

# Satellite Connected Farmers

**agri**loc – ARTES 20 Demonstration Project

Telespazio VEGA Deutschland, Olaf Herper

## Space Moves! 7<sup>th</sup> ARTES Applications Workshop

18-19 September, Berlin

 **TELESPAZIO**  
a LEONARDO and THALES company

# agril<sub>oc</sub> – ARTES 20 Demonstration Project

## Project Partners

Telespazio VEGA Deutschland GmbH

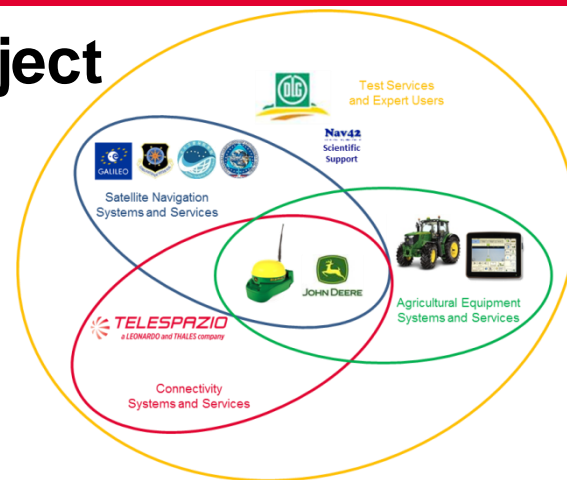
- ☼ Project lead
- ☼ Satellite communication solutions



- John Deere GmbH
- ☼ GNSS solutions
  - ☼ Plant specific input application



- DLG Test Center Technology & Farm Inputs
- ☼ Interest group for customers and expert users
  - ☼ Label and R&D tests for agricultural products



# Applications of Satcom in precision farming

## ☼ Internet

- ☼ Online agricultural information and services
- ☼ Automated process documentation
- ☼ Smart Farming (Portals, Big Data)
- ☼ Remote diagnostics and maintenance

## ☼ Mobile Connectivity

- ☼ Automated driving
- ☼ Field sensing and mapping
- ☼ Zone specific input application
- ☼ M2O, M2M communication



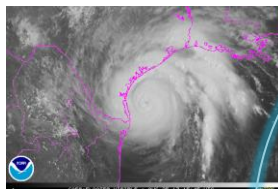
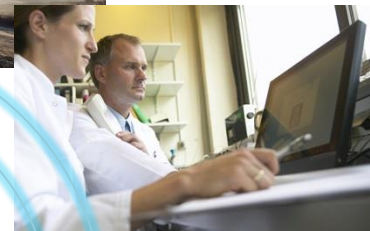
[www.spacebroadband.com](http://www.spacebroadband.com)

# Application Domains

- ✦ Public Safety
- ✦ Mining & Construction
- ✦ Public Management
- ✦ Energy & Facility Monitoring
- ✦ Mobile bank offices
- ✦ Fleet & Container Tracking
- ✦ Off-shore, SAR
- ✦ Precision Farming **agriloc**



Spacebroadband.com



NOAA



Inmarsat



Eutelsat



Iridium



Time Magazine



Satellite Connected Farmers

agriloc



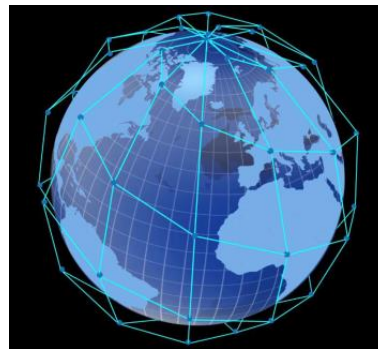
Spacebroadband.com



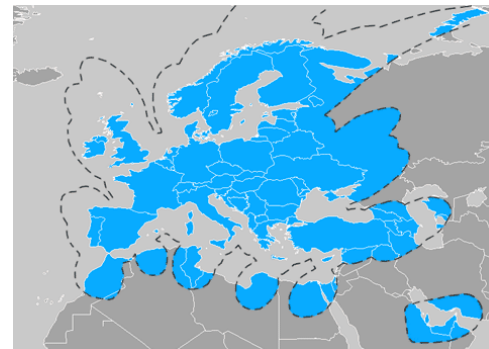
Telespazio VEGA

# Benefits

- ✿ Immediate setup
- ✿ Globally available
- ✿ Low investment for the user
- ✿ Roughly 2 € for a GB
- ✿ Fixed, Portable, Mobile
- ✿ Voice and Data
- ✿ Guaranteed service level



