

**Presentation**

**CLAAS Agrosystems - Danish Branch**

DJF IKT Netværksmøde Foulum, August 30, 2010.

**CLAAS**

Go on. Go easy.

**EASY**

Efficient Agriculture  
Systems by CLAAS.



on board



on field



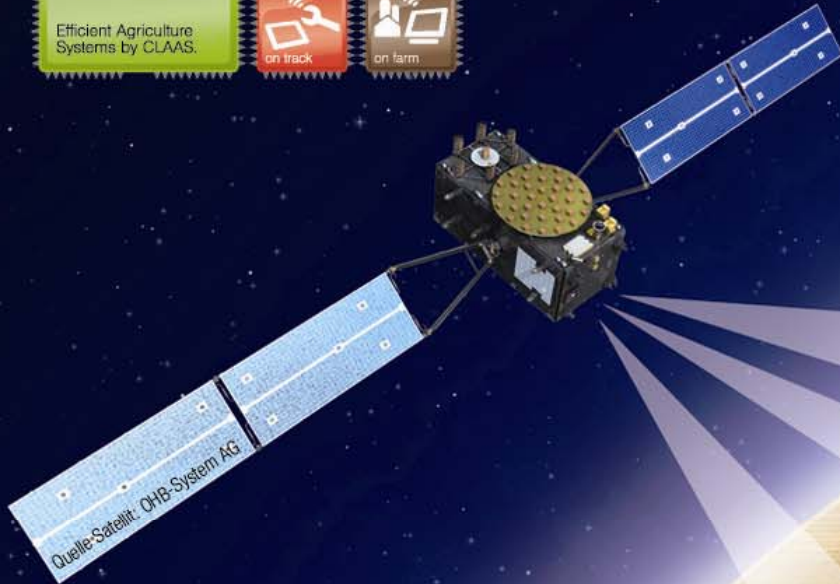
on track



on farm

# CLAAS

CLAAS Agrosystems GmbH & Co. KG



# CLAAS Agrosystems GmbH

## Product overview



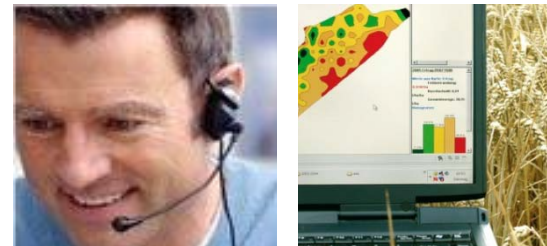
Steering Systems



Management Software



Precision Farming & Monitoring



Management Services

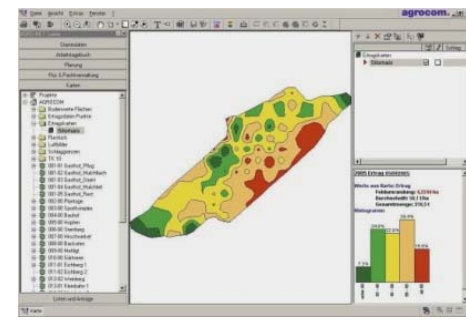
# CLAAS Agrosystems GmbH

## Product overview



**EASY** - Efficient Agriculture Systems by CLAAS.

- on board**: Maschinensteuerung und Leistungsoptimierung direkt aus der Kabine.
- on field**: Produktivitätssteigerung direkt im Feld.
- on track**: Maschinenüberwachung und Ersatzteilservice.
- on farm**: Prozessoptimierung für den eigenen Betrieb durch Softwarelösungen.



# CLAAS Agrosystems GmbH – Danish branch

## History

**Founded:** 1999 ECO-DAN  
2007 Agrocom  
2009 CLAAS Agrosystems

**Location:** Kvistgaard, Denmark

**Technology:** Computer Vision

**Products:** Auto-Steering Systems  
Intelligent Sensors

**Industry:** Agricultural Sector

**Employees:** 12 Persons  
mainly M.Sc. & Ph.D.



**CLAAS acquisition of ECO-DAN A/S.**

# Local Positioning System Idea



*Use computer vision technology under outdoor conditions*

***to see field structures***

*for precision guidance of implements, self-propelled machines and tractors*

## Local Positioning System

Why Local Positioning System camera steering

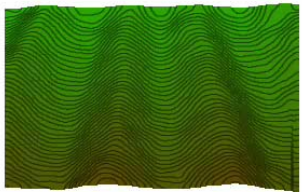
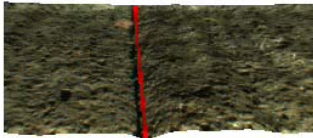
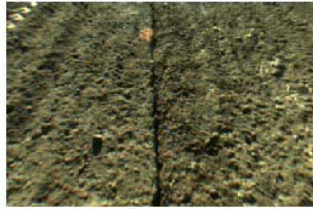


