



Van boerderij tot bord met technologie

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4TU.Binnenhofcolleges

Contents

- Sustainability as driver for technology development
- Kind of technology needed
- Technology needed in the whole agri-food chain
- Technology as enabler of new opportunities

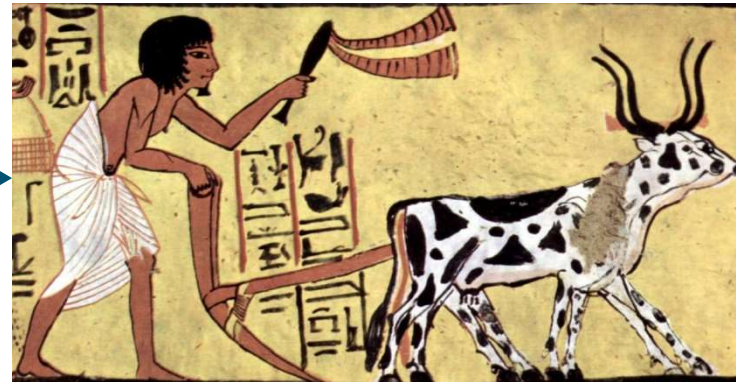


1. The agri-food chain is facing challenges

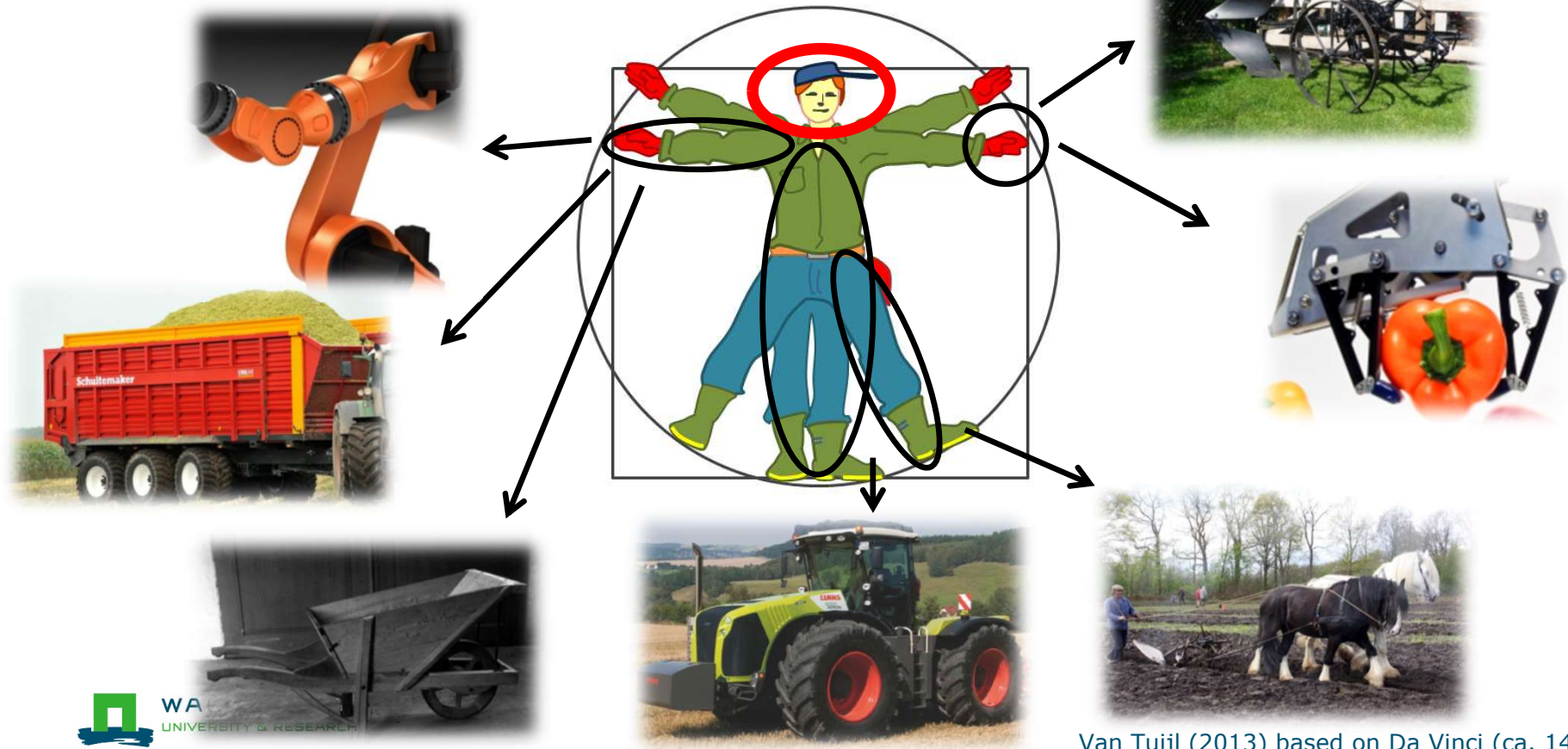
- Growing world population
 - Food (quantity, quality), fuel, fibres, chemicals, ...
- Growing scarcity of resources
 - Fertilizers (phosphate), fossil fuels, water, human labour, ...
- Growing impact on environment
 - Greenhouse gasses, chemicals, waste, diseases, ...



