

# Greenet



The network of Horizon Europe  
Cluster 5 National Contact Point.



## University of Southern Denmark

**GREENET Brokerage Event:** Safe, Resilient Transport and Smart  
Mobility services for passengers and goods.

6th May 2025

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*The GREENET project has received funding from the EU Horizon Europe programme under Grant Agreement No 101069604*

- 6 campuses around Denmark
  - Odense (HQ), Sønderborg, Esbjerg, Slagelse, Kolding, Vejle
- 32,000 students (3,000 at TEK), 15% from abroad, and 3900 employees.
- BS.c, MS.c. and PhD education in electronics, mechanical, mechatronics, robotics, software engineering, energy systems, innovation, health and welfare, chemical and biotechnology, production, game development, and software technologies.



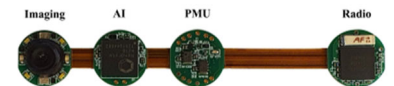
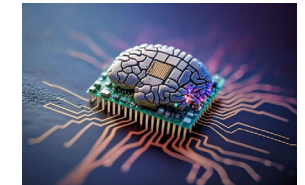
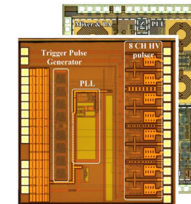
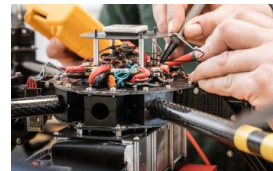
# SDU Digital and High-Frequency Electronics Section

<https://www.sdu.dk/en/forskning/sdu-digital-and-high-frequency-electronics>

- Established in February 2023.
- 12 FTE.

## Research:

- It conducts research in building digital electronics for advanced applications (autonomous robots, drones, automotive, and IoT) to support its mission of solving major societal challenges (infrastructure inspection and maintenance, and healthcare).
- The section has an interdisciplinary team of researchers specialized in e.g. hardware acceleration, AI, control, high-frequency electronics, and embedded systems.
- Current research groups:
  - Drone Infrastructure Inspection and Interaction
  - Chip Design & Neuromorphic Computing



## Education:

- It offers Bachelor of Science (B.Sc.) (*Civilingeniør*) education in electronics starting in September 2023 and Master of Science (M.Sc.) in 2026.





