# TU/e
iNNOVATION SPACE

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Challenge name	*Nudging groups of people at events*
Challenge owner	*Intelligent Lighting Institute + various companies*
	x *Company* x *Research* *Student team*
	Elke den Ouden
Email challenge owner	
Phone challenge owner	
CoC Number	
Preferred way to contact	x *email* *Phone call* x *SMS / what's app* *Other; …*
Account manager from TU/e innovation Space	

Availability	*What is your availability as Challenge owner?*
	x *Regular (weekly) meetings with project group*
	   Only during presentation moments (kick-off, midterm & final)
	   Other; …

Brief summary	*At events, such as festivals, big sports events etc, there are multiple moments where it would be helpful if people could be nudged, e.g. when queues are long at one point, while somewhere else there is no queue at all. Or when the atmosphere starts to become grim, and you would like to turn it into a positive atmosphere where people enjoy themselves. Light can play a role to nudge people or influence their mood. We challenge you to develop a proposition to nudge groups of people at events.*
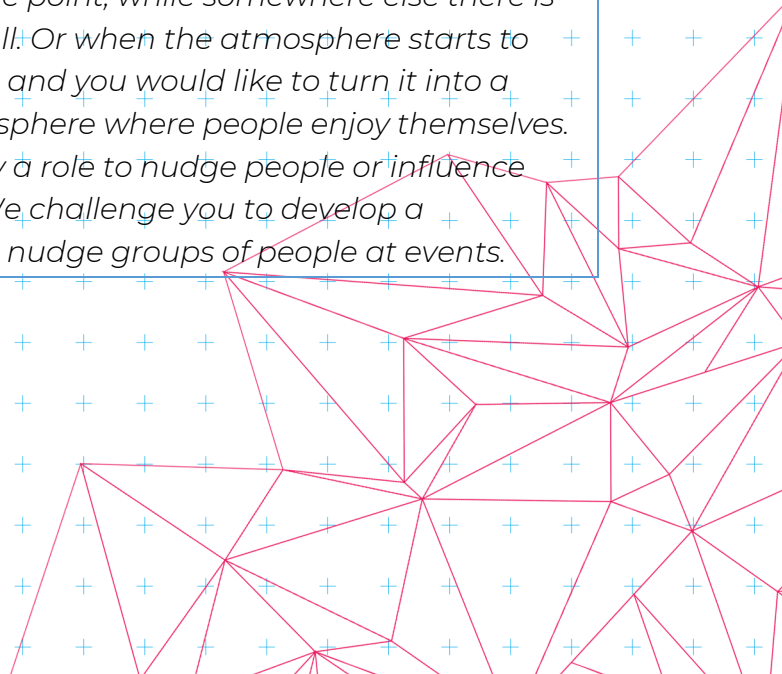
About the challenge owner

The TU/e Intelligent Lighting Institute (ILI) was established in 2010 to investigate novel intelligent lighting solutions that will become within our reach by the large-scale introduction of LED technology and the integration with IoT sensor systems, with a special emphasis on how these novel solutions might affect people. In addition ILI aims at providing scientific evidence for the claims that go with these novel lighting solutions. www.tue.nl/ili

ILI also provides living labs on the TU/e campus which you may use for your project. E.g. the Markethall in MetaForum has special sensors for crowds and flow of people, as well as a lighting installation that can be used to test ideas (https://www.tue.nl/en/research/research-institutes/top-research-groups/intelligent-lighting-institute/11-05-2020-news/24-07-2015-market-hall-living-lab/)

In this challenge we will also connect you to our vast network of companies, e.g. Sorama (who has developed a fan engagement solution for stadiums, see also https://sorama.eu/industries/fan-engagement), or Signify (who has an IoT based platform for smart lighting solutions, see also https://www.interact-lighting.com/global).
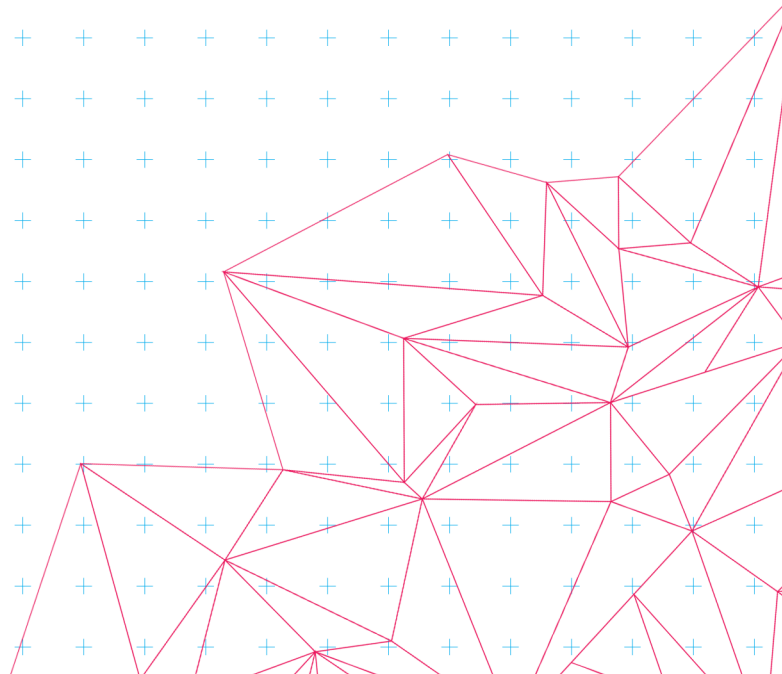
Challenge description

