

Eureka

Project partners Search Form

Program (select appropriate):

EUREKA
Multilateral Call (if applies):

Biotech
 Disaster Resilience, response and recovery
 Lightweighting

EUROSTARS
 CLUSTER

CELTIC-NEXT SMART
 EUROGIA²⁰³⁰ Xecs
 ITEA4

Thematic Call (if applies):

Xecs Quantum Tech

Contact Person Details			
Name: Emre Celal TAŞ			
Position: Co-Founder & CEO / Project Coordinator			
Phone: +90 532 740 73 77		Email: ecelal.tas@mostastech.com	
Organization Details:			
Name: KAF Dynamics Teknoloji Sanayi ve Ticaret A.Ş. (KAF Dynamics)			
Country: Türkiye		Website: kafdynamics.com	
Type of	<input checked="" type="checkbox"/> SME	<input type="checkbox"/> Large Company	<input type="checkbox"/> University
Organization:	<input type="checkbox"/> Research Inst.	<input type="checkbox"/> Administration	<input type="checkbox"/> Other (specify):
Number of	<input checked="" type="checkbox"/> < 10	<input type="checkbox"/> 11-50	<input type="checkbox"/> 51-100
Employees:	<input type="checkbox"/> 101-250	<input type="checkbox"/> > 250	
Describe the activities, products, services, and expertise of your organization:			
<ul style="list-style-type: none"> R&D-focused aerospace and UAV technology company located at Teknopark Istanbul, Türkiye. Develops high-power unmanned aerial systems, avionics, power-distribution architectures, embedded software, sensor integration and AI-assisted mission systems. Core competencies include heavy-lift multicopter platforms, adaptive flight control, hose-force compensation, thermal/RGB/environmental sensing and field validation. Current product focus is DUHAN, a hose-fed aerial firefighting UAV system for high-rise buildings and industrial facilities. The company benefits from MOSTAŞ Technology's industrial UAV engineering know-how, field experience and laboratory/prototyping infrastructure. 			

Project Details	
Project Title	DUHAN: AI-Assisted Hose-Fed Aerial Firefighting System for High-Rise and Industrial Fires
Acronym	DUHAN
Keywords	Aerial firefighting; Disaster resilience; Hose-fed UAV; High-rise fires; Industrial fires; Intelligent hose management; High-pressure water systems; AI perception; Thermal imaging; LiDAR; Firefighting robotics; TRL 6-9
Describe your Project:	
<ul style="list-style-type: none"> • The project aims to mature DUHAN from TRL 6 to TRL 9 as an integrated aerial-ground firefighting system for high-rise buildings and industrial facilities. • The UAV will be supplied with pressurised water from a fire engine or fixed firefighting infrastructure, enabling prolonged intervention without carrying the extinguishing agent on board. • KAF Dynamics will lead the UAV platform, avionics, adaptive flight control, hose-force estimation and compensation, AI-assisted sensing, system integration and aerial validation. • The Spanish partner is expected to contribute complementary firefighting, hose/water management, nozzling, robotics, perception or operational validation capabilities. • The project will include integrated field demonstrations in realistic firefighting scenarios and preparation for commercial deployment. 	
Describe the innovative part of your project:	
<ul style="list-style-type: none"> • Active compensation of hose-induced pulling, oscillation and water-jet disturbance forces directly integrated into the UAV flight-control architecture. • Intelligent ground-based hose and water-management interface synchronised with UAV motion, including tension monitoring, controlled payout/retrieval and emergency shut-off. • Fusion of thermal, RGB, environmental and potentially LiDAR data for real-time fire-scene perception, approach-corridor awareness and operator decision support. • Operational maturation from TRL 6 to TRL 9 of a complete hose-fed aerial firefighting system rather than a conventional imaging-only firefighting drone. • Modular architecture enabling future use of the avionics, sensor and hose-management subsystems in other emergency-response UAV applications. 	
Describe the market expectations of your project:	
<ul style="list-style-type: none"> • Target customers include municipal fire brigades, industrial fire departments, civil protection authorities, airports, ports, refineries, petrochemical plants, warehouses and high-rise facility operators. • The solution addresses access limitations of conventional ladders and aerial platforms, especially in tall buildings, dense urban areas and complex industrial sites. • Initial commercialisation is planned in Türkiye and Spain, followed by wider deployment in European and MENA markets through partner channels and pilot references. • Expected business model includes complete DUHAN-X system sales, maintenance/training packages and potential OEM licensing of selected subsystems. • The project is expected to support export-oriented commercialisation within 24 months after successful operational validation. 	

Possible Partner Profile:

Type of Partner Needed (multiple choices are allowed)	<input checked="" type="checkbox"/> SME	<input checked="" type="checkbox"/> Larger Company
	<input type="checkbox"/> University	<input checked="" type="checkbox"/> Research Institution
	<input type="checkbox"/> Administration	<input type="checkbox"/> Other (specify):

Describe the expertise of possible partner(s) required for your project:

- Firefighting vehicles, high-pressure water systems, pumps, monitors, nozzles and fire-engine integration.
- Intelligent hose reel, hose payout/retrieval, hose-tension monitoring, mechatronics and safety-critical control systems.
- Industrial fire safety, emergency-response operations, professional firefighting requirements and operational validation in realistic environments.
- Optional complementary expertise in emergency-response robotics, thermal imaging, LiDAR perception, GNSS-degraded navigation or hazardous-environment systems.
- Capability to conduct R&D with its own technical team and budget and to apply for national Eureka financing in Spain

Describe the role of possible partner(s) in your project:

- Lead the design and development of the intelligent ground-based hose-management and firefighting interface.
- Develop or integrate pump/pressure/flow interfaces, controlled hose deployment, remotely controlled nozzle functions and emergency shut-off mechanisms.
- Define Spanish/European operational requirements for industrial or high-rise firefighting and contribute to system safety and validation plans.
- Support integration with KAF Dynamics' UAV platform and participate in laboratory, field and operational demonstrations.
- Contribute to commercialisation in Spain and wider European markets through end-user access, demonstrations, service model or product-channel development.

Deadline for Partner Search: 15 September 2026 (preferred)