

The Nerd Gardeners: science-based approach for urban green space design

Interview with Simona Zahner and Malwina Kowalska, co-founders of plantipolis – plant a city. Malwina was participating in the feminno mentoring program.



Which important societal and environmental problem is your company plantipolis addressing and what makes your service unique?

Plantipolis wants to increase biodiversity in the city for the benefit of both, citizens and native wildlife.

Undoubtedly more and more people are moving to the cities. Growing cities offer many opportunities, but there are also certain drawbacks such as heat island effects, and, air and noise pollution that make cities a less healthy place to live. With better use of green spaces and roofs, we can solve such issues and cities can contribute to carbon sequestration.

Living in a city can sometimes be isolating, lonely, and above all, stressful. This harms our health. You might be surprised to hear that biodiverse green spaces encourage social interaction, improve our wellbeing, boost immunity, and even reduce the incidence of depression.

We believe that urban biodiversity is equally important for citizens as the conservation of nature in Switzerland.

Our service is targeted at companies, municipalities, and real estate developers. It is unique because we have a methodological approach to green space design. We use animal distribution data and information about their movement patterns and movement barriers to create landscape connectivity maps for target species. Using the results of this connectivity analyses we optimize the design of each green space to support target species which have a chance of reaching this green city space.

In addition, we predominantly use native plant species in our transformed spaces and make sure to integrate a variety of habitat structures for different animal species.

We also believe in a participatory design process to ensure that the designed green spaces are suited to the people who will use them, whether they are company's employees or local residents.



plantipolis
plant a city

Why and how did this innovative idea originate in your research and academic environment?

I am an epidemiologist. I started looking at population health from a wider perspective. It became very clear to me that "natural health" and human health are interconnected. Disease and lifestyle choices are related. Urban residents really need more nature, and we show that this is also an opportunity for biodiversity.

Simona's and my academic backgrounds drive us to optimize. Every green area that we modify is monitored, we collect data, and improve designs over time. We share data with other researchers. Everyone who chooses to work with us

receives an annual report that includes indicators that measure the impact of the transformation. Companies can share this information publicly.

You already have a co-founder. How did you meet?

During one of the *feminno* workshops, I came into contact with Daniel Balmer (Floretia). "He might be intrigued", said Isabelle Siegrist (Sandborn). When we met, he gave me new contacts and encouragement. That's when the thought first occurred to me, "My idea might be worth a try". I was aware that my project was too big for one person. So, I wrote emails describing my dream and to find a business partner. Simona answered. I have to say, it is a perfect match.

What's the most exciting about the traction you already have?

The recent heat waves clearly show how important green spaces are to our wellbeing. I believe citizens are aware of this and of other problems that humanity is facing. People are ready for a change in green space management. Growing social pressure pushes companies and government to make a greater commitment for sustainability and nature. This is an opportunity for us. Basel has already implemented that every new flat roof must be green.

I'm most certain, that what we plan to do with *plantipolis* will have an immediate impact on human and nature's health. We receive a lot of positive feedback, and researchers are open to collaboration, which is motivating us.

On the other hand, what's your biggest challenge?

Definitely the funding. We would like to refine our mapping and monitoring system. For this, we require additional investment and ideally a collaboration with a big partner (public institution or a company) that owns urban green space and would like to modify them. Office areas are a perfect environment as staff would benefit and enjoy the transformed areas. Currently, we are working to gain visibility and to attract such a partner. Together we could apply for additional funding, e.g., from Innosuisse.

In what way is *feminno* important as an innovation hub for academia?

feminno is crucial. To academics it is a window into a different world. Scientists rarely have the opportunity to talk to people whose ideas have become profitable businesses. It certainly encouraged me to start my own company. In my view, *feminno* also encourages corporate and academic cooperation by showing mutual benefit and offering network opportunities. Targeting young females is pivotal, we have a lot of determination.

Interview by Daniela Gunz

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More information on the *feminno* mentoring program:

<https://blogs.ethz.ch/feminno/>