People visit events, such as festivals or sports events in large stadiums, often in groups. There are multiple occasions at such events that you would like to influence people's behavior to have a positive impact on their experience. For example, when there are long queues at one place, but on other places waiting times for tickets, drinks or snacks are much shorter. If you can nudge people to go to less crowded place this may enhance their experience but may also have a positive effect on the turnover of the event. In case of emergency, nudging people to the next safe exit, can even save lives. Influencing the atmosphere to turn a grim atmosphere into a positive one, and engaging fans in a stadium to participate in positive activities, such as singing or cheering for their team. A smart lighting system, that is using in a network of sensors to monitor the atmosphere or density of people and can provide different dynamic lighting scenes can help to nudge people or influence the atmosphere in groups. However, the possibilities have not yet been turned into a full solution to nudge groups of people.

In this challenge a number of sub-challenges can be taken up by the team:
- *What would be a technical feasible system to deliver this service?*
- *What would be a value proposition that is interesting for potential clients, and what would be the accompanying business model?*
- *Which lighting scenario's are effective to nudge people or influence the atmosphere?*
- *Which tests (e.g. using the living lab at the Market Hall at the TU/e campus) can be done to validate the effect of lighting solutions on groups of people?*

In this challenge we would like you to explore the possibilities new technologies provide in the field of nudging groups of people. You may choose your own focus in this challenge. We can bring you into contact with experts on lighting and the effect on people, but also with companies that can provide parts of the solution. Depending on the interest of the team we will help you find your way within companies, or potential customers of such a service.
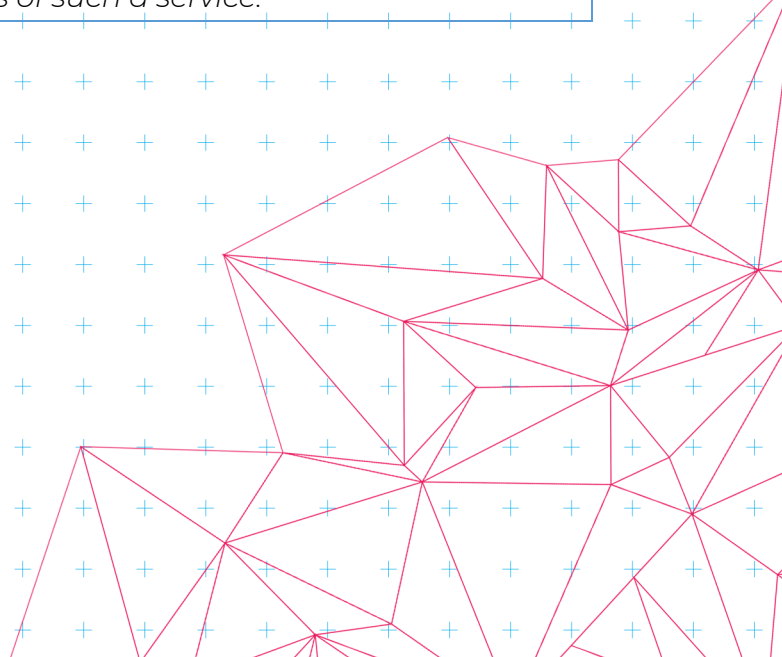
Challenge Picture

The Market Hall Living Lab can be used to conduct real-life-experiments to study the influence of light on groups of people.

Input and involvement of challenge owner

The main challenge owner of this challenge is the Intelligent Lighting Institute. Researchers from different departments can provide their knowledge and expertise to the team, based on the needs of the team. The Market Hall living lab can be used by the team, as well as available lighting and IoT devices for testing. Elke den Ouden will act as main challenge owner who will be available for weekly meetings,, and she will help the team find their way to relevant experts and resources. Also the network to companies and external partners (e.g. also stadiums or festival organizers) is available on needs base.

Resources

We offer
- *Coaching from the TU/e Intelligent Lighting Institute*
- *Access to experts from companies*
- *Access to the living labs on the TU/e campus*
- *Support with finding partners for hardware you need for prototyping*
- *Support with finding people for interviews, partners for your business idea or test locations*

Please note

For the purpose of introducing your challenge to the Master students you will later be asked to record a short pitch video. Please note that we will archive this video so

that we have the possibility to also use it as promotion material for the ISP course. By delivering a challenge you automatically consent to this. In case you object, please let us know by emailing business.innospace@tue.nl.