**GPS knows where the rows should be ...**

**LPS knows where the rows are!**

# Local Positioning System

## Automatic tractor and implement steering

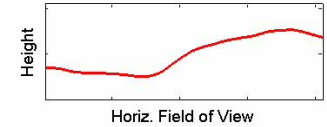


LPS Stereo Vision



Furrows

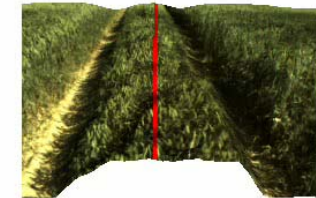
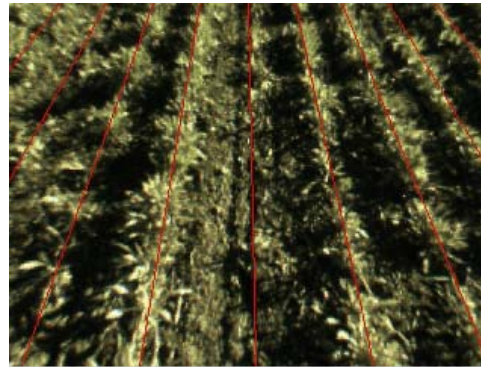
Swath



Ridges

Row crops

Tram lines



# Product History

1999 – 2010

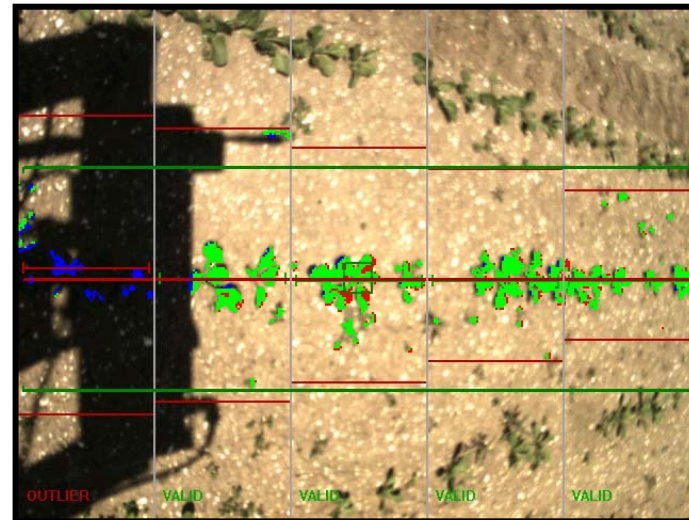
1999



2001



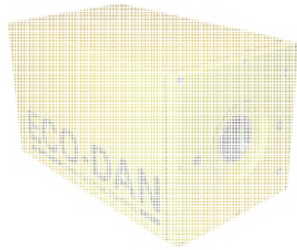
Based on 2D color images



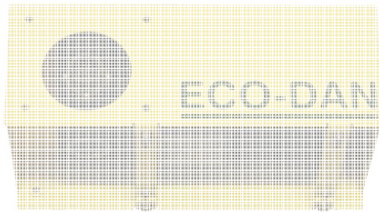
# Product History

1999 – 2010

1999



2001



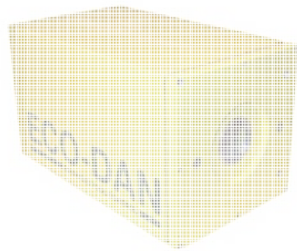
2005



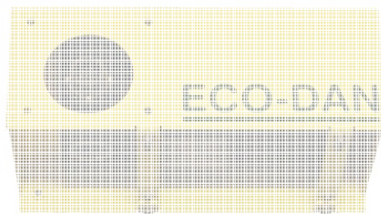
# Product History

1999 – 2010

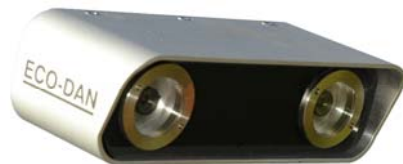
1999



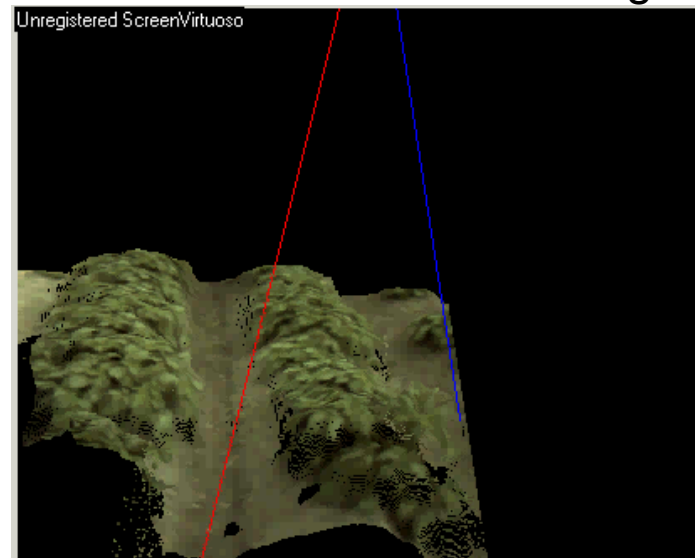
2001



2005



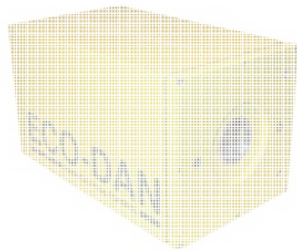
Based on 3D and color images



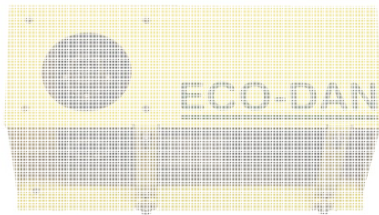
# Product History

1999 – 2010

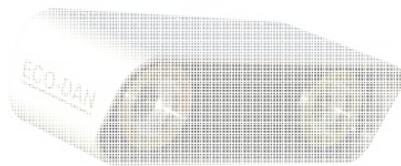
