



# CELTIC-EUROGIA Proposers Day



29<sup>th</sup> January 2020, at Nokia Premises in Madrid

**Pitch of the Project Proposal**

**AuDro: Integrated Communication & Control  
System to Enable Autonomous Drone Flight**



**Alper ACARTÜRK, Dicle Electricity Dist. Comp. – R&D Center**  
**[alper.acarturk@dedas.com.tr](mailto:alper.acarturk@dedas.com.tr)**



# Teaser



*Existing technology enables us to successfully complete autonomous drone duties.*

*However, according to the civil aviation regulations, a drone pilot is needed to be present during the flight duty.*

*Can we replace the human UAV pilot with an integrated ICT system?*

*Would local aviation regulators recognize the system «enabler» as equivalent to the human UAV pilot?*

*How?*

# Organisation Profile

- DICLE-DSO (Large Enterprise) is responsible for the electricity distribution in the south–eastern part of Turkey.
- Electricity fraud for agricultural irrigation purposes in the rural areas is a serious problem in DICLE-DSO responsibility area (6 cities, covering 60.000+ km<sup>2</sup>).
- DICLE-DSO is carrying out a project to detect fraud activities autonomously, from images and signals gathered by drones and satellites, by using image processing algorithms. (To be completed in Nov.2020.)
- DICLE-DSO control system is able to generate alarms for probable fraud incidents.
- DICLE-DSO intends to prompt drones autonomously to check the situation.



