A Unique 16U CubeSat Architecture for 1.5m Commercial Earth Observation (SSC20-P2-23)

Matthys Cronje (1), Jacob Mølbach Nissen (2), Jacu Vos (1), Eben Grobbelaar (1), Johan du Plooy (1), Søren Pedersen (2), Leonardo Ghizoni (2)

(1) Simera Sense, South Africa - info@simera-sense.com
(2) Space Inventor, Denmark - info@space-inventor.com

ABSTRACT
Satellite operators frequently use 3U and 6U CubeSats for Earth Observation (EO) applications. These nanosatellites do have a few challenges when addressing the needs of the commercial EO sector:

✔ the demand for more spatial, spectral and radiometric detail
✔ the long term reliability of the satellite bus, and
✔ accuracy of the satellite imagery.

This poster introduces a 16U CubeSat architecture to address these challenges by optimizing the imaging payload to fit in a 12U volume and the satellite bus within a 4U volume.

The imager design results in a system with:

190 mm front aperture
1,067 mm focal length
14.0 km swath width
1.5 m GSD at 500km orbit height
7-Bands in the VNIR range

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