

Welkom op
Cleantech Park
Arnhem

130 +
companies

200.000
m2
workspac
e

90
hectares

160
events
per year

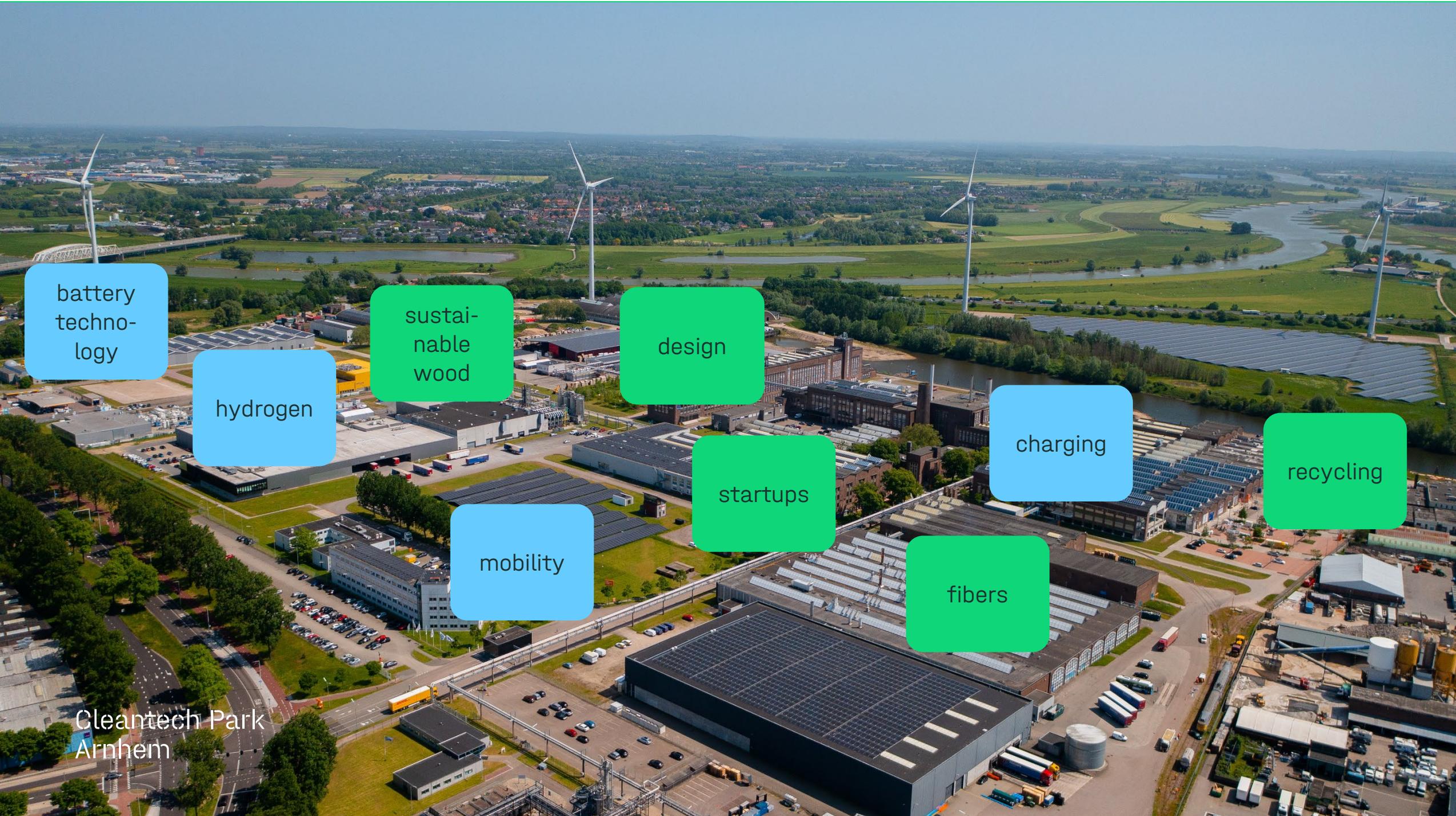
500
Visitors
per day

31
buildings

200
students

3000
employee
s

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battery
techno-
logy

hydrogen

sustain-
able
wood

design

startups

charging

recycling

mobility

fibers

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History &
(re)development,
new ideas need old
buildings