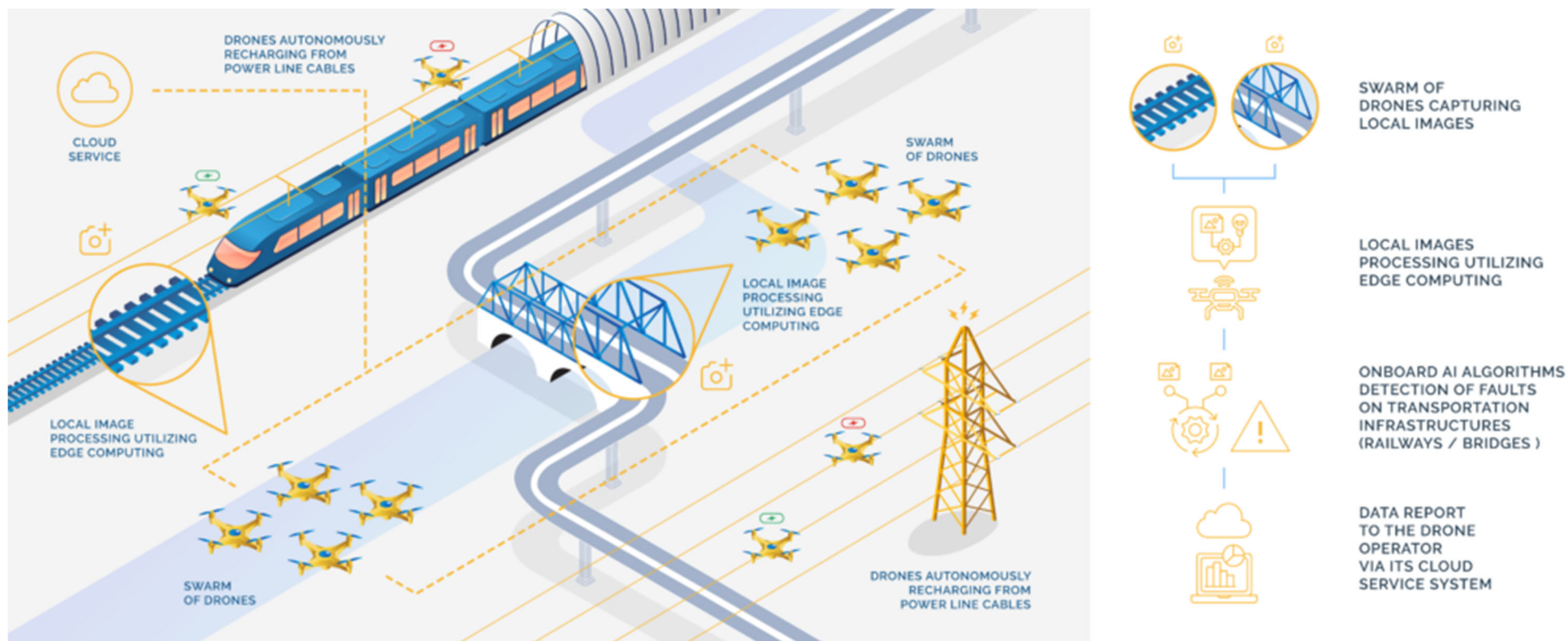


## EU H2020 Drones4Safety project

Coordinator: Emad Ebeid, SDU DHFE

2020-2023 – Budget: 3.7M Euro

URL: <https://drones4safety.eu/>



**Table 1: Number of bridges that can be inspected by Drones4Safety**

Distance from nearest power line cable	1km	3km	7km
Number of bridges in EU	228,805 (15.2%)	1,070,304 (71.1%)	1,371,241 (91.1%)
Number of bridges in Italy	14,946 (38.7%)	28,557 (73.9%)	36,498 (94.5%)





# Other EU projects: SDU DHFE as a partner

**TeamPlay**  
Grant agreement ID: 779882

[Project website](#)

DOI  
[10.3030/779882](https://doi.org/10.3030/779882)

Project closed

EC signature date  
31 October 2017

Start date  
1 January 2018



End date  
30 June 2021

Funded under  
INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Information and Communication Technologies (ICT)

Total cost  
€ 5 123 685,01

EU contribution  
€ 5 123 684,99

Coordinated by  
INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET AUTOMATIQUE  
France

**AERIAL-CORE**  
Grant agreement ID: 871479

[Project website](#)

DOI  
[10.3030/871479](https://doi.org/10.3030/871479)

Project closed

EC signature date  
6 December 2019

Start date  
1 December 2019



End date  
30 November 2023

Funded under  
INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Information and Communication Technologies (ICT)

Total cost  
€ 8 595 306,25

EU contribution  
€ 8 595 306,25

Coordinated by  
UNIVERSIDAD DE SEVILLA  
Spain

**SPADE**  
Grant agreement ID: 101060778

[Project website](#)

DOI  
[10.3030/101060778](https://doi.org/10.3030/101060778)

EC signature date  
7 June 2022

Start date  
1 September 2022



End date  
31 August 2026

Funded under  
Food, Bioeconomy Natural Resources, Agriculture and Environment

Total cost  
€ 5 822 937,50

EU contribution  
€ 5 816 687,50

Coordinated by  
ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTXYXIS  
Greece

