



# Using the ArcGIS Hub to connect citizens to the challenges of the city of Zwolle

Marcel Broekhaar | City of Zwolle



**John Nelson** @John\_M\_Nelson · 20u  
 Whew! @EsriUC plenary in the booooooks!  
 Shout out to my co-host @lisaberry\_gis!



9 2 113



**Jinnan Zhang** @vannizhang · 19u  
 who is that photobomber behind?

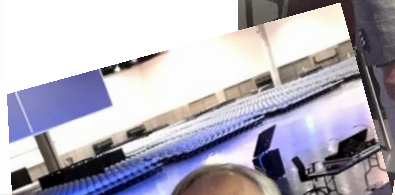
2 1



**Jan Willem van Eck**  
 @JWvanEck

Als antwoord op @vannizhang, @John\_M\_Nelson  
 en 2 anderen

Looks like @MarcelBroekhaar to me :)



**Geodorable**  
 @MyGeodorable

Netherlands brings the renowned European fashion scene to the show. With the white plimsolls & alabaster chino's, Marcel adds further muted colors with a slate silk shirt under a broad light grey & white checked sports jacket to create a super sharp look  
[#fashionofwhere](#) [#EsriUC2019](#)







# The knowledge round table



# **Citizen Science**

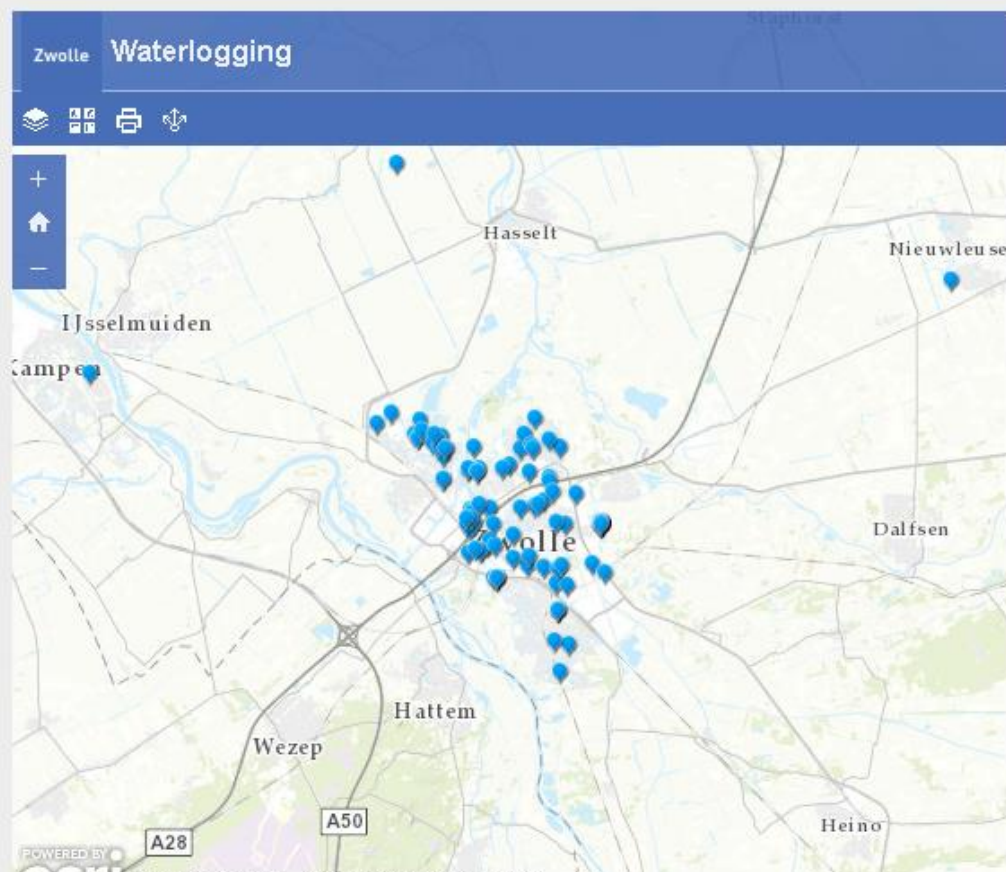
# **Citizen**

## **Science**

# **Citizen**

**Science**

**3 examples**



## Waterlogging and flooding in municipality of Zwolle

As a result of climate change, we have to deal more often with torrential downpours as we had on Wednesday, June 28, 2017. On this day, 60-80 mm rain fell in a short space of time. The municipality of Zwolle and the Drenthe-Overijsselse Delta regional water authority are searching for locations where water remained on the road for a long time or flooded homes/businesses.