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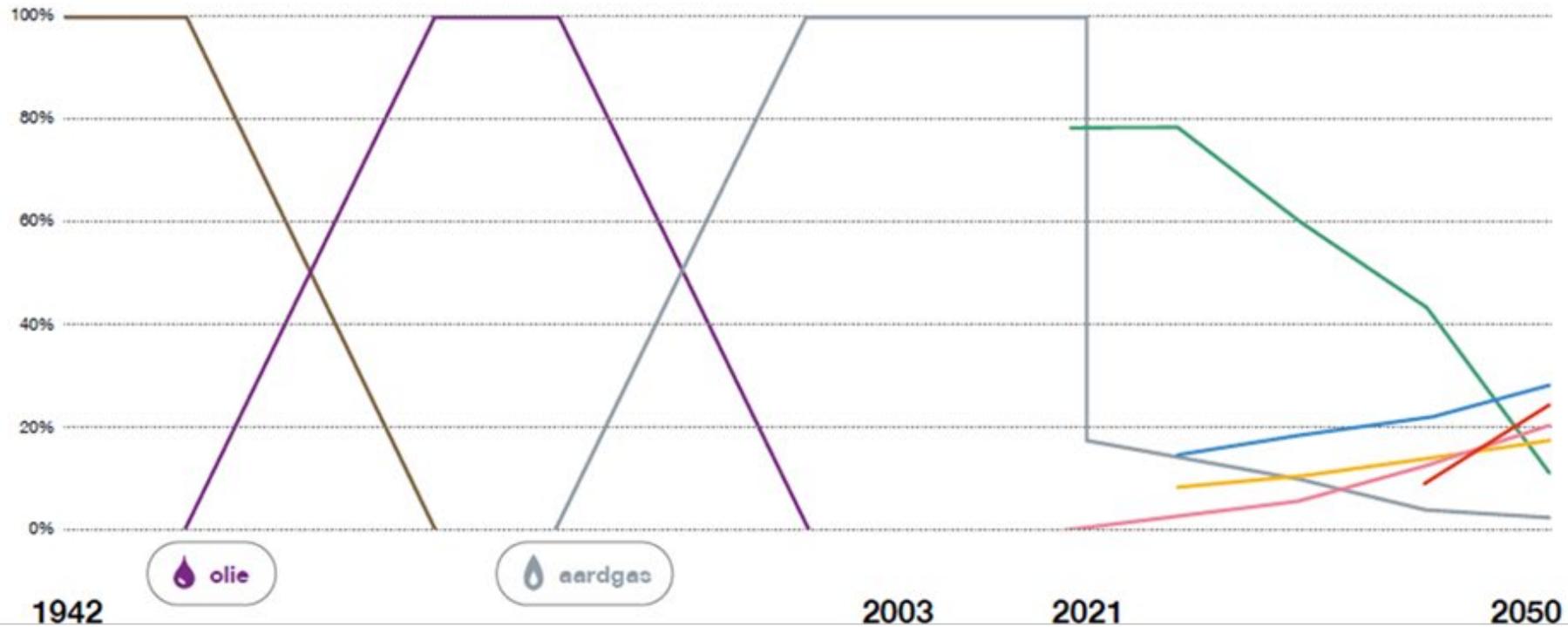
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Energy History



Een vijfde van alle bedrijven die op een stroomaansluiting wachten, komt uit Gelderland.

In het kort

- De provincie bundelt kennis over netcongestie in een expertisecentrum in Arnhem.
 - Den Haag schaart zich achter het initiatief, maar financiert vooralsnog niet mee.
-

Gelderland wacht niet op Den Haag met het aanpakken van capaciteitstekorten op het elektriciteitsnet. ‘We willen nu actie ondernemen. Omdat we er als provincie heel veel last van hebben.’



