


Understanding Token Calculation

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What are Compute Tokens?

Compute Tokens are a form of currency within SkyDeck used to perform various computational tasks. Each task or activity you perform consumes a certain number of tokens, depending on the complexity and resources required.

Activities Requiring Tokens

Compute Tokens are required for running the following activities:

- Insights
 - Contour Generation
 - Slope Map
 - Watershed Analysis
 - Rooftop Segmentation
 - Crop Analysis
 - Pipeline Encroachment Analysis
- Generating 2D and 3D models by stitching raw images

How Tokens are Calculated for an Activity

The number of tokens required for an activity is based on a tiered pricing model, which is determined by the amount of data to be processed (in pixels). Here’s how the tiered pricing works:

Quantity of Data to be Processed (Pixels)	Token Cost
0 - 5 Megapixels	10 Tokens
5 - 10 Megapixels	25 Tokens
10 - 20 Megapixels	50 Tokens
20 - 40 Megapixels	100 Tokens

Example Calculation

Let's walk through a short example:

Scenario: You need to generate rooftop segmentation over an orthophoto where the selected area contains 25 megapixels.

1. Determine Data Range:

- The selected area contains 25 megapixels.
- This falls in the 20 - 40 megapixel range.

2. Apply Token Cost:

- According to the tiered pricing, the token cost for the 20 - 40 megapixel range is 100 Tokens.

Final Token Cost: To generate the rooftop segmentation over the selected orthophoto area, you would need 100 Compute Tokens.

Understanding Token Cost Calculation for Different Tasks

The following section provides an understanding on how tokens are calculated for each individual activity along with the pricing information.

- [Basic Insights](#)
- [AI Insights](#)
- [Photogrammetry](#)

Understanding Token Cost Calculation for Basic Insights

These tasks include: Contour Generation Insight, Slope Map Generation Insight, Watershed Insight

The cost of Basic Insights is determined by the quantity of data processed, measured in megapixels. You are charged based on the total number of megapixels that your data comprises. SkyDeck follows a tiered calculation approach, where you are charged based on the total number of megapixels in your data according to the following tiers:

Megapixels Processed	Tokens Charged
0 - 1000	1
1000 - 2000	2
2000 - 3000	3
3000 - 5000	5
5000 - 10000	10
10000 - 50000	50

Understanding Token Cost Calculation for AI Insights

These tasks include: Rooftop Segmentation Insight, Crop Analysis Insight, Pipeline Encroachment Insight

The cost of AI-powered Insights is determined by the quantity of data processed, measured in megapixels. You are charged based on the total number of megapixels that your data comprises. SkyDeck follows a tiered calculation approach, where you are charged based on the total number of megapixels in your data according to the following tiers:

Megapixels Processed	Tokens Charged
0 - 100	1
100 - 500	5
500 - 1000	10
1000 - 2000	20
2000 - 5000	50
5000 - 10000	100

Understanding Token Cost Calculation for Photogrammetry Tasks

These tasks include: Generation of 2D, 3D or Multispectral data models.

When you use SkyDeck to stitch 2D and 3D models from raw images, the cost is determined based on the quantity of data processed and several other factors such as the selected quality and models. Here's a breakdown of how we calculate your costs:

Step 1: Calculate Total Gigapixels

The total gigapixels are calculated by multiplying the number of images by the resolution of each image. This gives us the total data quantity in terms of total Gigapixels present in your dataset. (Example: 100 images x 24 Megapixels = 2.4 Gigapixels)

Step 2: Determine Base Cost

Using the total gigapixels, we find the base cost from the tier pricing table (You can find this table in the Token Rate Card on the UI) :

From (Gigapixels)	To (Gigapixels)	Base Tokens Charged
0	5	50
5	10	100
10	20	200
20	40	400
40	80	800
80	100	1500
100	200	3000
200	300	4500
300	400	6000
400	500	8750
500	1000	17500

Step 3: Apply Quality Multiplier

Depending on the quality selected, a multiplier is applied to the base cost:

- Lowest: 0.25
- Low: 0.5

- Medium: 1
- High: 2
- Highest: 4

Step 4: Apply 3D Output Multiplier

If 3D outputs are selected, an additional multiplier of 1.75 is applied.

Example Calculation

Let's walk through an example:

- Total Number of Images: 300
- Image Resolution: 24 Megapixels
- Quality Selected: Low
- 3D Outputs: Yes

1. Calculate Total Gigapixels

- Total (in Gigapixels) = Number of Images x Image Resolution = $300 \times 24\text{MP}$
= 7.2 Gigapixels

2. Determine Base Cost:

- Total Gigapixels (7.2) fall in our tier pricing table's 5-10 range.
- Base Cost = 100 Tokens

3. Apply Quality Multiplier:

- Quality Multiplier (Low) = 0.5x
- Cost after Quality Multiplier = Base Cost * Quality Multiplier = $100 \text{ Tokens} * 0.5 = 50 \text{ Tokens}$

4. Apply 3D Output Multiplier:

- 3D Output Multiplier = 1.75x
- Final Cost = $50 \text{ Tokens} * 1.75 = 87.5 \text{ Tokens}$

In this example, the final cost for stitching the models would be 87.5 Tokens.

By following these steps, you can easily understand how the cost for your project is calculated.



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