The data is being used to create a better picture of the areas in the town that are sensitive to torrential downpours. The municipality and regional water authority hope to manage water even better in the town with the information you make available.

If you want to see what has already been reported, click [here](#).

### 1. Informatie invoeren

**Description** (vereist)



## Example 2 CS plus





Zwolle

Smart Zwolle Hub

#SensHagen

Apps & Kaarten

Data

Deelnemen



#SensHagen



smart

Zwolle

[Smart Zwolle Hub](#)

[Initiatieven](#)

[Apps & Kaarten](#)

[Data](#)

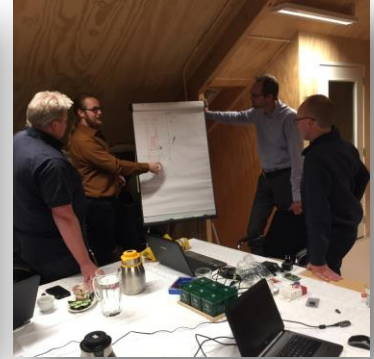
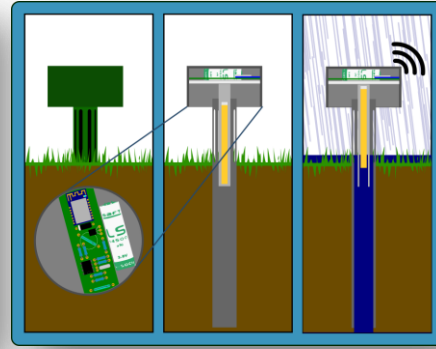
[Gemeente Zwolle](#)



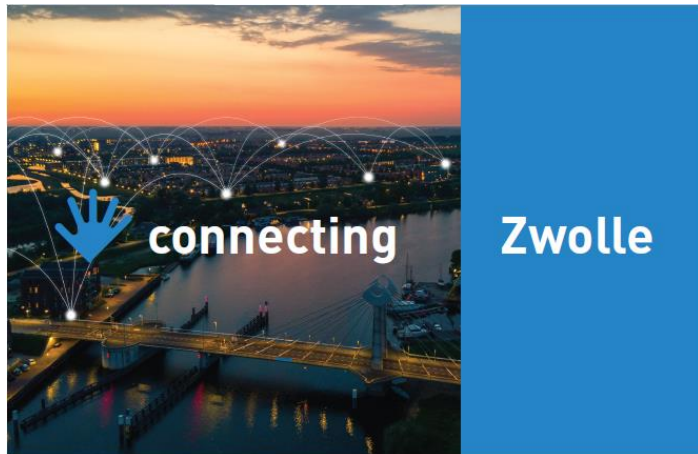
## Smart Zwolle Hub

Samen maken we de stad!



[illegible]

# Collaboration



We are living in an era of exponential technological advancement. The quantity of (digital) data is becoming bigger and bigger and the connections and communication between people and communities faster and more complex. People, society and technology are becoming more and more intertwined. Algorithms predict our buying behavior. Data shows us patterns that we could observe with great difficulty or not at all before. Technology is even taking over bodily functions.

The technological development offers fantastic opportunities and possibilities, but, at the same time, it poses questions related to ethics and security. This development can be seen as part of evolution: humans as the dominant living species on earth is evolving into an unavoidable symbiosis of human and technology to be able to survive as a species and deal with the challenges of our expansion.

Organisms developed eyes, ears, olfactory organs and feelers during evolution that, together with other organs and limbs, are connected via the nervous system with a control centre, the brain. This means that the organism can act based on what it observes. The technological evolution and therefore the creation of a ever larger and more detailed fabric of data, information and

knowledge structures allows people to observe ever more accurately. To subsequently act. The growing consensus amongst climate scientists about the impact of humans on climate change - for example - shows that humanity could not have arrived at the insight that is now leading to awareness and action on a global scale without the technology of sensors and data.

