Drones in utilities day-to-day operations: flight control, backhaul, overcoming limits to line-of-sight operation

Robert Heiliger
Member of the Board of Advisors, European Utilities Telecoms Council (EUTC)
29 May 2018
1. **Short overview of EUTC**
2. **Current use of RPAS in utilities**
3. **Opportunities and difficulties of RPAS use**
4. **Needs for future use**
EUTC – Who are we?

**Full Corporate Members**
- edp distribuição
- ESB
- ENEDIS
- ELES
- Enel
- E.ON
- gasNatural
- IBERDROLA
- innogy
- Latvenergo
- National Grid
- RED ELÉCTRICA DE ESPAÑA
- SP ENERGY NETWORKS

**Associate Members**
- CAMLIN
- NOKIA
- Reactive Technologies
- Itron
- ZIV

**Full Association Members**
- netbeheer
- nederland
EUTC’s governance structure

ALL EUTC MEMBERS

Board of Advisors

Executive Committee
- Strategy & Organization
- Communications & Thought Leadership
  - Advocacy
  - Working Groups
  - Finances
  - Membership

Working Groups

MD & Staff
Examples how EUTC members are currently using RPAS

- Inspection after storms
- Inventory of tree-trimming
- 3D measurement of HV / MV sub-stations and thermography
- Fault identification on PV panels
- Maintenance
- Check of building activities
110 kV kabel installation (ongoing construction project)
Opportunities and difficulties regarding the use of RPAS

Opportunities
- Low height of the lines allowing for operation in airspace up to 300m
- Development of sensors allowing lower take-off weight and thus limiting potential hazards
- HSE risks can be significantly reduced with the help of RPAS
- Reduction of environmental impact from current helicopter flights possible

Difficulties
- Electricity grids can be very close to habitations, covering the entire territory including restricted airspaces
- Long lines that follow tightly the changing terrain including mountain areas etc. with poor coverage
What would we like to see in future?

1. Coordinated approach regarding BVLOS regulations in Europe that allow manufacturers to develop standardized solutions across countries
2. Own spectrum for data transmission to / from RPAS to support BVLOS as well as automatic data processing during flight
3. Clear guidelines / regulations for RPAS operation by utilities allowing for BVLOS flights along overhead lines / utility installations
Thank you!

Robert Heiliger
E.ON SE
robertheiliger@eon.com