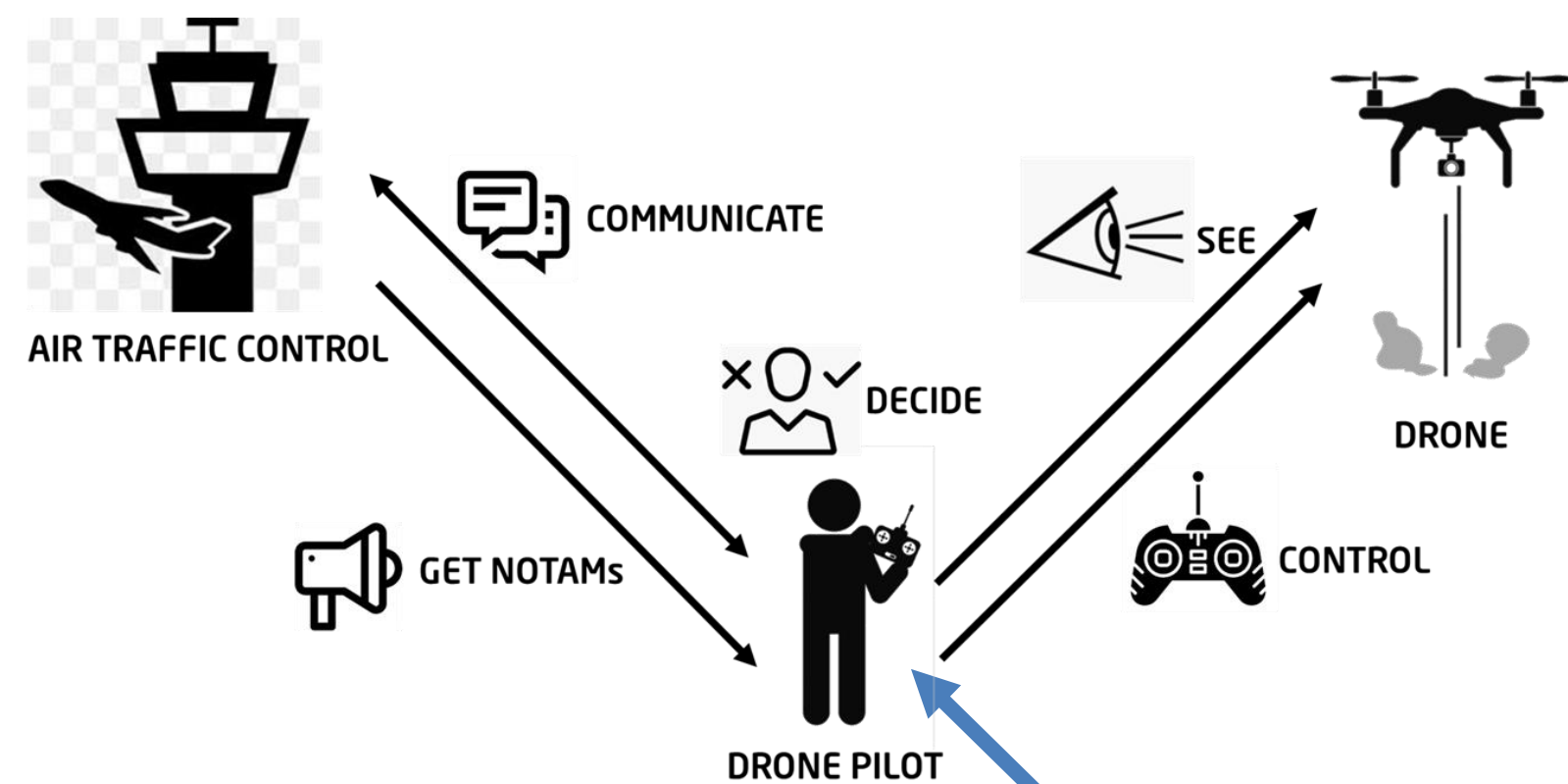
# Proposal Introduction



CELTIC-NEXT

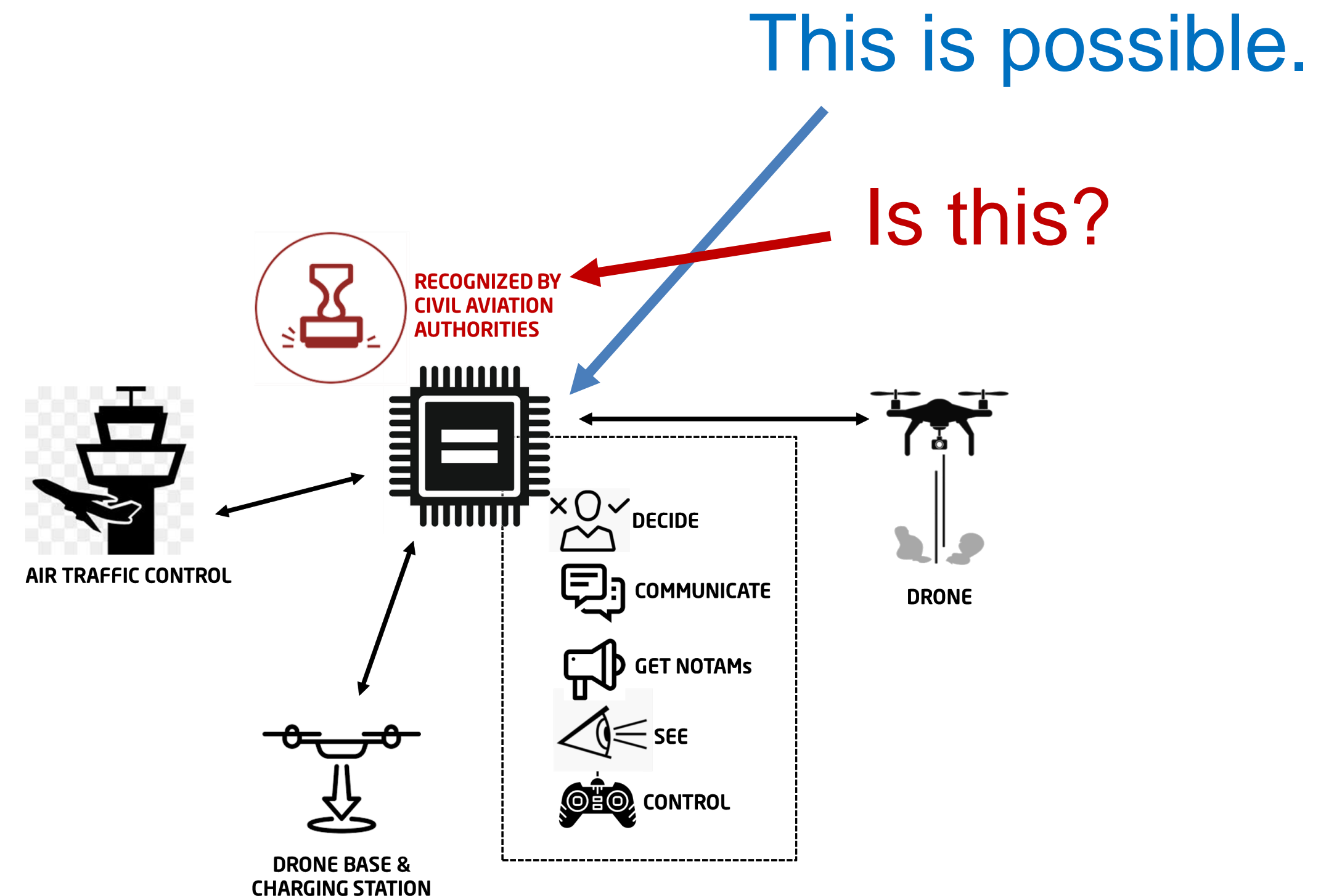
eurogia<sup>2020</sup>

## Current situation:



Do we really need him/her?