2018

2019

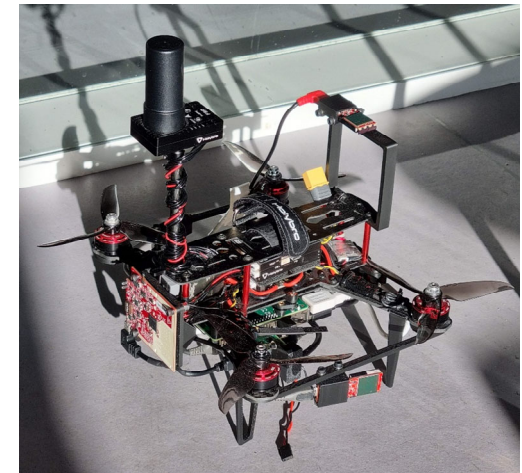
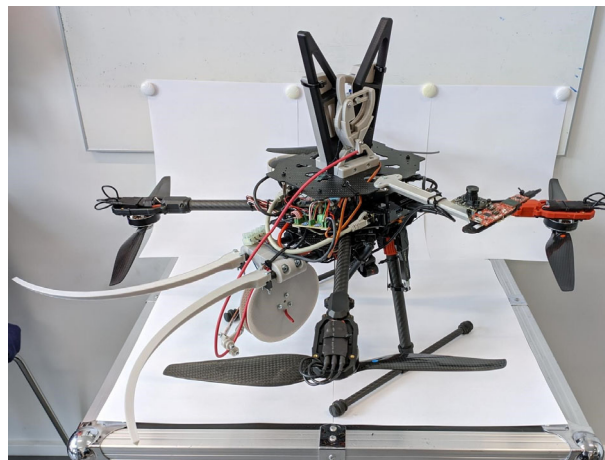
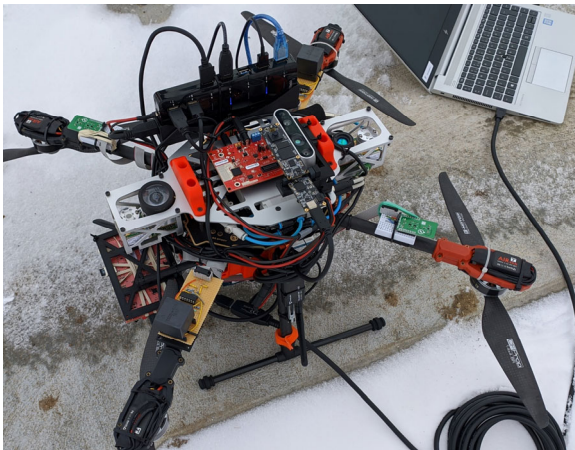
2022

2026



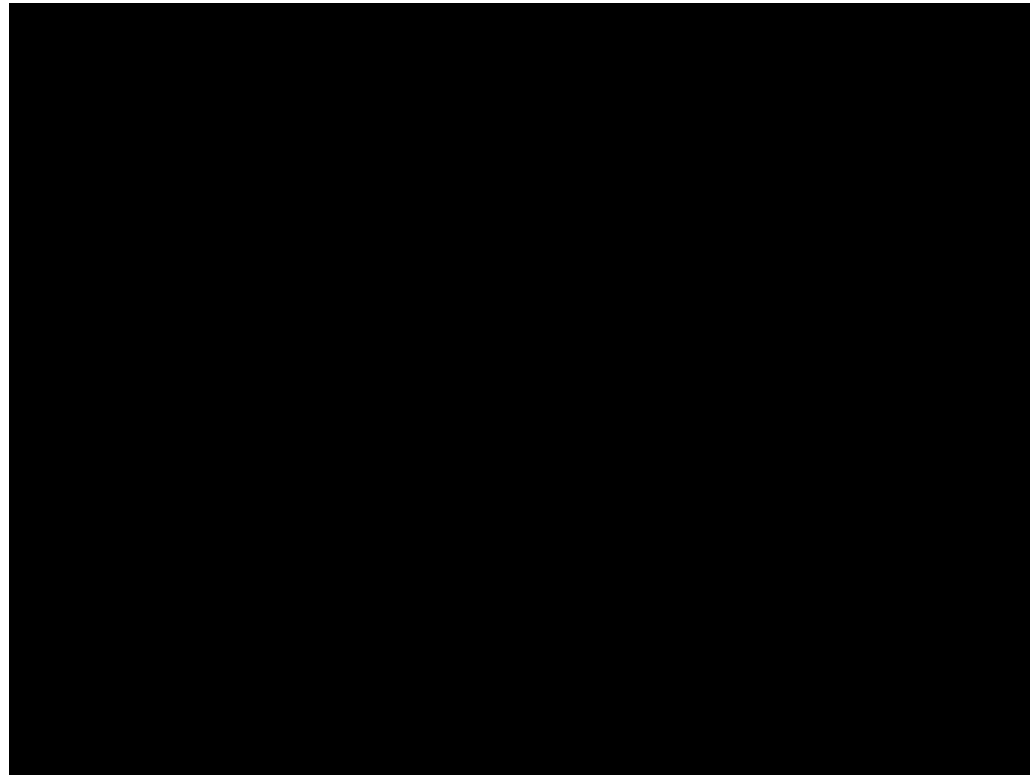
# Research Outcomes: Infrastructure Inspection and Maintenance

