetime SKAISEN OS license
- Price for data downlink with annual SKAISEN OS license

SKAISEN instrument licensing ROI

- Price for data downlink with lifetime SKAISEN Edge license
- Price for data downlink without lifetime SKAISEN Edge license
- Price for data downlink with annual SKAISEN Edge license

KEY BENEFITS:

Reduction of downlink-related costs

Save your costs by not downloading data acquisitions polluted by clouds

Saving communication bandwidth for more useful data

Filtering out cloudy images saves bandwidth for more urgent data with higher information value and increases near-real-time access to them

Faster access to critical data

Prioritise which data needs to be downloaded first

No data are changed or discarded without consent

All the data from the sensor are safe. SKAISEN can generate only metadata for an operator and will not delete any existing data.

Highly reusable for any optical EO mission

Seamlessly supports a range of commonly used sensors and data processing units, currently tested with Simera Sense cameras and boards equipped with Xilinx Zynq SoC. More configurations and options will be added in the near future.
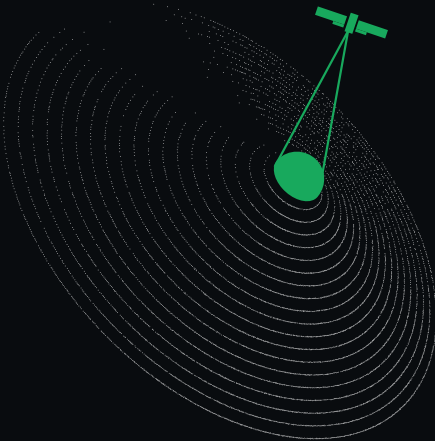
Enhancing mission autonomy

Data-driven on-board decision-making is enabled.

Return on investment guaranteed

Experience the full potential of SKAISEN with personalized calculations of return on investment tailored to your specific mission and needs.
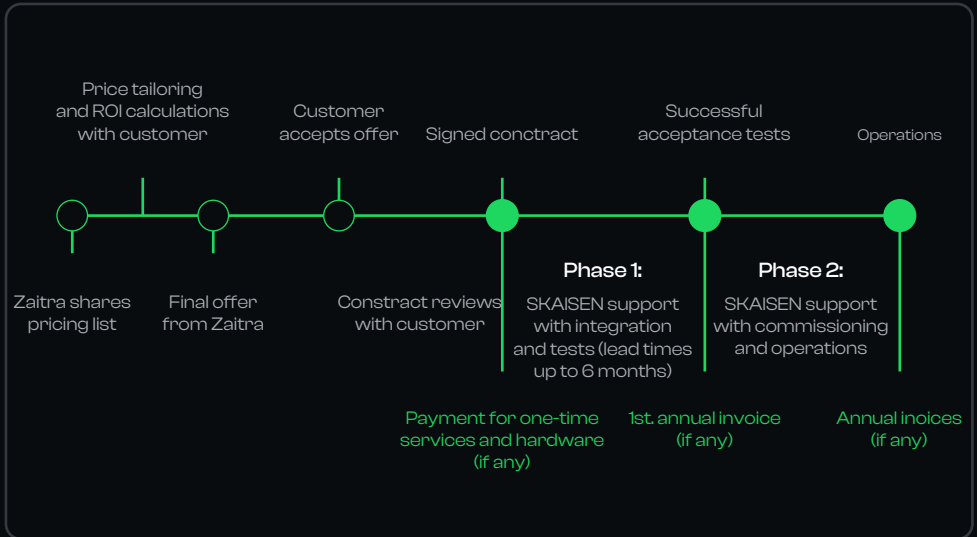
Update anytime in-orbit

In case a new/updated solution exists, we upload it anytime directly on-board the spacecraft/satellite.

Contact us, our Sales Team will be happy to calculate it exactly.

After contacting our sales

Price tailoring and ROI calculations with customer

Customer accepts offer

Signed conctract

Successful acceptance tests

Operations

Zaitra shares pricing list

Final offer from Zaitra

Conctract reviews with customer

Phase 1:
SKAISEN support with integration and tests (lead times up to 6 months)

Phase 2:
SKAISEN support with commissioning and operations

Payment for one-time services and hardware (if any)

1st. annual invoice (if any)

Annual inoices (if any)

Ready to choose the suitable license for your needs?

Contact us now at sales@zaitra.io, and our team will gladly assist you.

ZAITRA

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zaitra.io/products

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