HiPerGreen Newsletter

8th October 2019 | Sheelagh Bouvier

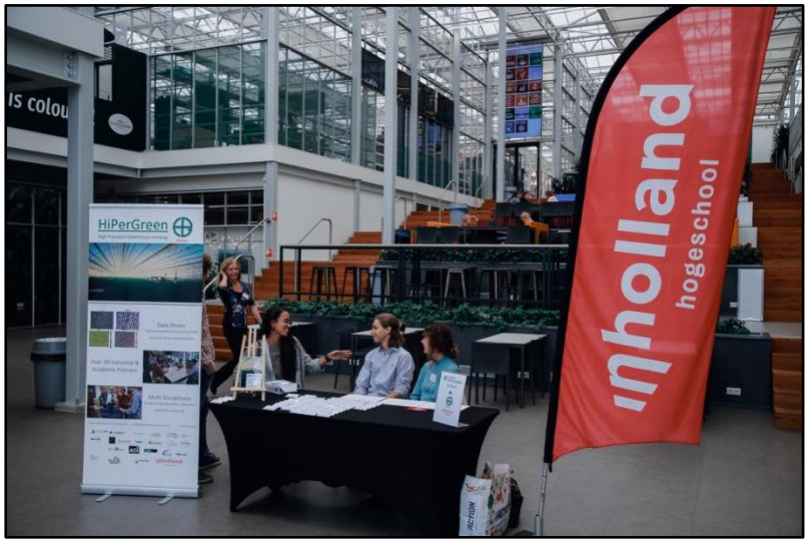
HiPerGreen Final Symposium

The two-year education programme HiPerGreen initiated by Inholland University of Applied Sciences came to a closure on Friday 27th of September at the World Horti Center. The Final Symposium gave consortium partners and other guests the opportunity to learn about the HiPerGreen's team achievements and the various outputs the programme delivered.

Successful event

Upon arrival at the World Horti Center (WHC) at Naaldwijk, guests were greeted by the HiPerGreen team. From there, they were invited to join and network with the rest of the attendees and the press at the lobby. The event, which was complete with over 70 guests, started after lunch and coffee and took place in the WHC main lecture room.

Cock Heemskerk, head of the HiPerGreen project and lector on Robotica at Inholland University of Applied Sciences, officially opened the symposium with a welcoming speech where a special attention was given to the HiPerGreen consortium partners. Among the audience present in the room were several growers involved in pilot projects conducted by HiPerGreen, such as Ter Laak and Hazeu Orchids.



After a few more overall status updates regarding HiPerGreen's progress since the last symposium held in April, Cock gave the floor to the HiPerGreen team.

Progress, achievements and impact

The HiPerGreen programme, which stands for "High Precision Greenhouse" farming, is a subsidised research and educational project aiming to bring value to horticultural growers. It was made possible by the support of SIA RAAK. Examples of value generated by the HiPerGreen programme during its two years of existence are: new innovative projects stimulation, partnership between small and large horticulture players, opportunities for practical education (internships) that in turn brought new knowledge to the industry, etc.

Supporting Cock Heemskerk in this ambitious project are the HiPerGreen core members Tom Kerney-Mitchell, Lucien Fesselet and Sheelagh Bouvier. They all three took their turns in front of the audience and presented a summary of their contributions to the HiPerGreen programme.

- As a biology researcher for HiPerGreen, Tom summarized the efforts that the team made in plant monitoring (ranging from growth monitoring and prediction, chamber testing research

to delivering fusarium maps to growers). Additionally, Tom also gave his reasons for choosing to work on certain crops over others and explained why efficient monitoring was important (and attractive!) for a more sustainable future in agri- and horticulture.

- Lucien, who is project manager at HiPerGreen as well as the CTO of Applied Drone Innovations, took the public through the team's technology fails, trials and successes over the two-year programme. An example of failure was the attempt at using a readily available thermal cameras but failed to be reliable over extended periods of time in greenhouse's harsh environment. Examples of successes were the improved rail system and the new battery swapping docking station for the drone. Lucien highlighted the fact that failures were not necessarily synonymous with disappointment in the context of HiPerGreen. This is because the team and Inholland interns could gain practical knowledge and, in the event of partnerships with companies, continue to expand the consortium's network. As a matter of fact, both successful and failed projects usually lead to new relevant activities and helped direct the team's focus and work.

- Sheelagh, market researcher for HiPerGreen, shortly explained that she conducted desk research, field visits in greenhouses, interviews with growers and IP research. She pointed out that understanding growers' needs and gaining insight knowledge difficult to obtain was highly useful to guide the team's efforts and recruitment choices in the right direction. Her reports made it possible to validate (or reject) assumptions and select the most needed solutions for end-users. This is how the team knew why focusing on orchids economically made sense. They also knew on which other plants (e.g. Anthurium, Chrysanthemum, etc.) to work on and which services were in high demand (e.g. growth monitoring and prediction, etc.)

Following the HiPerGreen presentations, Lucien invited Roy van Rosmalen a Data Scientist from Ter Laak Orchids. Ter Laak participated in one HiPerGreen's pilot projects and Roy accepted to share his experience with the audience. In brief, Roy explained how crucial data was in order to run large orchid greenhouses. He saw HiPerGreen's monitoring solutions such as the drone and the rail system as the answers to his current data gaps. He explained that such systems can collect (and process) information that none of the Ter Laak growers can deliver, acting like a bird 's eye that can observe millions of orchids individually. This new flux of information allows him to make informed decisions that used to be unimaginable only a few months ago.Coming to the end of the symposium's first part, Cock and Lucien invited the audience to a live drone demonstration in the demokwekerij of the World Horti Center. The symposium was an excellent occasion for Lucien to unveil HiPerGreen's partnership with the Avular Drone to the public. This automated flight drone is one of the collaborations that were made possible thanks to the HiPerGreen consortium and funds. Instead of developing an existing technology from scratch, Lucien and his interns could focus on more valuable technology developments such stabilizing the drone in greenhouses (indoor flying remains a technical challenge) and software development for image analysis.

New opportunities

Given HiPerGreen's success Mauro Gallo, lector in biomimicry at Inholland, announced that he and Cock Heemskerk plan to apply to SIA RAAK next round of funds in September 2020. Mauro proposed that the next educational programme lead by Inholland should explore nature as a source of inspiration for new solutions to modern horticulture and agriculture struggles. The main examples he cited were new ways of pest controls for greenhouses.

Bridging technology and biology

Following a coffee break, the symposium's final speaker was William Simmonds CEO of Applied Drone Innovations (ADI, ADInnovations.nl). ADI, a spinoff startup born from the HiPerGreen programme, was the focus of William's presentation.

William started off his presentation by sharing the story of ADI the company. He then described the team's transition from the student project "Drones in de Kas" in 2015 to a fully operational company with clients. ADI's services in plant monitoring are the results from combining technology and biology together, most of which took place during and within the HiPerGreen programme. They range from fusarium maps for orchids to growth measurement and disease detection for young vegetables. ADI currently services clients such a Hazeu Orchids, Beekenkamp, ForeverPlants and more.

The end of the HiPerGreen programme marks the official kick-off of ADI as a company. William thanked the guests for being present as well as the current clients sitting in the room for their trust. A lot of words of mouth taking place after each symposium has helped ADI becoming a success. To conclude his presentation, William made a call and invited anyone wanting to know more about ADI's services to meet him or Lucien during the HiPerGreen evening drinks.