ASTRA
AI-ENABLED TACTICAL FMP HOTSPOT PREDICTION AND RESOLUTION

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FLY AI FORUM, EUROCONTROL, 29 APRIL 2024

VISION OF THE PROJECT

BRIDGE THE GAP BETWEEN ATFCM AND ATC
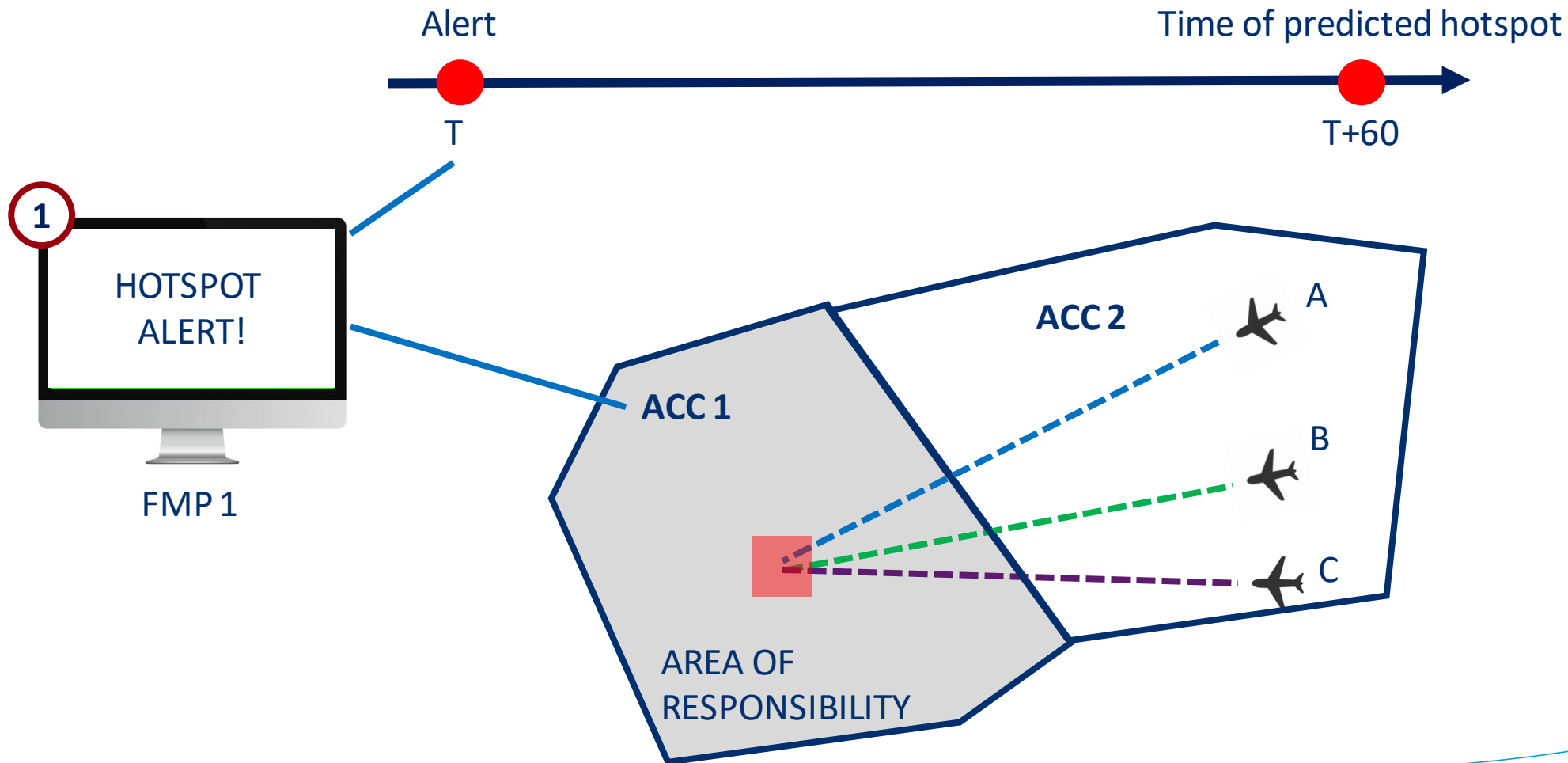

Flow Management Position

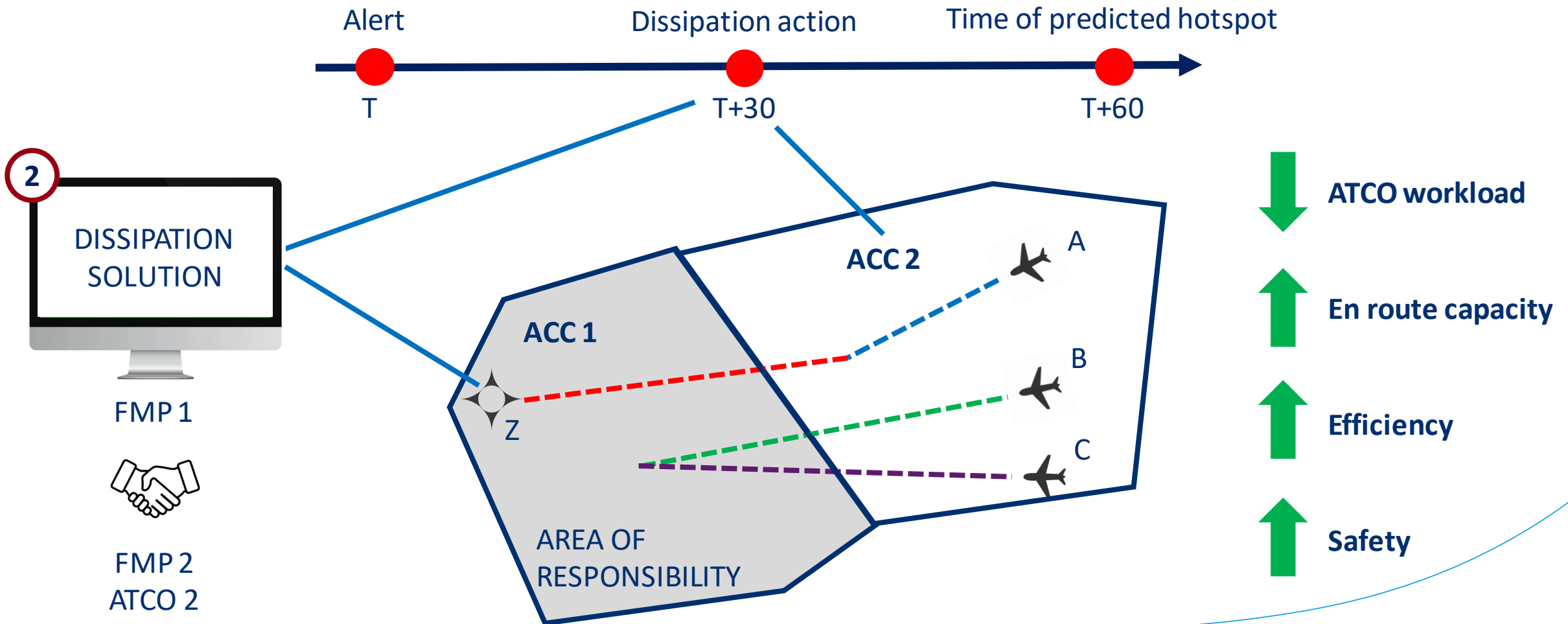Planner Air Traffic Controller

PREDICT AND RESOLVE TRAFFIC HOTSPOTS

VISION OF THE PROJECT

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VISION OF THE PROJECT

AI TECHNIQUES

Supervised learning → Flight trajectory prediction based on historic data

Generative AI → Synthetic traffic data / hotspots

Deep reinforcement learning → Dissipation solutions (FL capping, speed change, etc.)

KEY CHALLENGES BEING ADDRESSED

Top 3 challenges:

1. Exploit ML to reliably predict and resolve tactical traffic hotspots at least one hour in advance

2. Define robust traffic complexity metrics

3. Make the solution acceptable to the end users

THANK YOU FOR
YOUR ATTENTION

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