- Testing and evaluation
- Pepper cutting tool
- Obstacle detection

Jochen Hemming
Wageningen University & Research, The Netherlands
Testing and evaluation

- Layout and definition of test scenarios and definition of performance measures.
- Performing experiments with modules and integrated system in the laboratory and the greenhouse.
- Analysing of experimental results.
- Performance determination of realized prototype.
End-effector: cutting tool

Concept

Final design

Pepper catching device added
Obstacle detection

- Deep Learning convolutional neural network (CNN) applied for sweet-pepper plant part segmentation
- Objective: plant main stem detection to calculate obstacle free approach direction for the robot
Real-time deployment

- Trained network is deployed for real-time determination of best end-effector alignment.
Simulation tool for economic viability

- A simulation tool for calculating the economic viability of the sweet pepper harvesting robot.

- Main factors:
  - Cycle time
  - Success rate
  - Economic life cycle
  - Number of operators.
  - Percentage of 2\textsuperscript{nd} quality due to robotic harvest.
Team

- **Jos Balendonck**, Co-ordination.
- **Jochen Hemming**, Computer Vision & Robotics, Lead of Applied testing.
- **Marcel Raaphorst**, Economics and Exploitation.