

WP6 Influences of robotics and bio-fuels on economic and energetic efficiencies of farm production

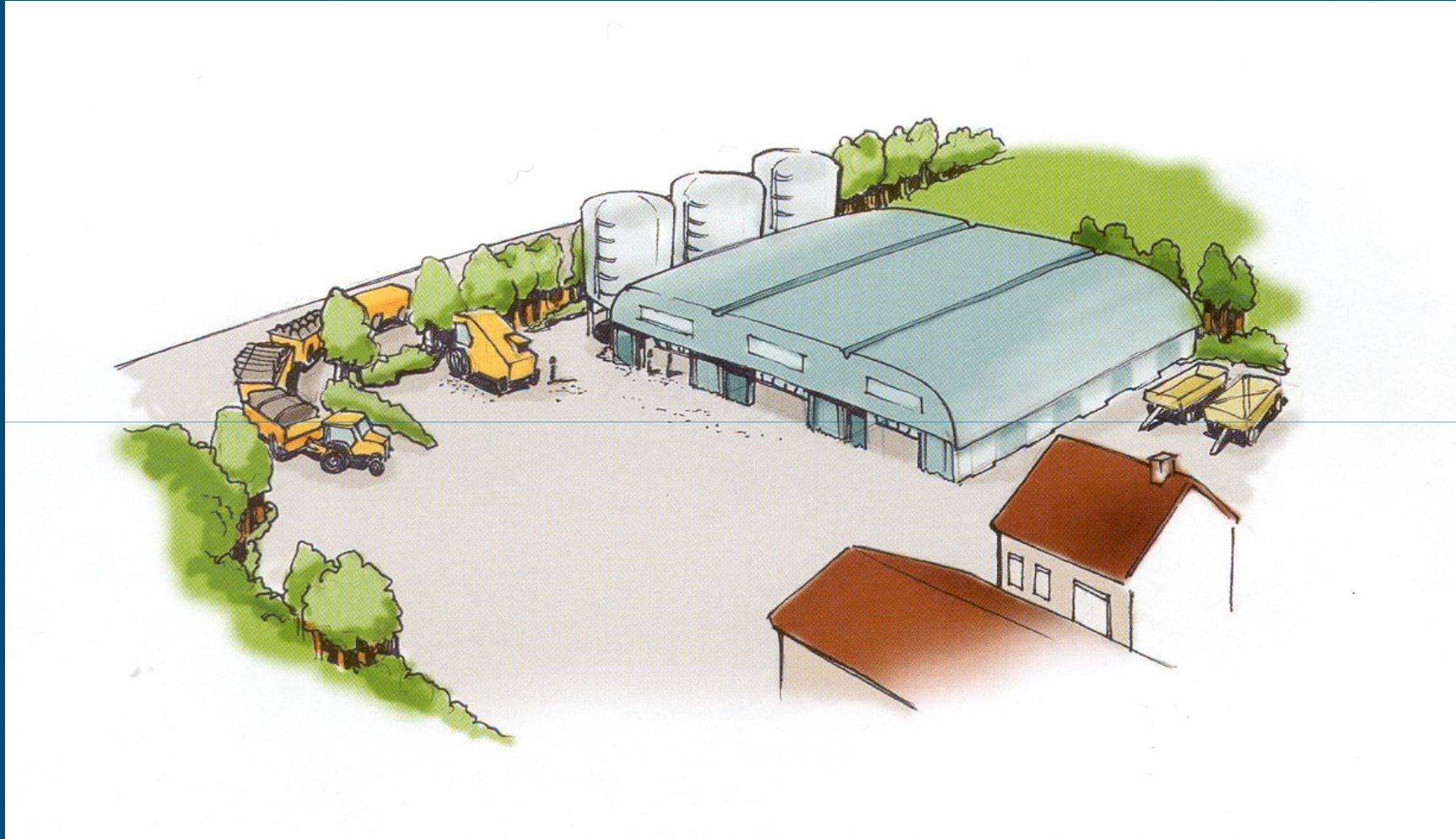


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Partners:

1. Wageningen UR, The Netherlands
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2. Helsinki University of Technology, Finland
(Department of Automation and Systems Technology)
3. University of Almeria, Spain
(Research group of Automatic control, Electronics and Robotics)
4. University of Aarhus, Denmark
(Department of Agricultural Engineering)
5. Aristotle University of Thessaloniki, Greece
(School of Agriculture, Agricultural Engineering Laboratory)
6. Centre for Research and Technology, Greece
(Institute of Technology and Management of Agricultural Ecosystems)
7. University of Copenhagen, Denmark
(Institute of Food and Resource Economics)

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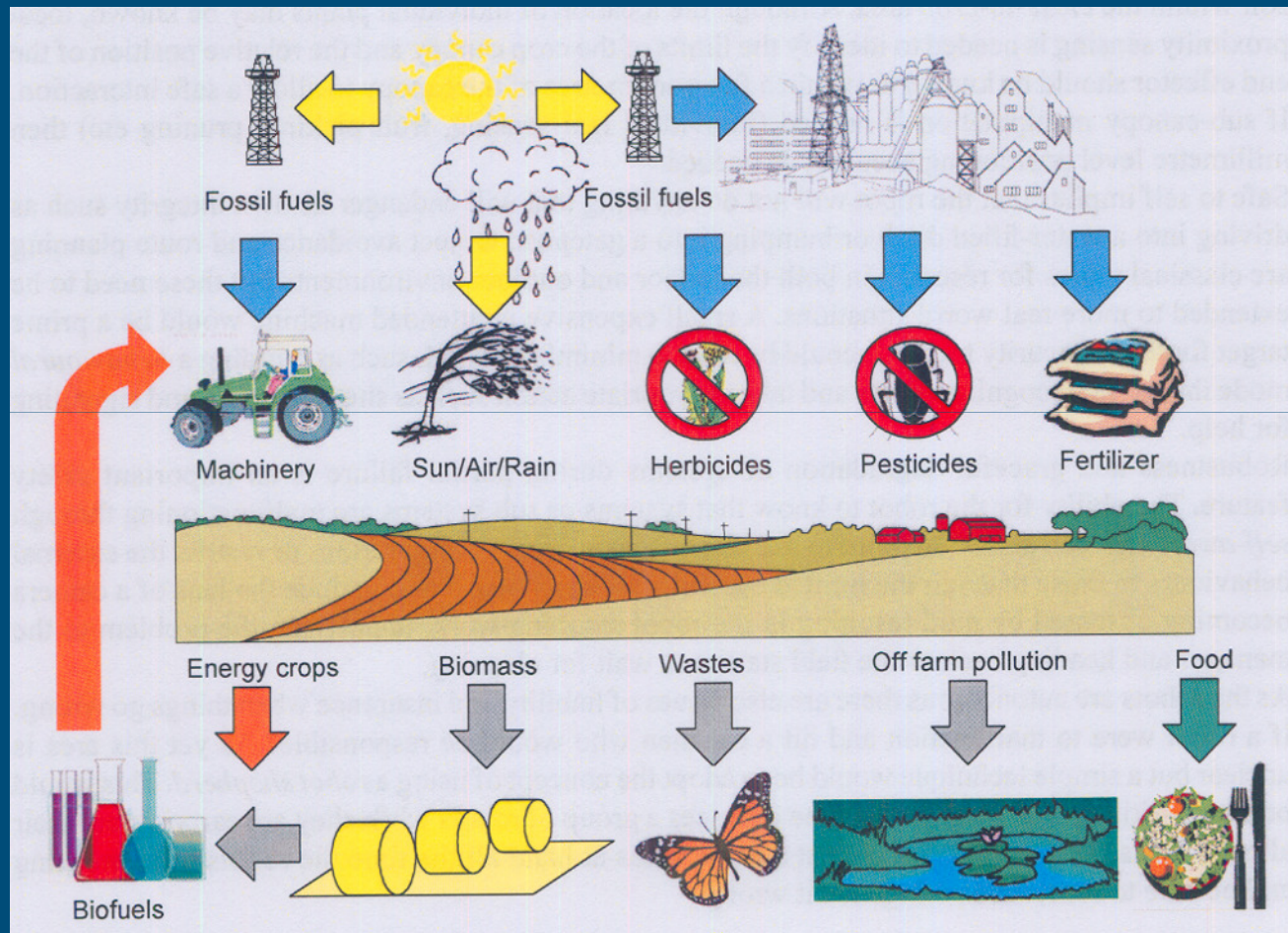
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Objectives:

- To assess the energy balance of current farming systems, to determine energy saving potentials and to typify current and new robot technology and their potential tasks in farming
- To assess the potential of on-farm bio-fuel production
- To optimize single and multiple machine management in view of energy usage and costs
- To demonstrate current research robotic platforms

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The farm energy balance:



Source:
Blackmore (2007)

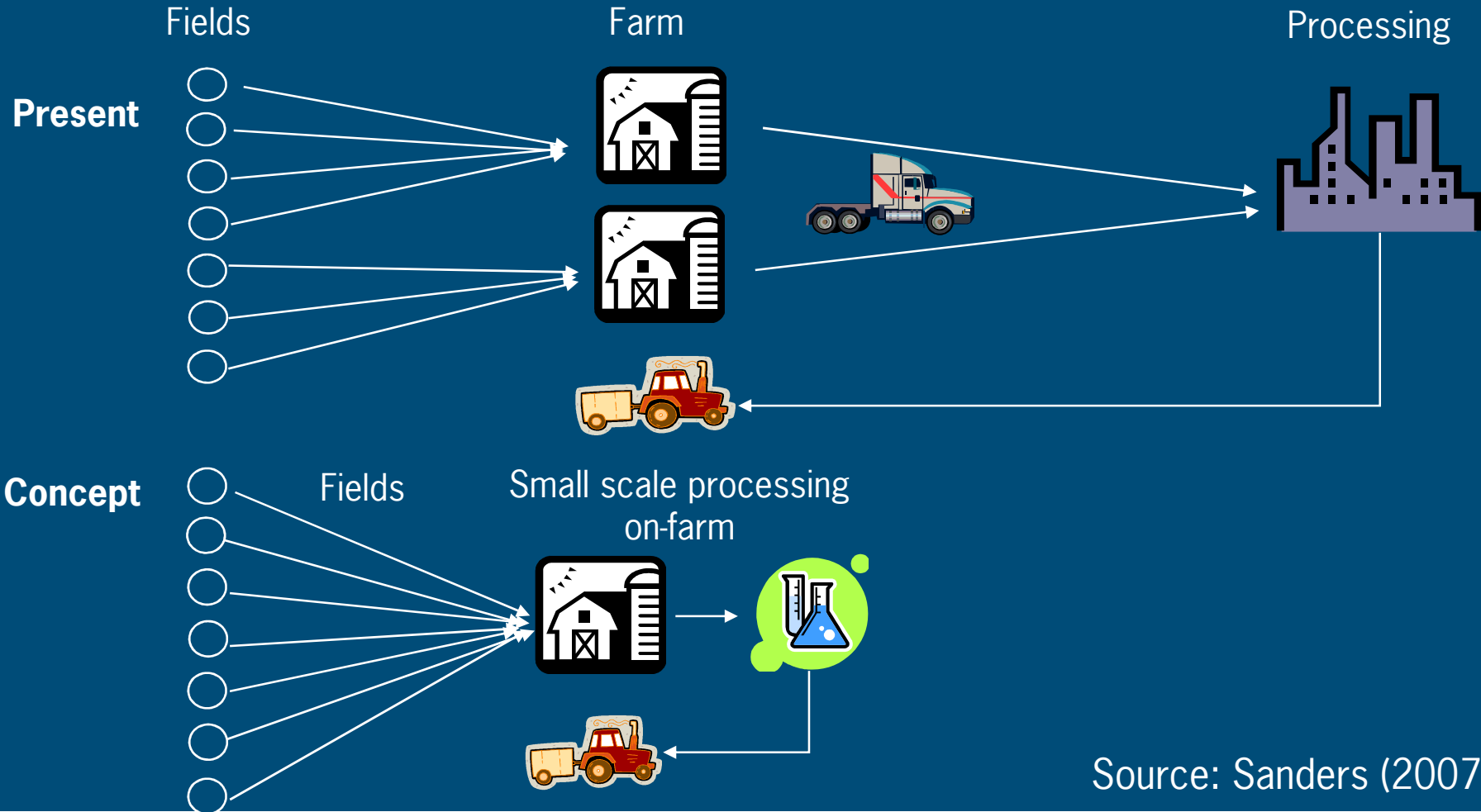
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The farm energy balance:



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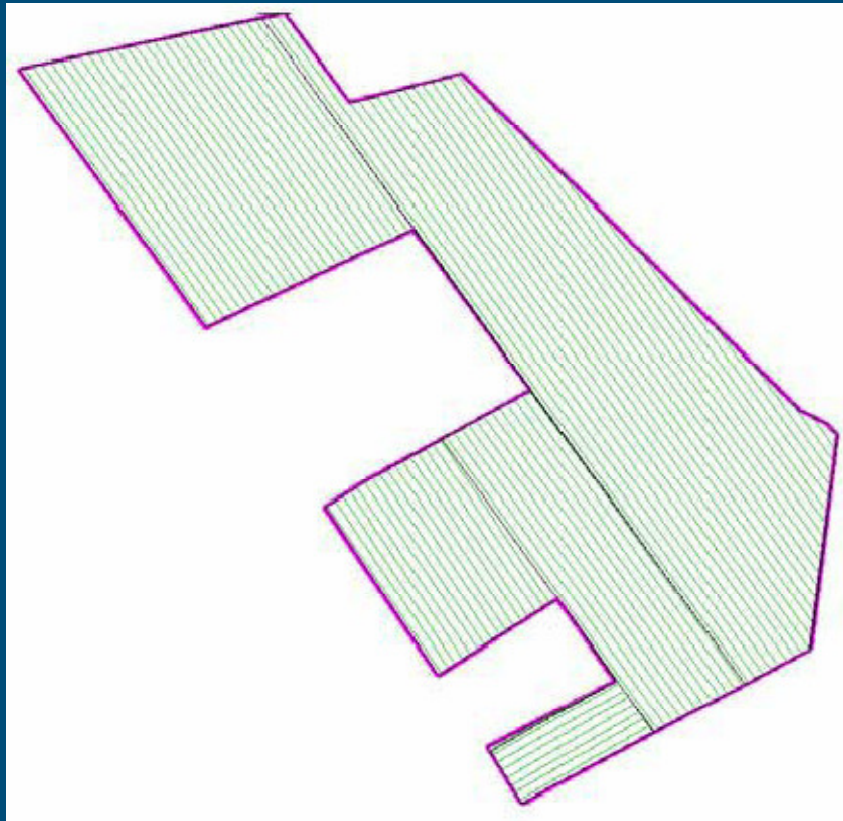
On-farm biofuel production:



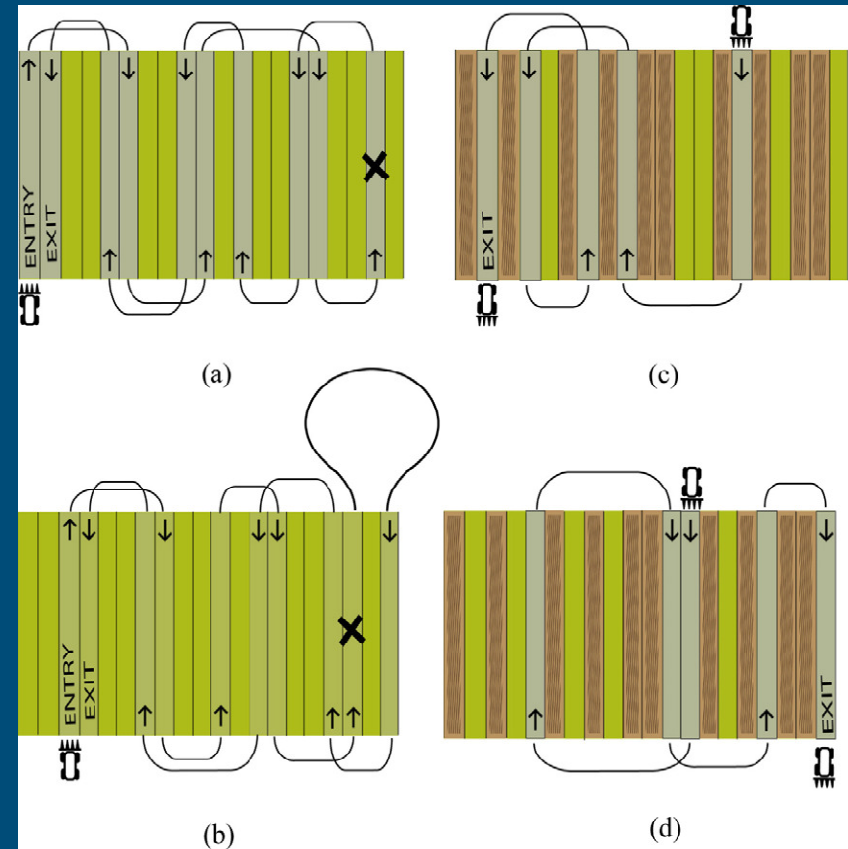
Source: Sanders (2007)

