

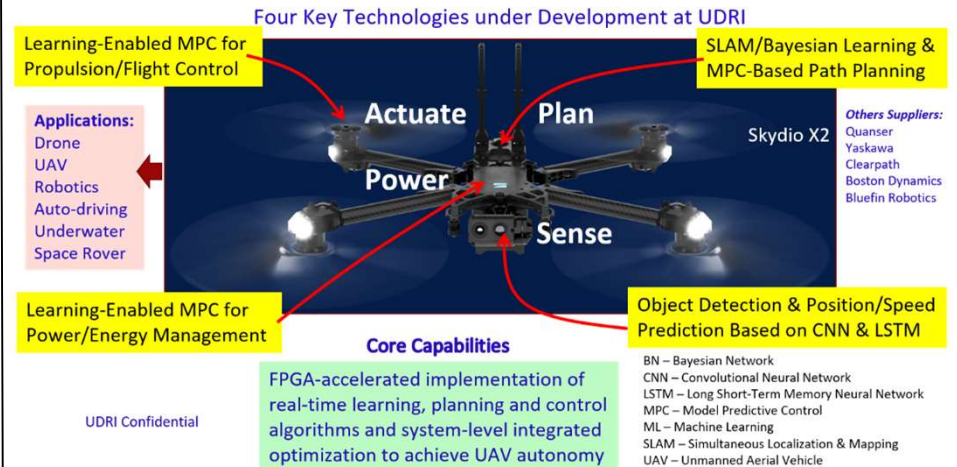
# Integrated AI-Driven Predictive Control for UAVs

## Contact Information Description

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## Picture and more Capability Description



## Description in Bullet Format (Relate to Requirement(s) & Heilmeier Questions)

- What does it do? ---- This technology provides an integrated control solution for UAVs to manage various onboard tasks.
- Why is it novel? ---- This solution, building upon machine learning and model predictive control, allows for optimization, proactive control, and adaptation to changing conditions based on real-time operation data.
- How will the technology be used?
  - Integrated into control software of a UAV platform
- Technology maturity: Sensor Fusion – TRL3, Path Planning – TRL4, Flight Control – TRL5, Energy Management – TRL6

## Requirement(s) Benefits, Money Saved, Eliminates What?

- What benefits does the technology enable?
  - Autonomous decision on path planning, flight control and energy management
  - Reduce total flight distance on a specific mission
  - Minimize energy consumption or extend flight time
  - Reduce operation risk with predictive capability
- What are you looking for?
  - Funding to perform the development work
  - Partners to develop and demonstrate the control solution on a UAV platform

Airspace Management	<input checked="" type="checkbox"/>	Command & Control	<input checked="" type="checkbox"/>	Comms	<input type="checkbox"/>	Power & Energy Storage	<input checked="" type="checkbox"/>	Propulsion	<input checked="" type="checkbox"/>	Sensors & Awareness	<input checked="" type="checkbox"/>	Other	<input type="checkbox"/>
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