

EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Data Management Systems (4)

Author: Mr. Patrick Hambloch

Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany, patrick@hambloch.name

Ms. Theresa Huang

The Boeing Company, United States, theresa.huang@boeing.com

Mr. Noah Saks

Airbus DS GmbH, Germany, Noah.Saks@airbus.com

Mr. Michael Koller

European Space Agency (ESA), Germany, michael.koller@esa.int

Mr. Daniel Choukroun

Delft University of Technology (TU Delft), The Netherlands, d.choukroun@tudelft.nl

HIGH RESOLUTION AND FREQUENT REVISITS - A FEASIBILITY ASSESSMENT OF A
BUSINESS CASE FOR AN END-TO-END EARTH OBSERVATION SYSTEM**Abstract**

The market for Earth Observation applications is expanding beyond purely government applications to include commercial products and services that are attractive to the mass consumer market. To exploit the untapped potential of mobile society, this paper proposes and investigates a system architecture to distribute high resolution images of the entire globe that are frequently updated to the mobile society. Such a system would revolutionise the way earth observation data is used by consumers and would pave the way for applications such as daily updates of navigation maps, connecting information in social media to the latest available satellite data or providing location-based services with the most up-to-date images.

This paper explores the proposed system architecture from two perspectives. First, a market analysis will be presented to assess the financial viability of investing in such a system. The market analysis will review the market trends, the value proposition of the system to the mobile society, the expected revenues that can be expected to be earned by the venture and the required financing to fund the venture. Second, a technical feasibility will be conducted to examine the end-to-end system detail. The technical feasibility assessment will explore the space segment, ground stations, control centres, processing facilities and the distribution chain of the products and services to the end users.

The work covered in this paper has been performed by the SpaceTech 13 team as part of the SpaceTech Master's degree programme in Space Systems Engineering of the Technical University of Delft.