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Wind

Cooling water from the Rhine river

Residual heat

Molten salt energy storage

E-boiler

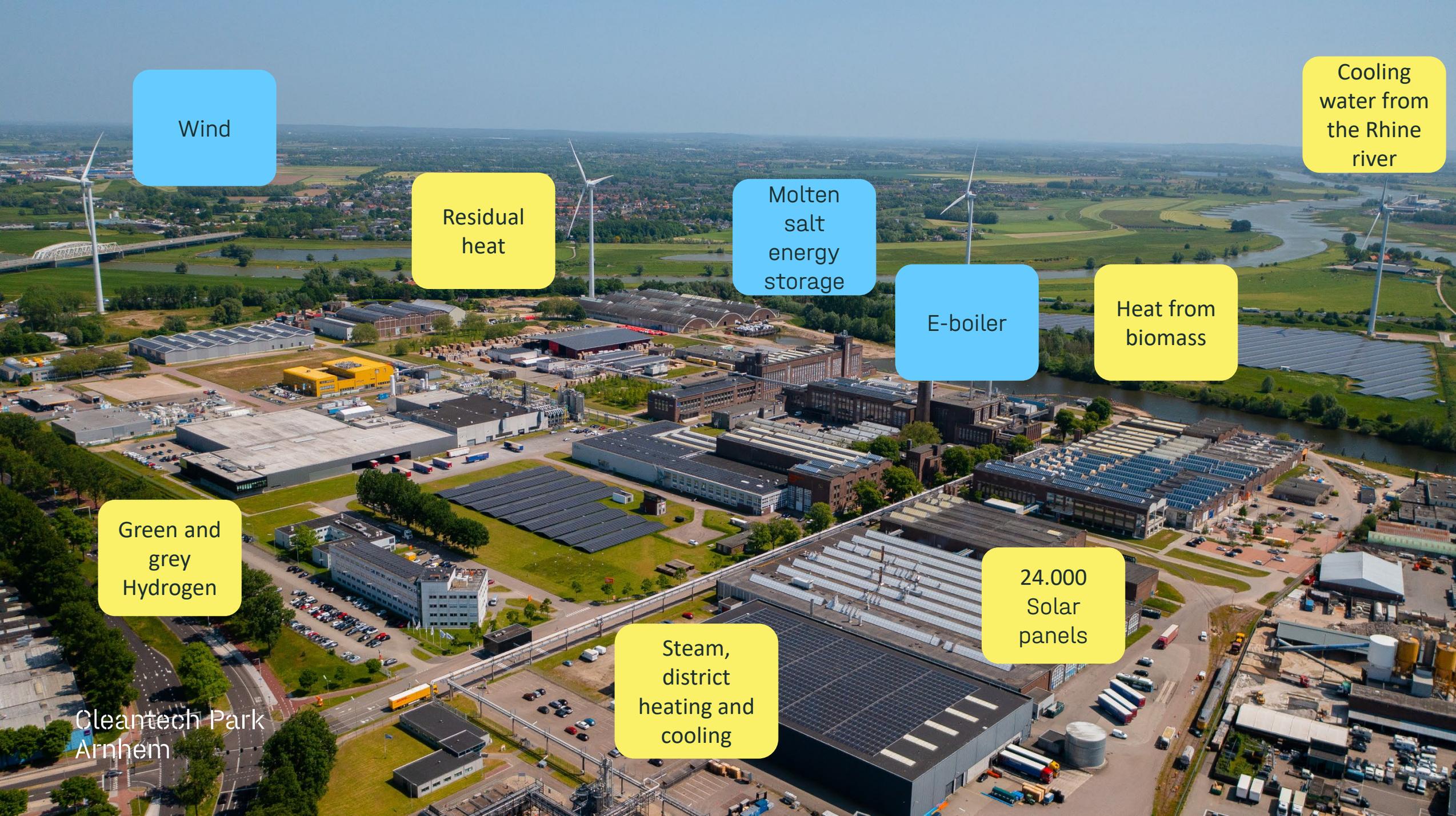
Heat from biomass

Green and grey Hydrogen

24.000 Solar panels

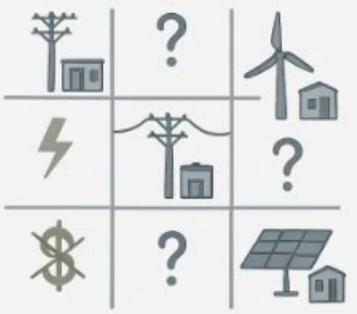
Steam, district heating and cooling

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Capacity Sharing System

