Rapid Mapping Land Use project

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Key data:

Large CMOS detectors will be installed in the focal plane of an objective with aspheric mirrors which are especially tuned to the properties of the objective. Each one of these detectors can capture 30 full TV-images. One single scan over the field-of-regard across track has a length of 700.000 pixels. The area coverage, therefore, is up to 200 times larger than the one of a traditional aerial survey camera.

The manpower for the project will increase to 350 employees in the first ten years of operation.

1. Executive Summary

The subject of the project Rapid Mapping Land Use is the design, development, and production of a camera for the large-scale production of highly resolved, current and above all cost effective aerial images. SensorVision plan photo flights in the stratosphere as an essential contribution to increase the productivity and to lower the costs.

2. Essence of Project

By means of the future photo flight fleet it will be possible to map whole countries quick and efficiently, to process at low cost and to generate country wide high value photo maps and to sell these via the Internet. Aerial images can be offered in this way like satellite photos comprehensively and up to date but with much more detail.

Business Model

Mapping of the surface of the Earth with focus on the image contents for assessment of the land use becomes ever more important for economy and administration. The images must be color pure for automatic analysis of the image contents to be submitted to spectral analysis. The digital aerial survey cameras of the leading companies are color pure but only averaged over 3-5 pixels. Applications are e.g., the analysis of the climatic change (desertification, floods), for environmental protection (water purity, illicit discharge of substances) or in agriculture (precision farming).

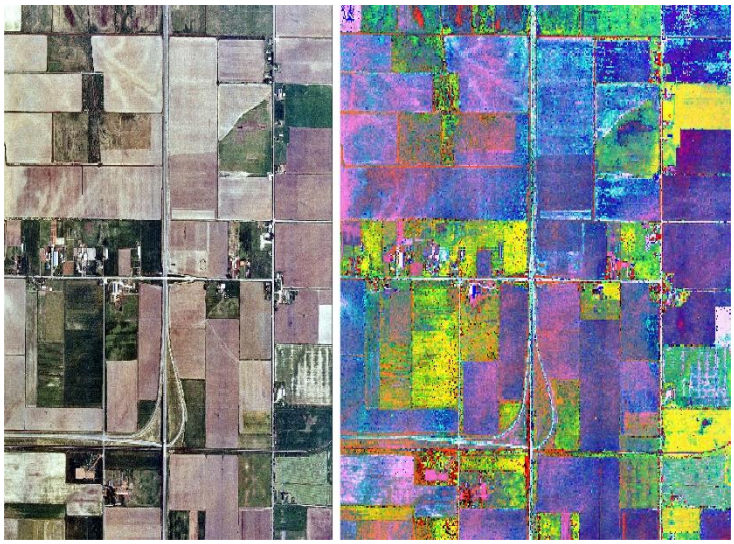
3. Product and Service

Service for the customer

Mapping of the surface of the Earth to obtain aerial images which can be automatically analyzed for the spectral content and the texture. This allows the determination of the land use and the crop type. In consequence the dosage of fertilizers and means to fight infestation can take place to increase the quality of the crop.

Service for the market

The service to the market will result into an increase of the quality of the crop, a better usage of fertilizers and irrigation to increase the productivity and to lower the price for better products.



The adjacent double image shows a landscape in natural colors (left) and a color-coded representation (right) due to a multispectral image. This image shows the same or similar land cover or vegetation condition. From this, a classification according to fruit types or their vegetation state can be derived by image processing methods.

Near infrared images (0.8-1µm, left) allow vegetation to be visualized using the chlorophyll absorption edge at 0.9 µm. In this way, natural vegetation can be distinguished from green color. This process was previously common with appropriately sensitized photo emulsions on film and is therefore known as false color IR. The NIR is one of the 7 colors captured by the multispectral camera of Paid mapping Land Use.