

# BIG Picture

Big Data in Agriculture



**Project:** Diagnosis in the field – Big-Data-based determination of causes for satellite image derived and site-specific variations

**Vision:** helping farmers to optimize returns and to protect the environment through innovative Big Data technology.

**Mission:** By interpreting satellite captured variations in farm fields through Big Data technologies targeted measures, such as fertilizer placement, application of plant protection products, or choice of species to grow, can be derived. Manifold information will be combined in such analyses, including satellite imagery, weather data, as well as the farmers' experience. This way, the processing chain from satellite-based symptoms captured in the field over diagnosis up to therapy recommendation will be automated entirely.

**Partners:** Internationally recognized experts are teaming up:

**Spatial Business Integration GmbH** is a specialist in satellite-image-based information products for agriculture, **rasdaman GmbH** is an expert in Big Data services. By combining the complementary know-how of both partners **BigPicture** will establish large-scale auto-mated analysis offering individual insights and support for agricultural production in Germany.



## Project brief:

**Title:** BigPicture  
**Ref No:** 2815711715

**Start:** September 2016  
**Duration:** 30 months

## Contact:

Dr. Jürgen Born  
Spatial Business Integration GmbH

Prof. Dr. Peter Baumann  
rasdaman GmbH

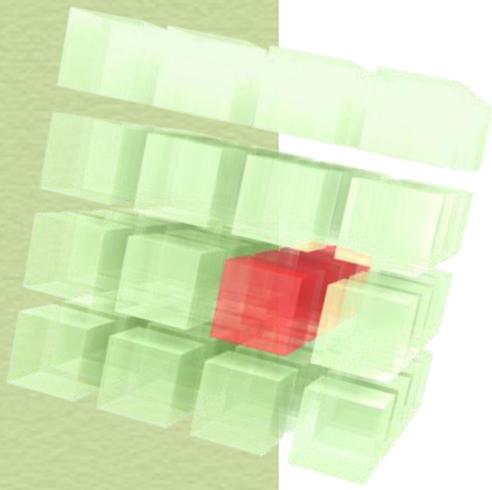
**Email:**  
j.born@spatial-  
business-integration.com  
baumann@rasdaman.com

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German Bundestag

**ptble**  
Projektträger Bundesanstalt  
für Landwirtschaft und Ernährung



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**Technology:** BigPicture employs the pioneer Array Database system, **rasdaman**, enabling „any query, any time“ on massive n-D datacubes.

**rasdaman**  
raster data manager

- Spatio-temporal sensor, image, simulation, and statistics datacubes;
- powerful array query language for image & signal processing, statistics, etc.;
- optimization, parallelization, federation, heterogeneous hardware support;
- visual clients for diagrams, maps, virtual globes, and analytics;
- Reference Implementation for OGC & INSPIRE “Big Earth Data” standards;
- multi-award winning: Copernicus Masters Big Data Competition; CIORReview rating; etc.

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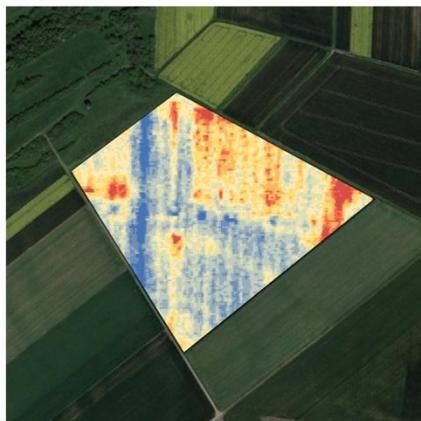
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**Service:** Spatial Business Integration GmbH (SBI) provides services on a worldwide scale based on satellite and geospatial data for its customers in the agricultural sector, as well as the agro-chemical and finance industries.



- Intelligent information products, such as fields maps, agricultural land certificates and regional risk assessments, assist SBI’s customers;
- realizing business strategies, ensuring efficient business processes, saving time and money, and managing limited resources such as arable land, nutrients and water;
- more than 20 years of experience and expertise in the fields of satellite remote sensing, geospatial technologies, plant sciences, water and agriculture.



Early yield predictions of his fields support the farmer in applying variable rates of fertilizer and plant protection products. © (2016) SBI GmbH, Planet Labs Germany GmbH, Google Earth, GeoBasis-DE/BKG



“For German agriculture it is important to play in the worldwide ivy league when it comes to high-tech services. Projects like BigPicture play an important role due to their outstanding innovation and practical relevance”, says Parliament State Secretary of the Federal Ministry for Food and Agriculture, Peter Bleser (r) while handing out the funding certificate on October 10, 2016.