“Experts in building aerial robots to solve power line infrastructure problems”





# Demo



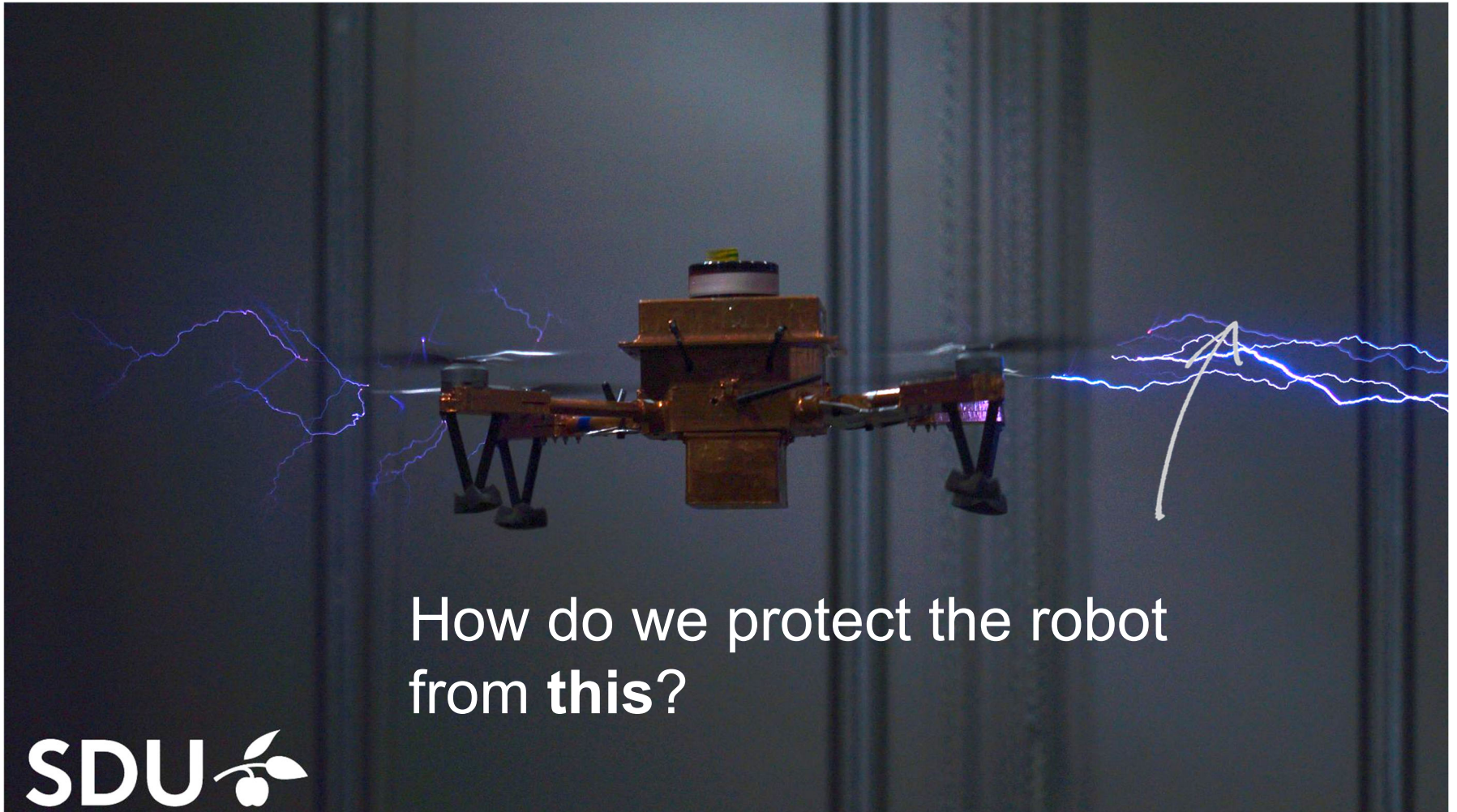
Youtube: <https://www.youtube.com/watch?v=C-uekD6VTIQ>