## Proposal:



# Proposal

## Introduction



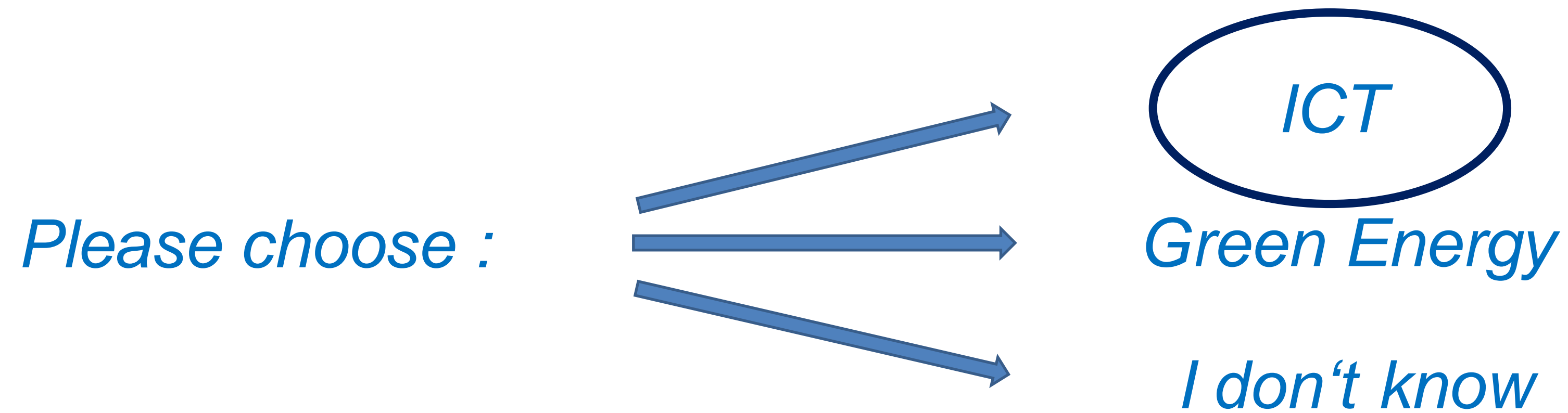
- Developments in the ICT technology goes ahead of the amendments in aviation regulation, which is strictly risk-averse.
- In coordination with the local civil aviation authorities, the causes which necessitates the presence of a human UAV pilot will be understood.
- The integrated ICT system that substitutes the human UAV pilot (enabler) will be designed, implemented and tested.
- Directive proposal will be submitted to the local authorities, so that the «enabler» will be recognized.

Work Packages	Leader	Year 1	Year 2	Year 3
<b>Roadmap Definition</b>				
Exploration of the Aviation Regulation	Universities	■		
Root Cause Analysis of the Restrictions	Universities		■	
Use Case Demand Analysis	Use Case Providers	■		
Suggestion of Alternative Technical Solutions (Enablers)	Solution Providers		■	
Decision on Enabler and Preparation of System Guideline	All partners		■	
<b>Technical Solution (Enabler) Design</b>				
Sub-System Design and Simulation	Solution Providers		■	
Prototype Production	Solution Providers		■	
Test and Fine-Tuning	Solution Providers		■	
System Integration	Use Case Prvds., Solution Prvds.			■
Use Case Pilot Applications	Use Case Providers			■
Validation	All partners			■
<b>Preparation of Autonomous Drone Allowance Directive Proposal</b>				
Writing of the Directive Proposal	Universities			■
Submission of the Directive Proposal to the Local Authority	Any partner			■

# Partners



Country	Partner	Type	Role
TR	Dicle Electricity Dist. Comp.	LE	Use Case Provider
TR	ESTU, Faculty of Aeronautics and Astronautics	UNI	Academics
TR	BeWell Tech	SME	Solution Provider
<i>TR</i>	<i>Directorate General of Civil Aviation (SHGM)</i>	<i>REG</i>	<i>Regulator – Project Mentor/Supporter</i>





# Join the follow-up Telco

## 5 February 15-15:30 CET

**Meeting number :140 294 737**

**Meeting password: 8diUPA3cGE8**

**Link to join:**

<https://eurescom-meetings.webex.com/eurescom-meetings/j.php?MTID=mc6b5c2327a1b4cac94ce772c7b43cb46>

Join by phone

**[+49-6925511-4400](tel:+49-6925511-4400)** Germany toll

[Global call-in numbers](#)

[Can't join the meeting?](#)

[www.celticnext.eu](http://www.celticnext.eu)

[office@celticnext.eu](mailto:office@celticnext.eu)





# Contact Info



**For more information and for interest to participate please contact:**

Alper ACARTÜRK  
R&D Project Development Mgr.  
Dicle Electricity Distribution Comp.  
alper.acarturk@dedas.com.tr  
+90 553 281 3726  
Altunizade - İstanbul - Turkey  
[www.dedas.com.tr](http://www.dedas.com.tr) / [www.eksim.com.tr](http://www.eksim.com.tr)



**Presentation available via:**