1999



2001



2005



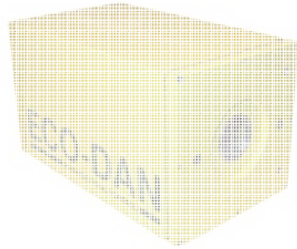
2009



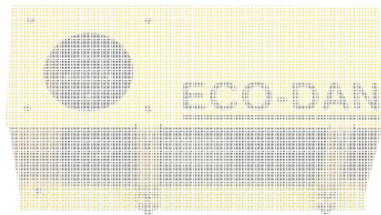
# Product History

1999 – 2010

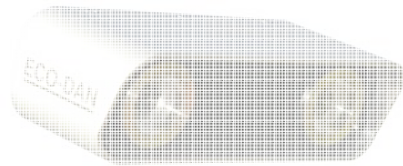
1999



2001



2005



2009



Video MMI, performance and cost



# Product History

1999 – 2010

1999



2001



2005



2009



# Vision Technology

## Steering Systems



## Intelligent sensors



# Steering System Applications

## Forage harvester steering systems



Example - Video

**SFH - Swath Test Vittrup, Denmark.**



**SFH Direct Disc test in Harsewinkel, Germany.**

**One Camera HW – multiple SW applications**

# Vision Technology

Steering Systems



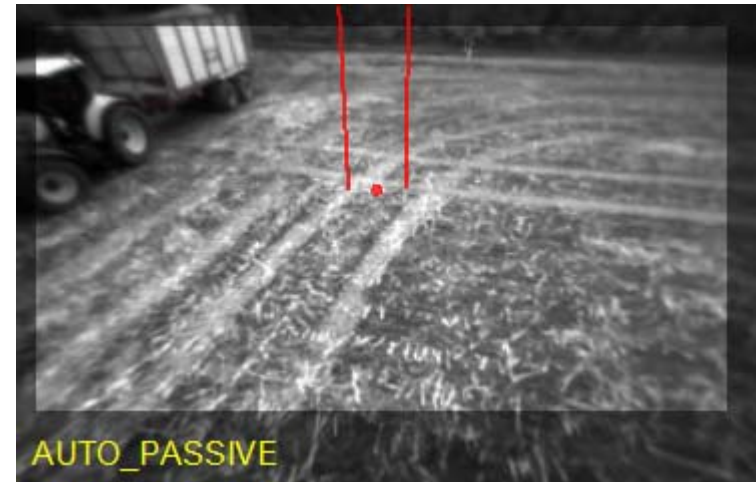
Intelligent sensors



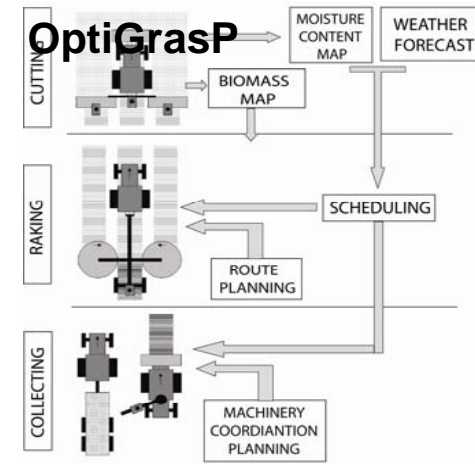
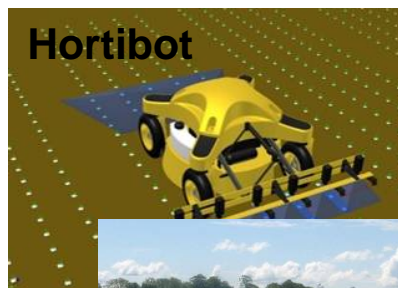
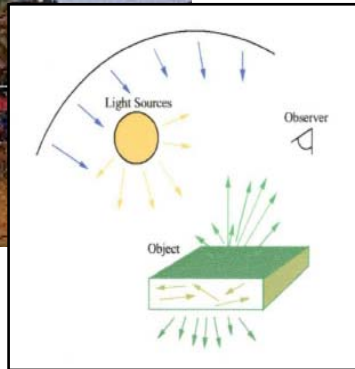
# Intelligent Sensor Applications

## Auto Fill

Automation of the overloading process



# Cooperation with DJF 1999 - 2010





Thank You for Your  
attention!