### Challenge name
**Dommel – Future of urban nature**

### Challenge owner
Municipality of Eindhoven – Thijs van Son
[www.eindhoven.nl](http://www.eindhoven.nl)

### Co-challenge owner
ShapeReality – Arjo Nagelhout
[shapereality.io](http://shapereality.io)

### Account manager
Isolde Hallensleben | [i.hallensleben@tue.nl](mailto:i.hallensleben@tue.nl)

### Summary
KnooXL, a large area around the city center is part of a major transition and will become the beating heart of Brainport Eindhoven. A project within is the Dommel River, which has been compromised by the city's growth. Widening the banks of the river around the (rail)road tunnels will give nature more space, allow biodiversity to grow and connect habitats of animal and plant species.

Within this challenge, you can explore and design this area with ShapeReality's AR/VR capabilities to support participatory processes to turn the opposition of nature & city into positive action. How do we optimally increase biodiversity? Can we build an observatory so people can enjoy a piece of wild nature?

The ultimate goal is a booth during Dutch Design Week 2023 where visitors can try out scenarios using AR/VR.

Who knows, you may be designing a piece of future Eindhoven....
About the challenge owners

**Municipality of Eindhoven**
The municipality is the local government for the city of Eindhoven. With about 2000 civil servants, the municipality provides public services for 230,000 inhabitants, based on the policy of the city council, which consists of 45 members. In the field of well-being, health, safety, culture, design, recreation, mobility, housing, education, economy and employment. The municipality likes to work with various social partners and is one of the main supporters of Brainport Eindhoven, where governments, knowledge institutions and the business community work together to serve the locally based but internationally oriented high-tech industry.
The municipality of Eindhoven is the fifth largest municipality in the Netherlands and the largest in the South of the Netherlands.

**ShapeReality**
Arjo Nagelhout, founder of ShapeReality, is passionate about interaction design, software development, 3d design and creating a more sustainable living environment.
He found that being able to easily design and share your ideas for shared spaces, such as in cities, can accelerate progress towards implementing these ideas — whether that is to make buildings greener, adding a new park or setting up a community garden.
Augmented and virtual reality experiences are the ultimate way for bringing people along with ideas for shared spaces but creating these is quite technical and requires a lot of time.
The goal of ShapeReality is to create an app with which creating these is made possible for anyone through an intuitive user interface and interaction model.
After winning the ASML Makers Award at the TU/e Contest, he has set up ShapeReality together with Timo Maessen and Sigi van Lindt, to bring this app into the hands of everyone.

Challenge description

International Knoop XL covers the area from roughly the PSV stadium in the west to the Dommel River on the east side. Within this major transition De Fellenoord, now home to 200 people, will accommodate some 15,000 Eindhoven residents and become a green oasis in the heart of the city with trees, small parks, green facades, green roofs and more space for nature development near the Dommel.
Eindhoven is lucky to have a river that winds its way through the heart of the city, bringing atmosphere and greenery. Unfortunately, near the railroad tracks, the Dommel is now hidden in a tunnel that offers only just enough room for the river and an adjacent bike path. Therefore, the passageway will be widened to 75 meters, allowing more daylight and more space for nature on the widened banks.
This widening also makes a third access to the train platforms (next to Stationsplein and Neckerspoel) possible: a godsend for the thousands of students and knowledge workers who use the TU terrain as their destination every day.
Widening the banks of the river will give nature more space, allow biodiversity to grow and connect habitats of animal and plant species.
Within this challenge, you can explore and design this area with ShapeReality’s AR/VR tools. How do we optimally increase biodiversity? How to connect habitats of animal and plant species? How can wildlife and humans coexist? Can we build an observatory so people can enjoy a piece of wild nature?

The ultimate goal of this challenge is a booth during Dutch Design Week where visitors can try out the different scenarios using a VR/AR installation. Multiple challenges can be distilled within this project, based in part on students’ different competencies, learning goals and interests.

You can explore and develop:
- the facilitation of ‘wild’ nature
- an eco-friendly observatory
- the AR/VR technology to visualize and test potential plans
- an interactive installation for visitors during DDW 2023

Input and involvement of challenge owner

Arjo Nagelhout and his team are based in the Matrix building at one of the TU/e innovation Space Paddocks. His team is available on a (nearly) daily base for brainstorming, questions, prototyping etc.

Strategic Communications Advisor Urban Development Thijs van Son can be consulted for questions regarding the municipality and KnoopXL developments. He can bring in his experiences (from similar projects) and put the team in touch with necessary stakeholders and/or experts.

Resources

The Municipality of Eindhoven will reimburse all costs related to prototyping, also for building an AR/VR booth for Dutch Design Week, and offers a few modest working spaces at the heart of KnoopXL.

ShapeReality is in the possession of VR & AR tools, including a Meta Quest Pro headset.

TU/e innovation Space provides the workshops and tools, including professional staff.