The "Blind" Grid: REACTIVE & FRAGILE



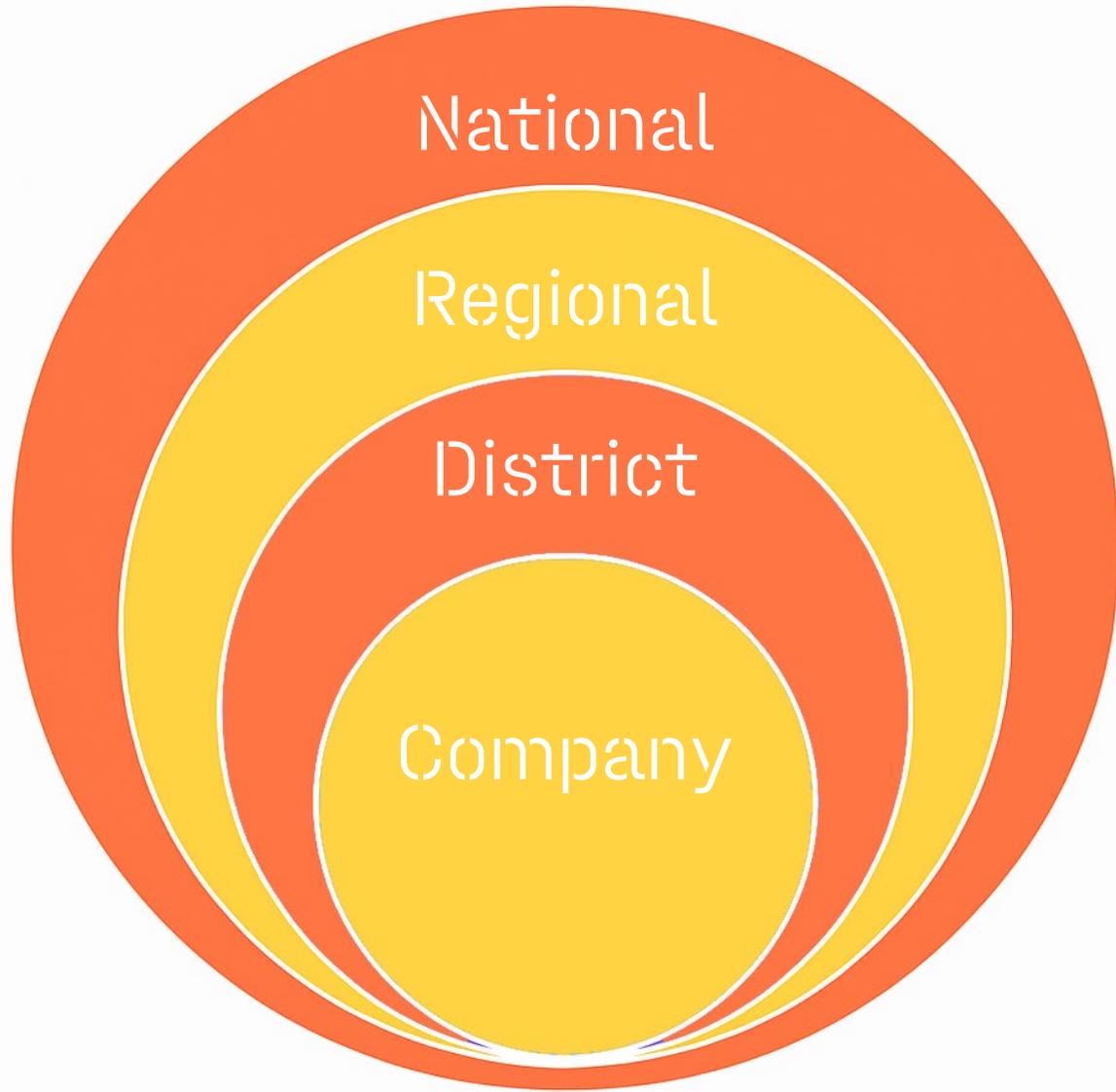
Blind Operation: No system-wide view
Siloed Control: Local decisions cause global problems
Slow Response: Manual intervention for every fault
Hardware-Dependent & Costly: Specialized inflexible hardware for every function, limited scalability, high installation and operating costs