Hoang, V. D., Nyboe, F. F., Malle, N. H., & Ebeid, E., "Autonomous Overhead Powerline Recharging for Uninterrupted Drone Operations", 2024 IEEE International Conference on Robotics and Automation (ICRA)

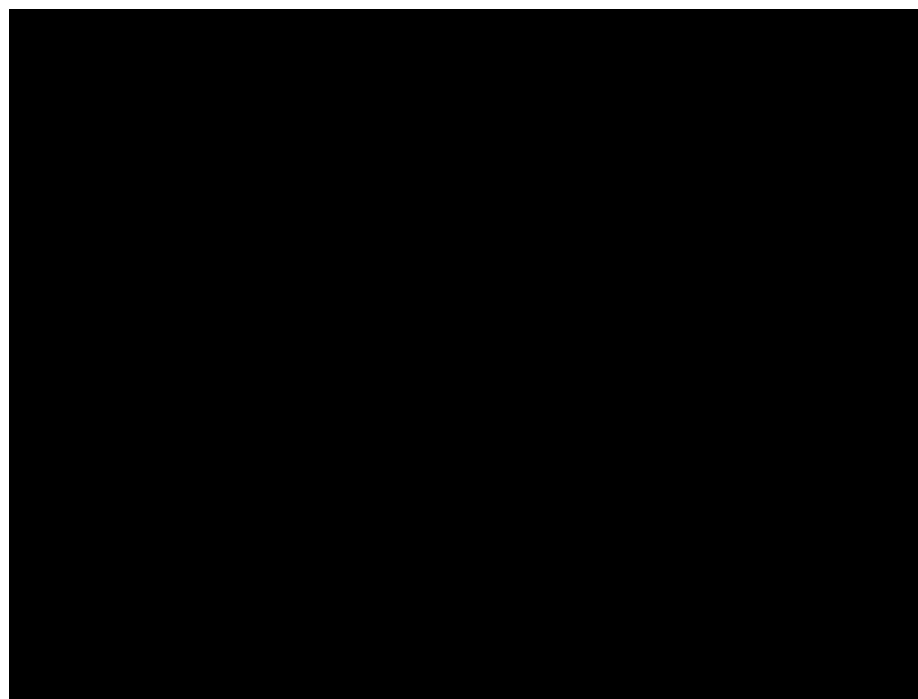


# EMI Shielding





# Demo: 500kV testing



- 
- Figure 1 consists of two parts: (a) a photograph of the HiPWORKS PCB and (b) a schematic diagram of the same PCB. Part (a) shows the physical board with a 1 cm scale bar and the HiPWORKS logo. Part (b) shows the schematic with color-coded components: red for Qualcomm Snapdragon 855, blue for Samsung 970 EVO Plus, green for Qualcomm PM8014, yellow for Qualcomm PM8014, and cyan for Qualcomm PM8014.

Figure 1 consists of two panels. Panel (a) is a wide-field optical micrograph of a device, approximately 1000  $\mu\text{m}$  long, as indicated by the scale bar. A red rectangular box highlights a specific region on the device. Panel (b) is a higher-magnification optical micrograph of the region highlighted in (a). It shows a series of four square electrodes, each with a dark, circular feature in the center, arranged in a row on a textured substrate. A scale bar in panel (b) indicates a length of 100.00  $\mu\text{m}$ .

M. Sankarasubramanian *et al.*, "Magnetic Inductor Arrays for Intel® Fully Integrated Voltage Regulator (FIVR) on 10th generation Intel® Core™ SoCs," *2020 IEEE 70th Electronic Components and Technology Conference (ECTC)*, Orlando, FL, USA, 2020, pp. 399-404, doi: 10.1109/ECTC32862.2020.00071.



Greenet



# Thank You

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Publications & Videos