2. Future: data, intelligence and smart actuation



2. Future: data, intelligence and smart actuation



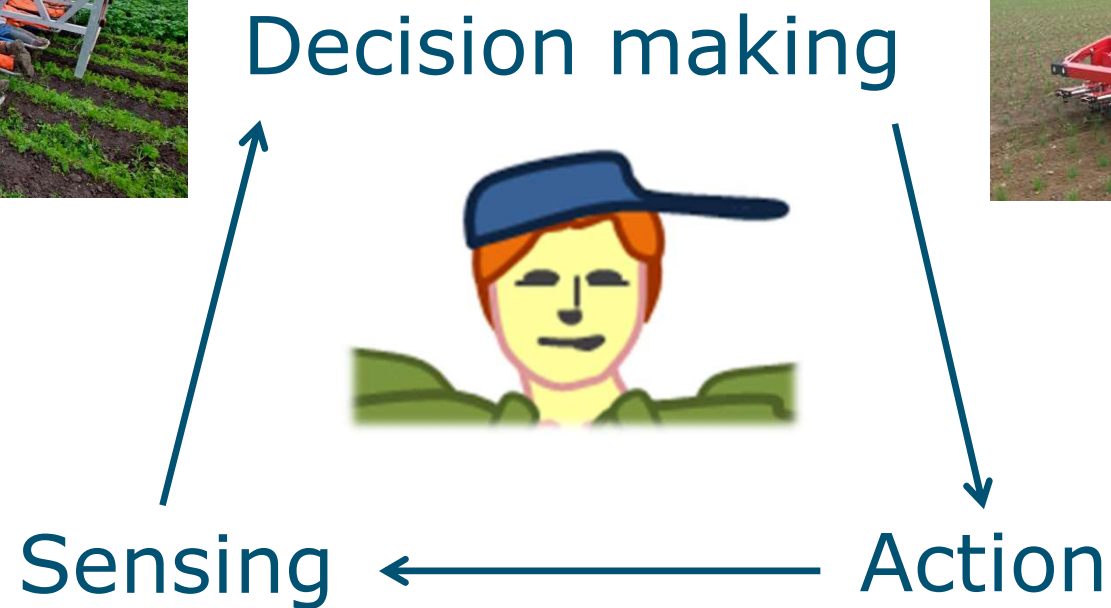
2. Future: data, intelligence and smart actuation



Trouw.nl



Suttonag.com



Vision based precision weed control Steketee



2. Future: data, intelligence and smart actuation

Technical challenges:

- Variation in shape, size, colour
- Poor visibility
- Challenging conditions



3. Technology needed in the full agri-food chain



Phenospex.com



Melkvee.nl



nieuweoogst.nl

Phenotyping for plantbreeding



3. Technology needed in the full agri-food chain



Phenospex.com



Melkvee.nl



nieuweoogst.nl

3. Technology needed in the full agri-food chain



www.lely.nl



Sweet pepper harvester



3. Technology needed in the full agri-food chain



Phenospex.com



Melkvee.nl

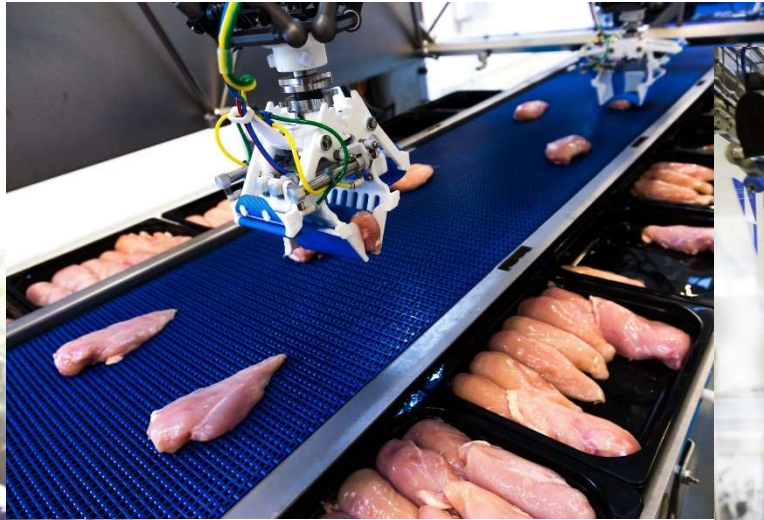


nieuweoogst.nl

Post-harvest - PicknPack



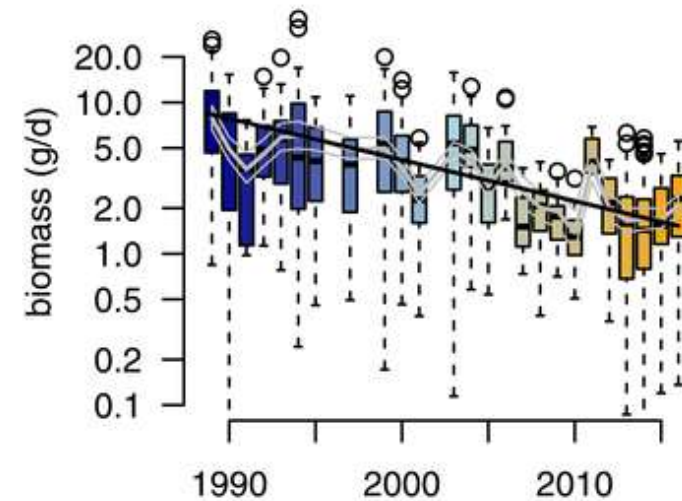
FlexCraft programme



4. Technology as enabler of 'new' opportunities



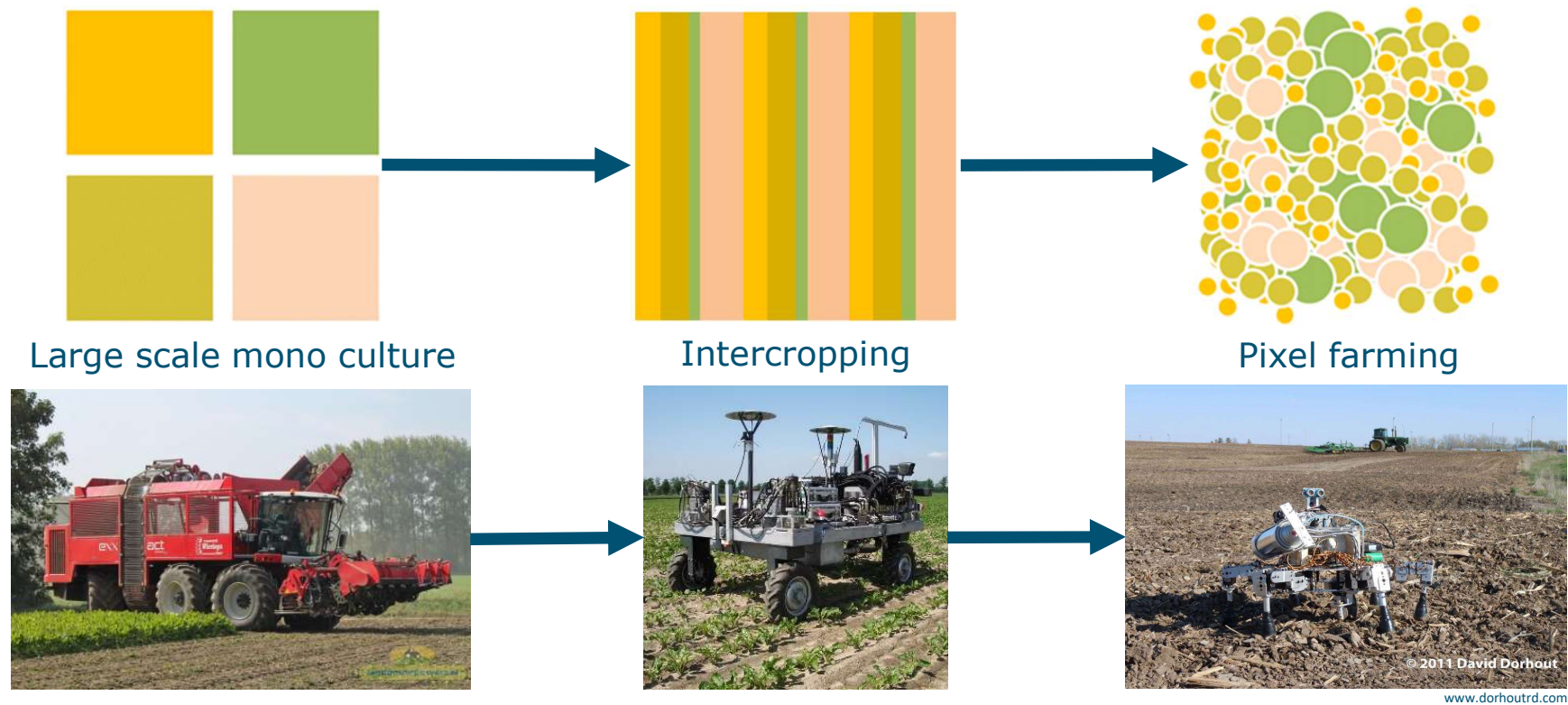
75% reduction in insect biomass!



Hallmann et al. (2017)

Intensification and scale enlargement —————> Loss of biodiversity

4. Technology as enabler of 'new' opportunities



4. Technology as enabler of 'new' opportunities



pachtjepixel.nl

Pixel farming



idea-x.nl



diyprojects.io

Van boerderij tot bord met technologie

- The agri-food chain is facing some challenges in years to come
- Future technology is about data, intelligence and smart actuation
- Technology needed in the full agri-food chain
- Technology as a problem solver and enabler of new opportunities



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Petra Siebelink/shutterstock

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