Iridium



Eutelsat



Foto: FarmRTK



Fucino, Telespazio



# Fixed Satcom Solution





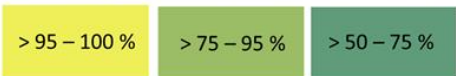
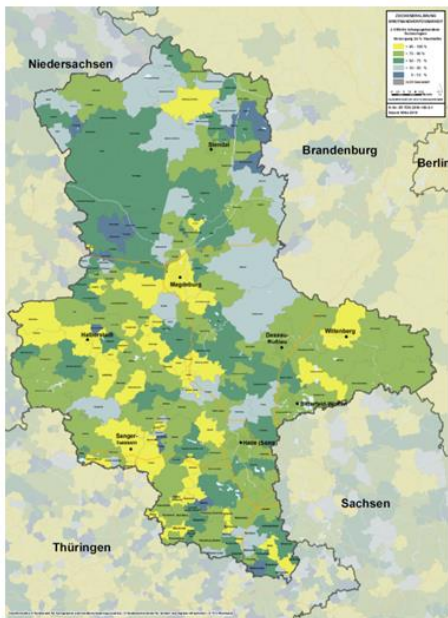
# Portable Satcom Solution



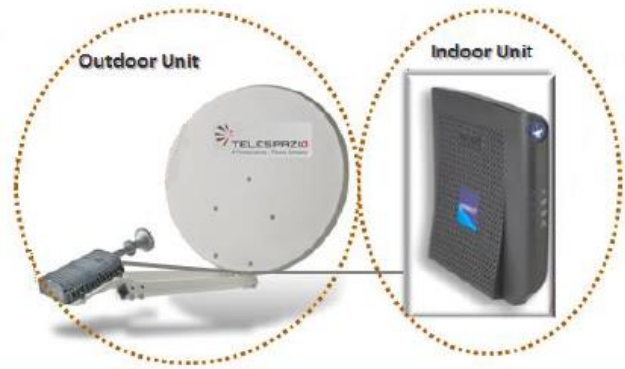
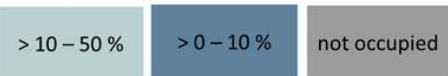
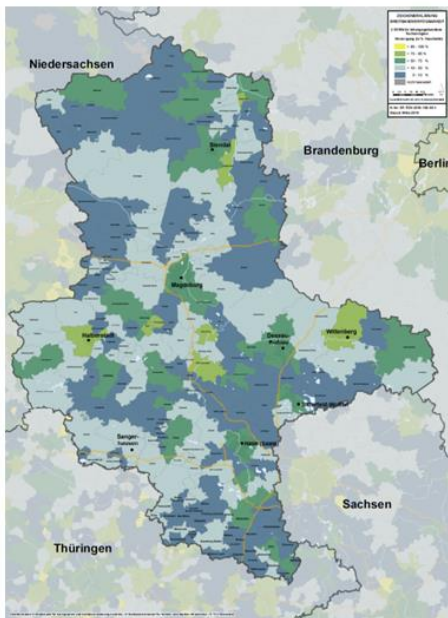


# Fixed Satcom Solution

6 Mbps



50 Mbps



Reference:  
Ministry for Cartography and Geodesy /  
Ministry for Transportation and Digital  
Infrastructure / TÜV Rheinland



# Mobile Satcom

## Precision Farming developments

- ✦ Higher precision, higher degree of automation and integration of processes, sensor data, documentation, management
- ✦ = higher dependency on data and reliable connectivity!
- ✦ Main problem: availability of terrestrial network and shielding
- ✦ **agri<sup>loc</sup>** Solution: hybrid communication: mobile network + Satcom



Foto: FarmRTK



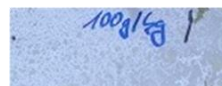
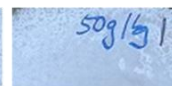
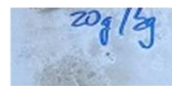
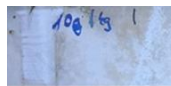


# Testing Satcom from Farmers' Perspective

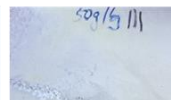
- Performance
- Endurance in typical agricultural use
- Practical testing; usability
- Benefits for the end user



[www.dlg.org](http://www.dlg.org)  
[www.dlg.org/testsagriculture.html](http://www.dlg.org/testsagriculture.html)



Agricultural dust



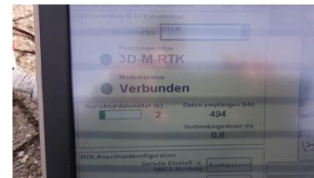


# Testing Mobile Satcom from Farmers' Perspective

- Performance
- Endurance in agricultural use
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THANK YOU FOR YOUR ATTENTION

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