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Optimal fleet management:



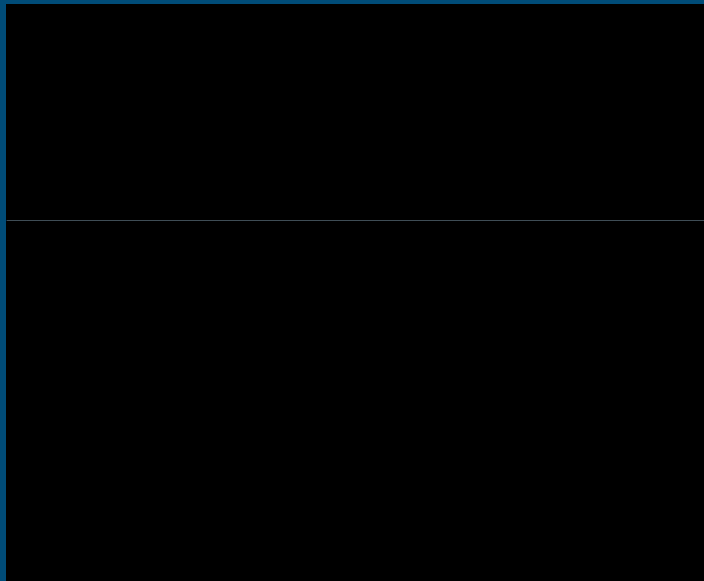
Source: Oksanen (2007)



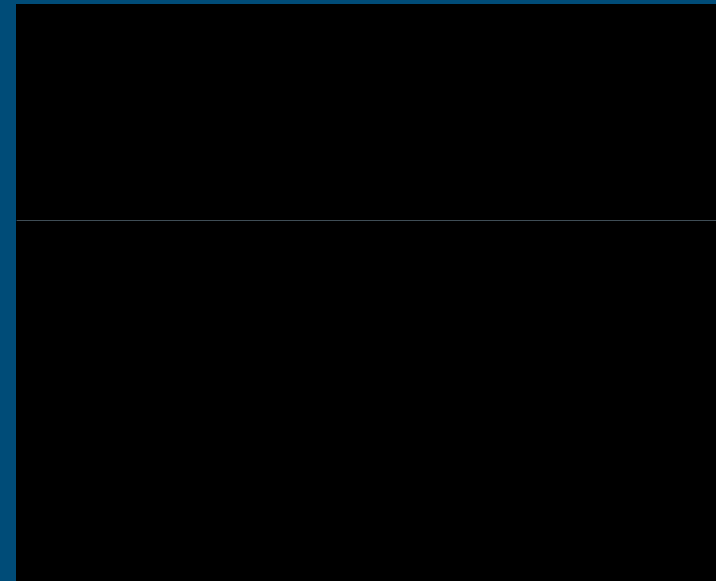
Source: Bochtis et al. (2007)

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State of the art in robotics:



Cropscout



Automaatje



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Scale size of operations versus scale size of machines:

