GREEN ENERGY PARK ZELLIK

GREEN TECH INCUBATOR

VRIJE UNIVERSITEIT BRUSSEL

Universitair Ziekenhuis Brussel

SMART GRID BRUSSELS HEALTH CAMPUS

BRUSSELS SMART GRID HEALTH CAMPUS

Safe , Reliable, Efficient,

Complete automatic transistion to island mode
max. 15s to critical need and 3 min to comfortneed

- Minimal autonomy 5 days, with maximal load
- Several backup-systems
- Yearly "Black-Out Test"

Consumption

- Constant load controle
- Kritical needs to comfort needs
- GBS en energy managament based on +850 simultanuous measurements

Communication

- 3km Glass fibre
- 14 Dataracks
- 10 Glass Fibre Switches

Electricity Generation

- 3 Dieselgenerators (5,2 MVA)
- 2 Cogeneration (2,4 MW)
- 3.300 Solar Panels (817 kWp)

Distribution

- 2 Head cabines
- 33 Transformators
- 17 HV-cabines
- 60 Controle HV-cellen
- 29 Controled LV-swithches
- 3km Hv-Cables
- Closed loopw with logical selectivity

Computer intelligence

- 15 Control units (PLC - Siemens)
- 8 Control units Powerplant (DEIF)
- 2129 I/O

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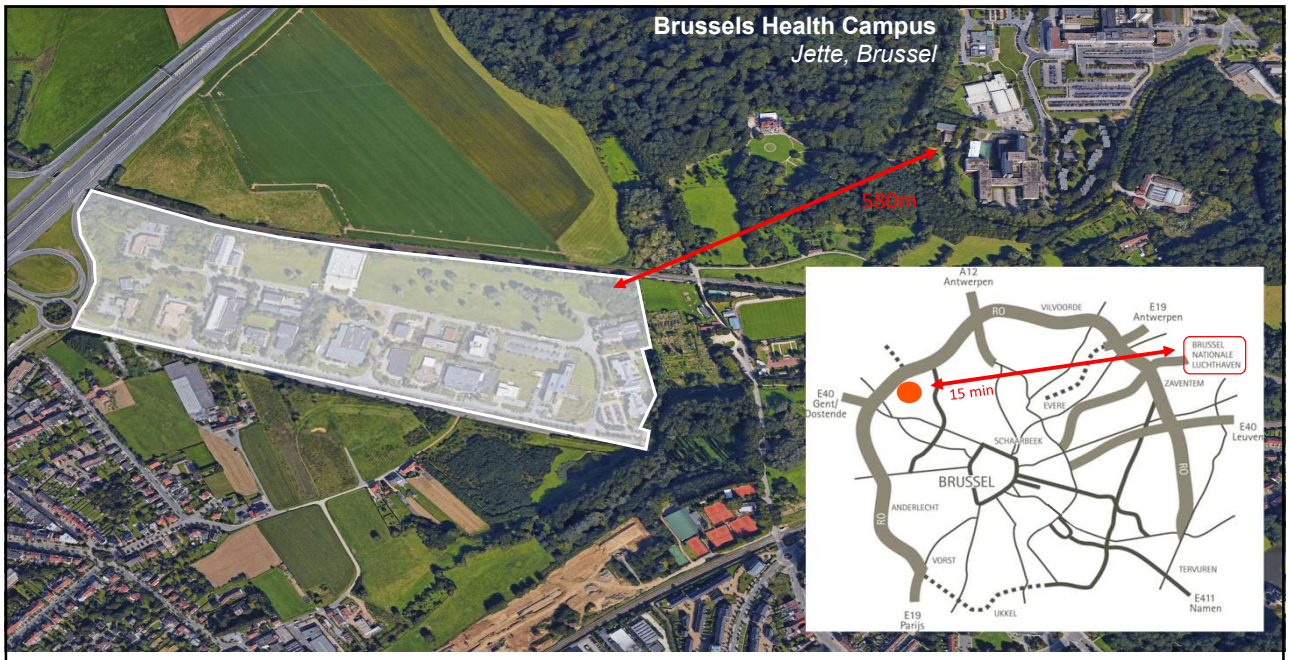
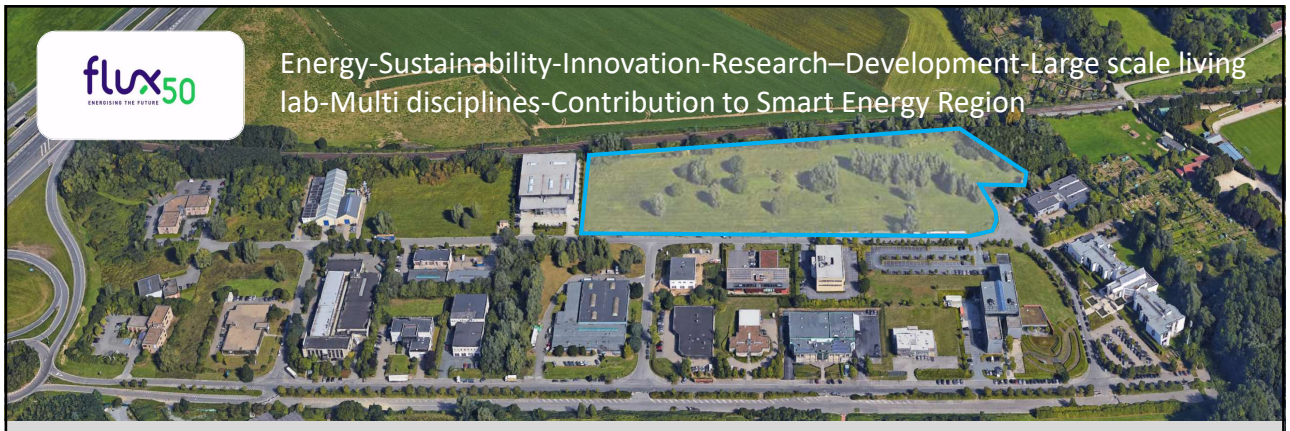
BRUSSELS SMART GRID HEALTH CAMPUS



LOCATION

RESEARCHPARK ZELLIK –



CO-2 NEUTRAL MICROGRID | BATTERY TO GRID | VEHICLE TO GRID | THERMAL GRID | GREEN DATACENTER | EXPERIMENTAL Surgery Room

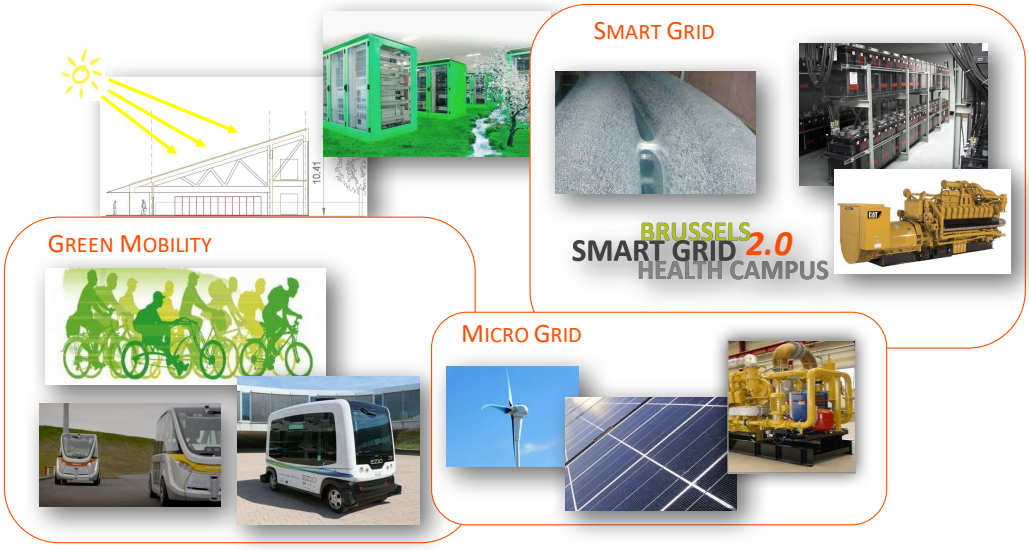
Microgrids | Multi Energy Solutions | Intelligent Renovation

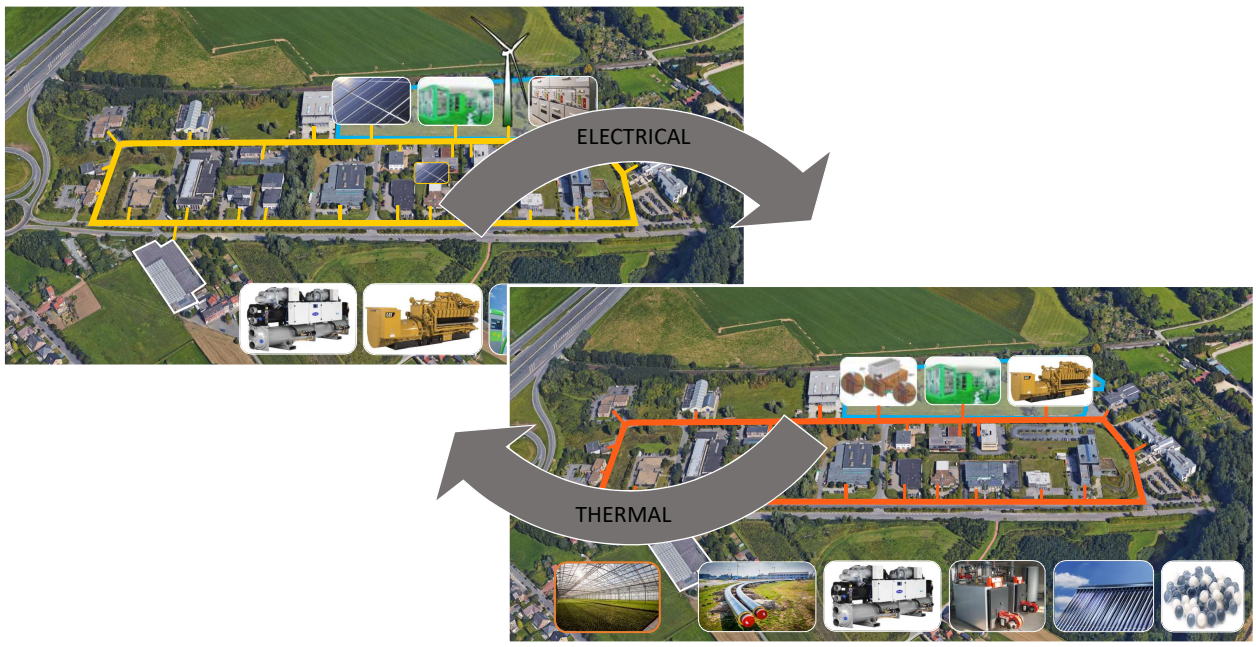
FEASIBILITY STUDIES –

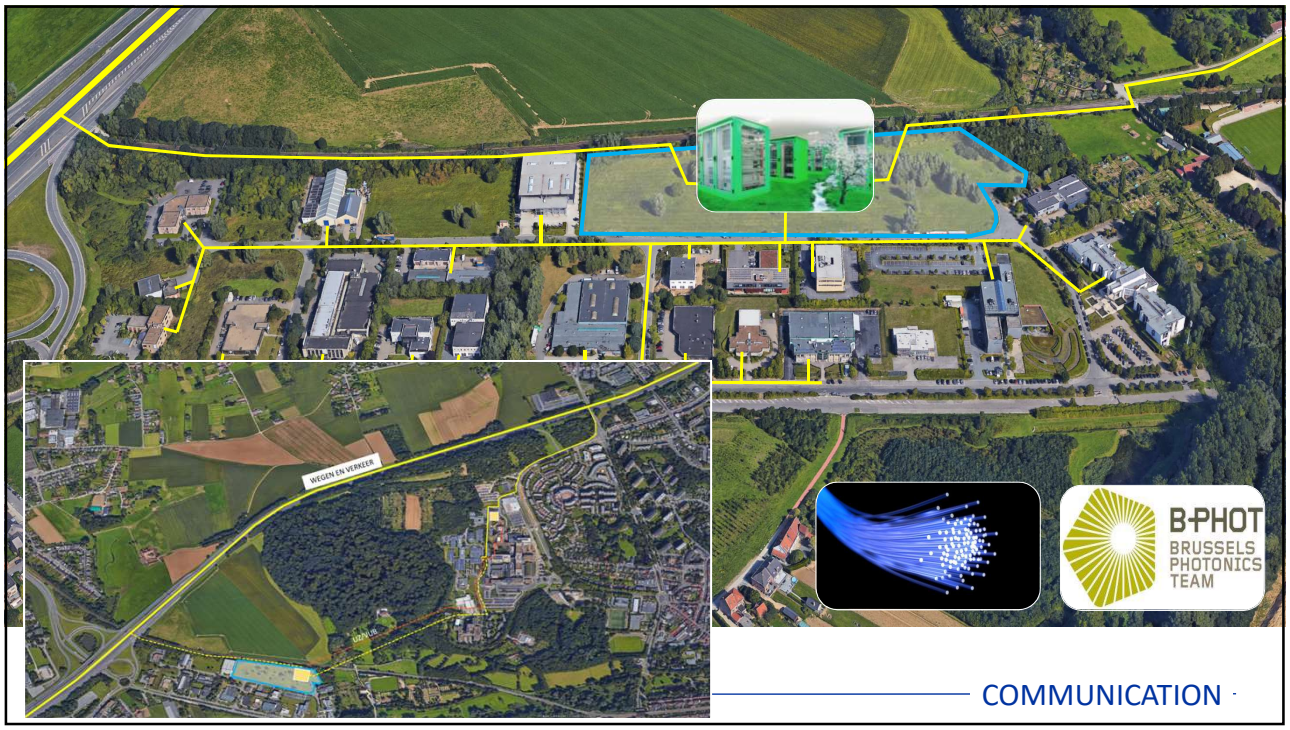
Some Key Figures

- **50% Off Grid**
- **CO2 neutral**
- **Researchpark Zellik**
  - 72 Companies
  - 35.000m² building surface
  - 2 km road
  - Parking 400 vehicles
- **On-site production**
  - 4 MW solar
  - 9 MW Wind
  - 2,5MW generatoren
  - 500 kW Cogeneration
- **Energy storage**
  - 1,5MWh batteries
  - 1MWh Borehole Thermal Energy Storage (BTES)
- **Elektric grid:**
  - 20MW connection
  - 3 km electric grid
  - 100 charging stations
- **Thermal grid**
  - 2 km
  - 22 buildings
  - Up to 4MW