## It happens in Zwolle

Many technological breakthroughs started small somewhere. Through inspired and engaged people who sometimes went against the tide and with a vision on advancement. As mutations in evolution where some fail and others survive successfully and can



grow. Setbacks do not affect them, instead they are dealt with as challenges. It is similar to a living cell that successfully grow to become something valuable under the right conditions and fed by its environment.

Such a valuable development is taking place in Zwolle. In Zwolle, the philosophy is present that when authorities, companies, (knowledge) institutions and residents work together by sharing data, information, knowledge and tools, we are collectively able to speed up the solving of social issues significantly. In a manner of speaking, we develop an intelligent nervous system so that we can together better 'see' and then act. The SmartZwolle Hub and SmartZwolle Alliance are witnesses thereof.

The SensHagen experiment is successful. It involves about fifty households in the neighborhood Stadshagen, authorities and knowledge partners. Zwolle is building on a comprehensive 'nervous system' in which people and machines work together on climate control. Residents positioned in their gardens artistically self-built measurement stations that keep track of how things are going in their home environments on a day-to-day basis by recording and processing the temperature and humidity. The data is combined with professional sensor data from the Royal Netherlands Meteorological Institute (KNMI) and the Dutch National Institute for Public Health and the Environment (RIVM) on the SmartZwolle Hub, but also with information about measures such as the greening of the environment, wall gardens and roof vegetation. By bringing together all this data, how the climate is changing is followed to a very detailed level as well as which measures turn out to be more or less effective to deal with this. Participants learn from each other and obtain insight into the issues and their own and joint acting perspective. The SmartZwolle Hub acts as a data, information, communication and knowledge platform for laypersons, professionals, young and old.

The success of the SensHagen experiment will be followed up via the SmartZwolle Alliance in other social areas such as energy transition, livability of public spaces and the urban housing conundrum.

The SmartZwolle Alliance is starting a movement in our town and region by using information technology: the SmartZwolle Hub. Authorities and institutions can better analyze in this movement to focus and monitor policy and activities. Companies and organizations are better equipped to develop new services

and products. Residents are also offered a better acting perspective with reliable information both individually and in collective relationships. This is where there is a difference between the SmartZwolle Hub and regular open data portals. It goes beyond the stage of peer-to-peer (open) data sharing and moves towards the jointly bringing together and using data in an innovative manner. Ownership and management stay where they belong within this context.

We are developing from a so-called centripetal strategy that seduce partners to share data, information and applications (synergy, efficient and effectively) and truly commit them to the development of products and services. This ensures that a 'focal point' is created with the Smart Hub on which creativity can flourish. One of the success factors for innovation is experimenting. By experimenting, the alliance partners can show how the movement will work.

## Our strategy

Based on this vision, i.e. the importance of developing and using a new digital nervous system, we move our own business, our network partners and, above all, residents to speed up solutions for social issues. We do this by developing and/or applying innovative working methods and technologies in the field of data-driven working, location-focused working and Smart City & Citizens concepts. And by having the guts and taking the space to experiment to do this.

In order to see, we must shine a light. To see and discover ourselves, we use the power, knowledge and joint development potential of our network and knowledge partners. It is our task to 'show' our colleagues and the town by offering data-driven methods and information products and to provide the added value and potential of innovations either as an experiment or not.

We can see a few red lines in the following step in the development:

1. We will make the SensHagen experiment have greater depth and be broader;
2. We will translate the SensHagen experiment into other tasks and sectors such as the SmartZwolle Hub for energy transition, the housing conundrum and care & wellbeing;
3. We will use existing systems and hubs by further developing them or by redeveloping them as part of the new intelligent nervous system. For example the citizen panel of Zwolle that includes 12,000 residents.

## Collaboration

We invite (European) towns and cities to collaborate with us on the elaboration of this vision and in developing the intelligent nervous system in our towns and cities. And also to secure joint funding from the European Union for this. We would like to explore the possibilities for cooperation, knowledge exchange and how we can learn from each other.

If you would like to join us, please tell us at the stand. Or send an e-mail to [meg.broekhaar@zwolle.nl](mailto:meg.broekhaar@zwolle.nl)



**Smart society**  
Intelligent Nervous System





**Thank you for your attention**

Marcel Broekhaar | City of Zwolle | [meg.broekhaar@zwolle.nl](mailto:meg.broekhaar@zwolle.nl)