# **Brightsite**

Transforming industry

Esta de Goede June 3, 2022



#### **Proud partners**

Sitech Services TNO Maastricht University Brightlands Chemelot campus



## **Brightsite**

Transforming industry

that climate goals
2030 and 2050
can be reached
at Chemelot
industrial site



the next
generation
of scientists,
researchers,
engineers and
coworkers

EPSC June 3, 2022

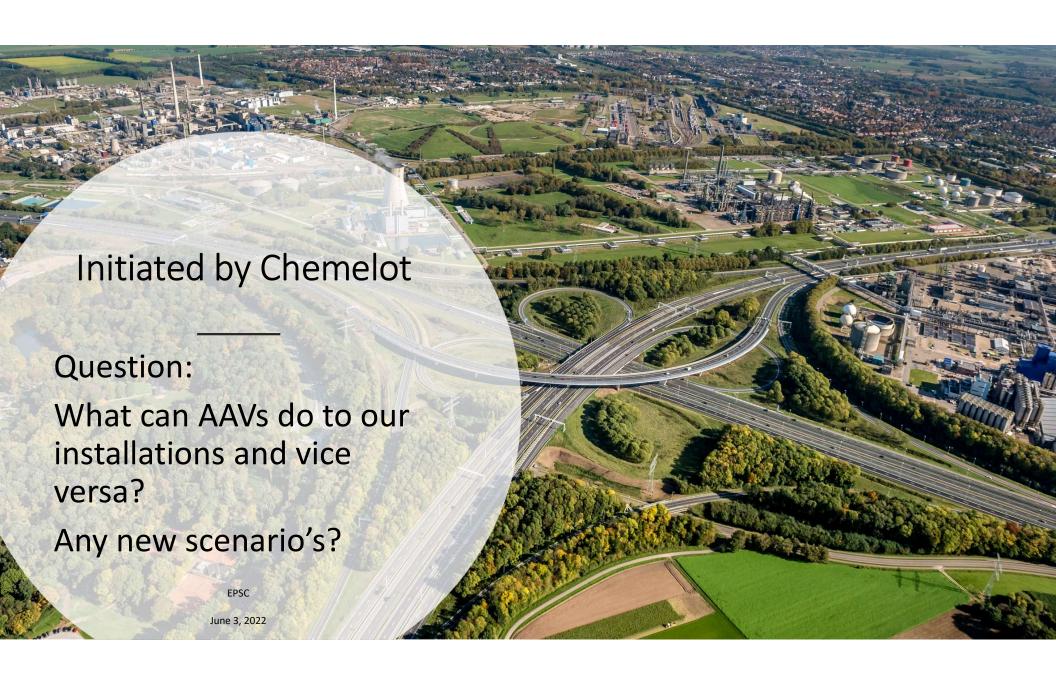
# Brightsite AAV? Transforming industry

#### **AAV**

- = alternatief aangedreven vrachtwagens
- = alternatively powered trucks

#### More specific, powered via:

- Battery Electrical (BE)
- Hydrogen (Fuel Cell Electric (FCE)
- Compressed natural gas (CNG)
- Liquefied natural gas (LNG)



## **Brightsite** Approach

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Our question ended up in a collaboration between:

- Safety Delta Nederland,
- VNCI,
- VOTOB,
- VNPI,
- Brightsite/Chemelot

The research is done by the dutch institute for public safety ('Nederlands Instituut Publieke Veiligheid')

#### Approach:

Phase 1. literature study

Phase 2. elaboration of incident scenarios on sites

Phase 3. pilot on 1 or 2 sites

### Brightsite Phase 1.

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#### Literature search of a.o.:

- (policy) frameworks (the Netherlands, Germany, Belgium,..)
- laws and regulations / guidelines e.g. at petrol stations
- company guidelines
- Cefic, HSE UK, ...

And a connection is made to platforms like (ROVERR, (Rotterdam-Rijnmond), Working Group Incident Management Hazardous Substances, Steering Group Safe Energy Transition Fire Birgade Netherlands and LEC Fire Brigade BRZO

#### Results:

- No literature available that focuses on the effect on (chemical) sites and vice versa
- Literature is available on:
  - vehicle requirements
  - rules for filling stations with alternative "fuels"
  - incident control.

## Brightsite Phase 2 – in preparation Transforming industry

- Defining scenarios in workshop with experts
- In the scenarios the energy source of the AAV is central,
  - the batteries for electric trucks,
  - the tanks/cylinders with hydrogen
  - natural gas for the other trucks.
- The consequences include a direct effect (fire, explosion, flare) with possible consequences for the (industrial) environment due to heat radiation, pressure, flame contact, etc.
- Scenarios will be developed for the following activities with the AAV:
  - Driving (driving into, driving away) a truck over the company premises;
  - Loading / unloading (or other activity) on site, i.e. the regular business activities;
  - Parking / pausing / charging / refueling ..... on the company site.

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www.brightsitecenter.com