The "Intelligent" Grid: PREDICTIVE & RESILIENT

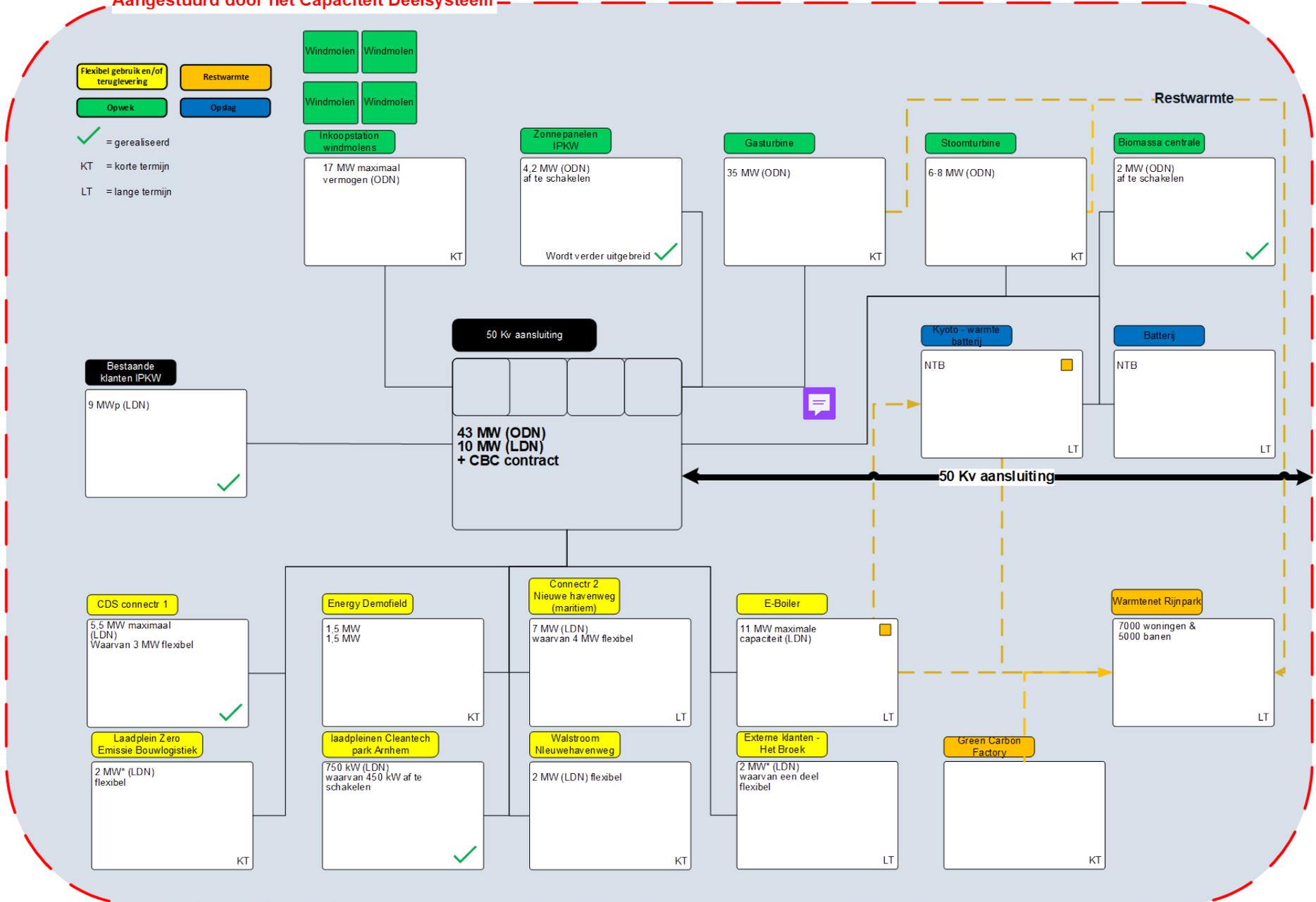


Holistic View: System-wide optimization & control
Centralized Brain, Local Reflexes: AI-driven grid-wide strategy, autonomous edge execution
Self-Healing: Proactive fault prevention & instant recovery
Software-Centric & Cost-Effective: Runs on standard hardware, scales efficiently with software in quantity and functionality



Energy Hub Arnhem

Aangestuurd door het Capaciteit Deelsysteem



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NOS





Digitised energyhubs with predictive direct control systems are the future

- Effective usage of existing infrastructure through stacking of multiple assets
- Predictive, keeps getting better
- Less reliant TSO/DSO
- District, city and Regional impact
- Smart system and collaboration
- Flexible for Netcongestion and energy sharing

