MAC Protocol: benefits for food security & climate change

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The agricultural perspective

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The Challenge: Food security vs Climate Change vs Profitability

How do we produce more food in a sustainable way that allows farmers (and others in the supply chain) to make a living?

Food Security ➡

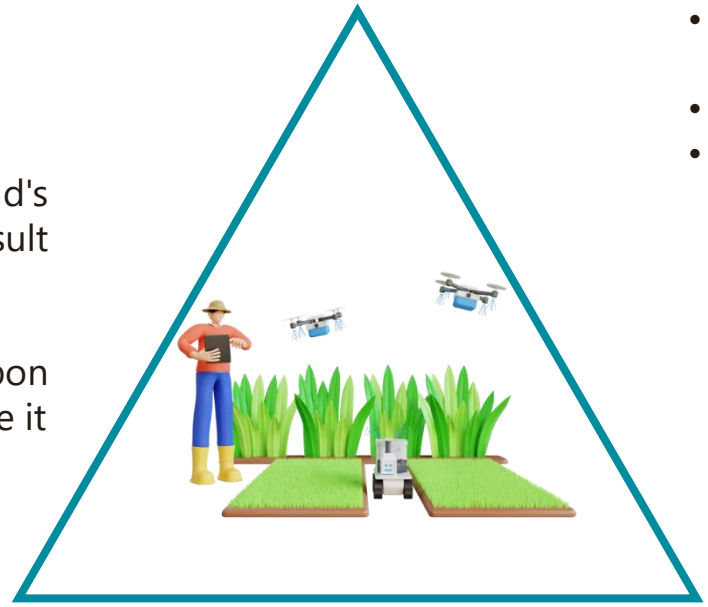
Global population is expected to reach 9b by 2050

- FAO – by 2050 we will need to produce 60% more food.
- World Vision – Hunger is worsening worldwide.
- World Food Programme (WFP) – 258 million people across 58 countries faced crisis or higher levels of food insecurity.

One-quarter of the world's greenhouse gas emissions result from food and agriculture

BUT

Agriculture can sequester carbon from the atmosphere and store it



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Sustainability (Climate Change)

Profitability (ROI) ➡

The **high cost of agricultural mechanisation and technology** can be a barrier, followed by an unclear ROI.

The challenge requires farmers to modernise farming practices

Soil Preparation

Planting

Nutrition & Protection

Harvest

Harvest

Agricultural technology is already contributing!

Auto Steer:
Uses GPS signals to automatically control the tractor in seeding, spraying, fertilizer application and harvesting, reducing overlap of farming operations and leading to substantial fuel savings

Variable rate technology
Uses sensors or preprogrammed maps to determine seeding, fertilizer, crop protection application rates. Supporting technologies include variable rate controllers, GPS, yield monitors, crop sensors and soil sensors

Machine and Fleet Management
Time monitoring of equipment, providing information like GPS location, equipment idling, traffic control and route suggestions

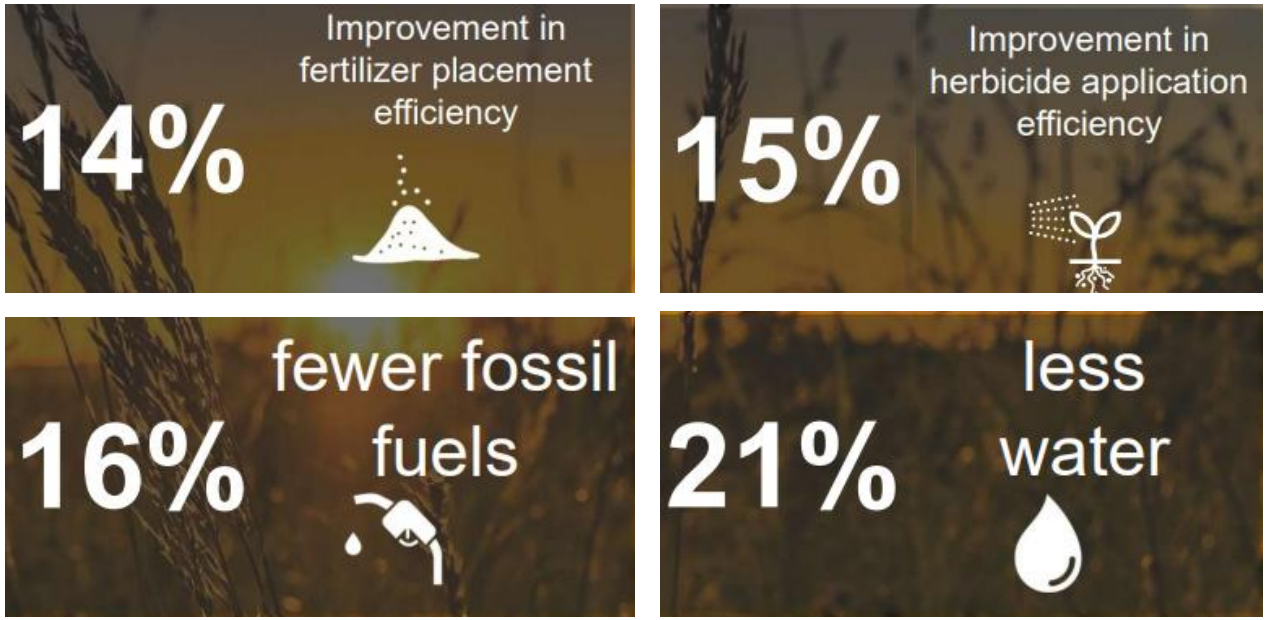
Machine Section Control
Section control technology turns planter, fertilizer or sprayer sections on or off in rows that have been previously seeded/sprayed, or at headland turns, point rows and waterways

Precision Irrigation
Switch on/off apply and different amounts of water to different areas of the field. Focused on centre pivots

…but further potential is available

Annual crop production could increase a further 6% with a broader adoption of Precision Farming technologies

Wider adoption of precision ag technology has the potential to provide significant improvements



Source: AEM

How can the MAC Protocol support agriculture?

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Easing the financial burden for farmers

(access to cheaper financing)

Make capital investment to modernise

Bridging the gap between investing and income

De-risking the transaction for lenders

(thanks to its enforcement remedies on debtor default or insolvency)

Farming needs to modernise to meet the food security and climate change challenge

- Governments recognise the aims of food policies cannot be achieved without mechanisation, smart technologies and digital transformation
    - The expectation from policy makers is that agricultural technology will enable **sustainable food production** while ensuring **food security**.
- Farmers need **access to finance** to:
    - Make capital investments.
    - Bridge the gap between investing and income.

- The MAC protocol **will help farmers to invest and modernise**.
- As consequence the agricultural machinery industry proactively encourages the MAC protocol and is doing so through international cooperation, too (e.g.: MOU CEMA-AEM).

Thank you
for your attention

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