Extension Green Energy Campus Zellik



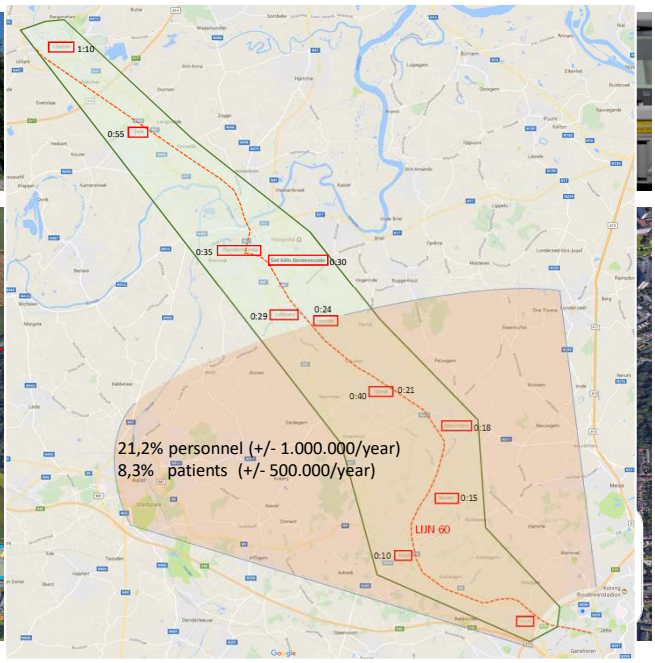




COMMUNICATION

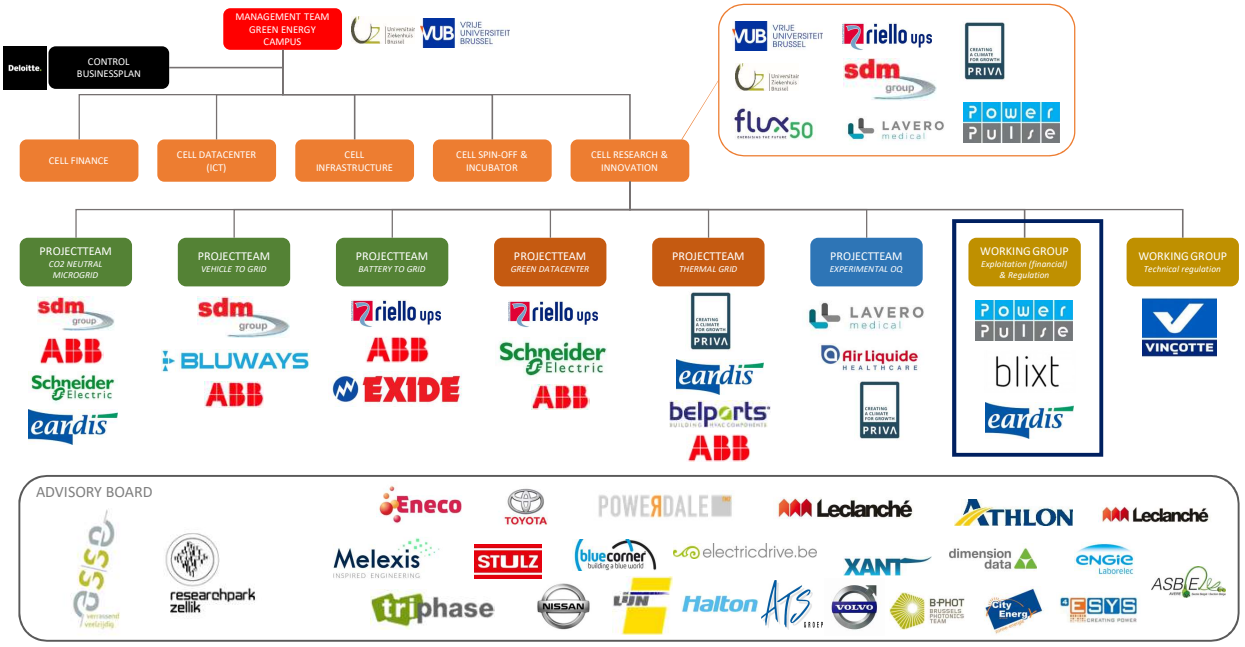
E-MOBILITY


Station Zellik


1:10
0:55
0:35
0:30
0:29
0:24
0:40
0:21
0:18
0:15
0:10
LIJN 60
21,2% personnel (+/- 1.000.000/year)
8,3% patients (+/- 500.000/year)


Zellik
1,5km

E-MOBILITY


MANAGEMENT TEAM
GREEN ENERGY CAMPUS
Deloitte.
CONTROL BUSINESSPLAN
CELL FINANCE
CELL DATACENTER (ICT)
CELL INFRASTRUCTURE
CELL SPIN-OFF & INCUBATOR
CELL RESEARCH & INNOVATION
PROJECTTEAM CO2 NEUTRAL MICROGRID
PROJECTTEAM VEHICLE TO GRID
PROJECTTEAM BATTERY TO GRID
PROJECTTEAM GREEN DATACENTER
PROJECTTEAM THERMAL GRID
PROJECTTEAM EXPERIMENTAL OQ
WORKING GROUP Exploitation (financial) & Regulation
WORKING GROUP Technical regulation
ADVISORY BOARD

Research Questions

Themes

- Flexible integration of various technologies
- Optimized energy management with minimal emissions
- Regulations
- Business models
- Integration of e-mobility

Looking for Complementary Microgrids

In terms of:

- Technologies
- Regulations
- Business models

For exchange of insights and lessons learned

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