# SELECTIVE HARVESTING THROUGH AI AND MULTI-SOURCE DATA INTEGRATION

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Bringing smart farming closer to farmers

## MAIN CHALLENGE/ OBJECTIVES

Grain quality and quantity vary within fields, but most farms lack tools to target harvesting and marketing accordingly. Need of AI to generate selective harvesting plans based on yield predictions from crop imaging, quality measurements, and satellite data.

## MAIN RESULTS/ OUTCOMES

EIP Agri OG DataSato developed and tested a method for combining field-level data from crop scans (Yield Systems), protein/moisture analysis (GrainSense), and harvest maps (FarmTRX). This data was analyzed and clustered using satellite imagery to create selective harvest plans maximizing grain value.

## PRACTICAL IMPLICATIONS / RECOMMENDATIONS

Method generated harvest zone maps linked to grain quality parameters, enabled site-specific grain separation and value-based marketing strategies, and demonstrated the added value of integrating quality and yield data for decision-making. Method is applicable across arable farms using smart machinery and basic data tools. Promotes digitalisation and new income streams from data-driven product differentiation.

## GEOGRAPHICAL LOCATION

Finland

## FURTHER INFORMATION

DataSato was an EIP-AGRI Operational Group project in Finland (2022–2024) centered in the Central and North Ostrobothnia, Central Finland, and Uusimaa regions. It was coordinated by Centria University of Applied Sciences in partnership with JAMK University of Applied Sciences and local agri-tech companies, with participating pilot farms. The project was part-funded by the EU (European Agricultural Fund for Rural Development) under Finland's CAP Strategic Plan. The final report (in Finnish) is published by Centria (Report series 97, ISBN 978-952-7604-24-3).
Keywords: farm data warehouse, digital agriculture, data interoperability, smart farming, fair data, data sharing, data ownership, EFDI, Tritom, Operational Group, Finland.

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