

# FARM MANAGEMENT IN DENMARK

## What it is about

Fieldsense, a small Danish start-up company, provides a service to help farmers become more efficient. Every 5 days, Sentinel-2 images are processed to provide maps of the fields throughout the growing season. These show farmers where they have crop-problems due to pests, diseases or irrigation and advises them

on the treatments to combat potential crop loss. Farm machinery manufacturers and agriculture suppliers as well as Danish Ministries benefit through market information on the crops. The general public benefits through a better environment by reduced use of chemicals on the farms.



## What we found

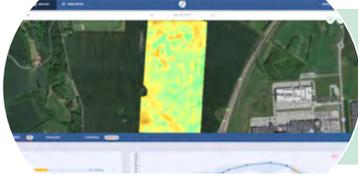
- High resolution (10m), Sentinel, satellite imagery is helping cereal farmers save time inspecting their fields and money by reduced crop damage and chemicals used.
- Benefits are almost exclusively felt by the farmers due to the very large size of the market for cereals and derived products.
- The Fieldsense business of supplying information services to farmers is only made possible by the free and open data policy of Copernicus.

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### The Satellite Data

Copernicus Sentinel-2 provides free-of-charge frequent wide-swath, high-resolution multispectral imagery with 13 spectral bands over Denmark.



### The Service Provider

Drawing on Sentinel-2 data, Fieldsense provides a decision-support service to farmers. The innovative company has created a thriving business with revenues of about €1m pa.

€900k pa



### The Primary User

The Fieldsense service leads to direct, economic benefits to the farmers of between €160-335k pa today in Denmark by savings in scouting time, reduced crop damage and chemicals. This could increase to €3.8-7.9m pa (extended to whole of Denmark) and potentially €23.7-54.5m pa with greater technical maturity (80%; currently 20%).

€160-335k pa



### Secondary Beneficiaries

Livestock farms, food processors and logistics companies benefit from a more reliable delivery of yield.



### Tertiary Beneficiary

Supermarkets and shops benefit from the very marginal improved production and possibly from lower prices as the lower cost to farmers gets shared through market forces. If the use of chemicals can be reduced, then it is possible that a higher quality product can result.



### End User Beneficiary

Everyone benefits through reduced use of chemicals as a result of more timely and controlled application which helps improve water quality and the general environment.



**Total benefits: €1.06-1.24m pa**

## About the project

Through a series of case studies, EARSC aims to gather quantitative evidence that the usage of Copernicus Sentinel data provides an effective and convenient support to various market applications. These studies are undertaken in the frame of the project "Showcasing the benefits brought by the usage of Sentinels data to society, environment and

economy: a bottom-up assessment based on traceable impacts along selected value chains", under an assignment from the European Space Agency (ESA) funded by the European Union as part of the Copernicus Programme.

Download the full report from the project website



<http://earsc.org/sebs>

