Future Airspace Strategy

Overview

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UK FAS Background

Growth in UK aviation dependent on modernisation of the Airspace System to tackle inefficiency and generate benefits for passengers, industry and environment.

TODAY'S AIRSPACE IS OUTDATED *– developed 40+ years ago*

- Frequent Route Interactions and Tactical Intervention

- Traffic Bunching, Queues and Delays

- Poor resilience at key nodes (Heathrow)

- Expensive Air Traffic Control

FUTURE | **AIRSPACE** | STRATEGY

FAS DELIVERS ON CORE SESAR CONCEPTS

- Re-design the route structure to systemised PBN standards

- Improve the use of data and tools to sequence traffic and manage queues

- Integrate Airports into the Air Traffic Management System (A-CDM).
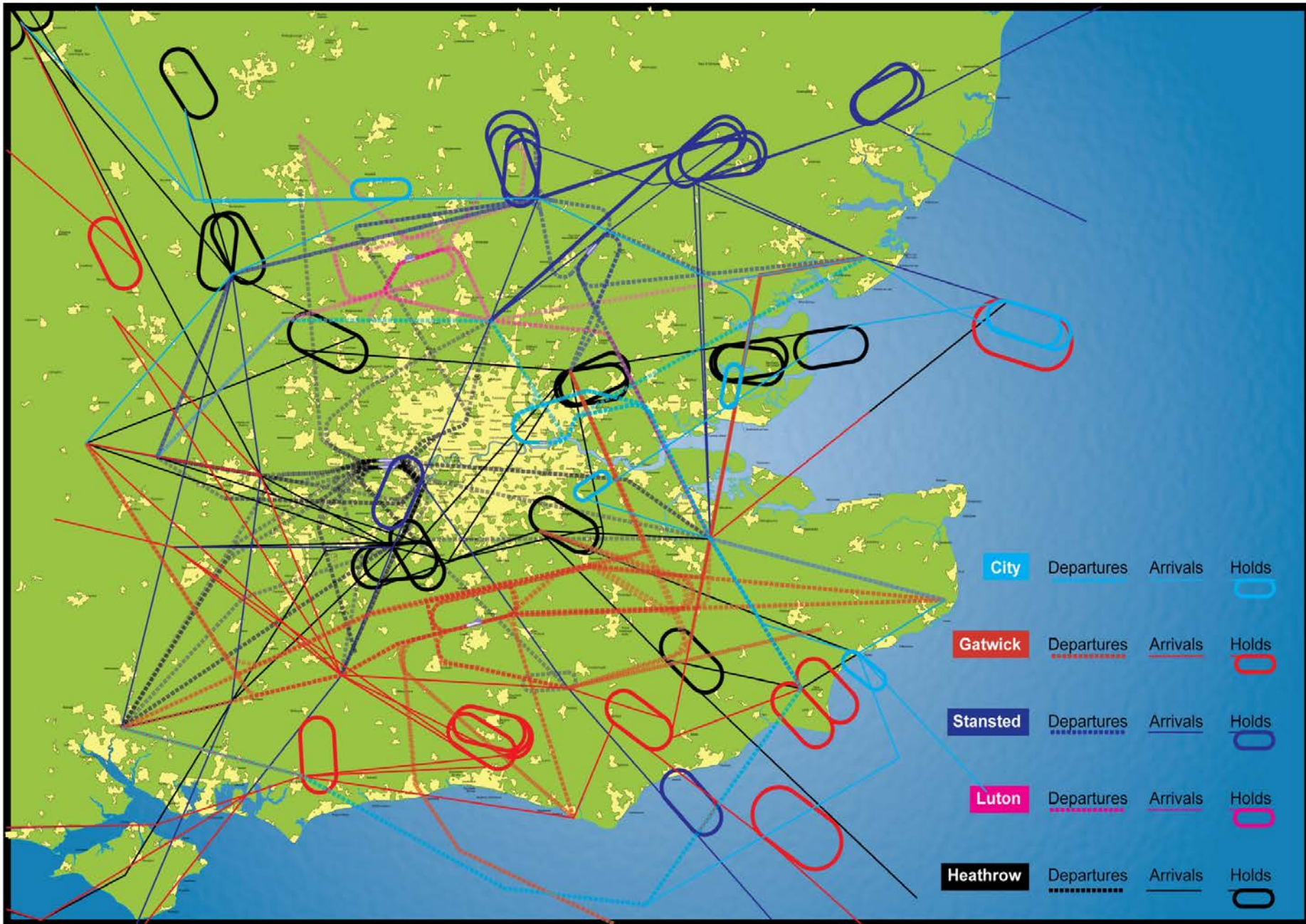
Airspace Designed For A Different Era

- Yesterday

- Today

London Airports Arrivals & Departures Aug 2014

City	Departures	Arrivals	Holds
Gatwick	Departures	Arrivals	Holds
Stansted	Departures	Arrivals	Holds
Luton	Departures	Arrivals	Holds
Heathrow	Departures	Arrivals	Holds
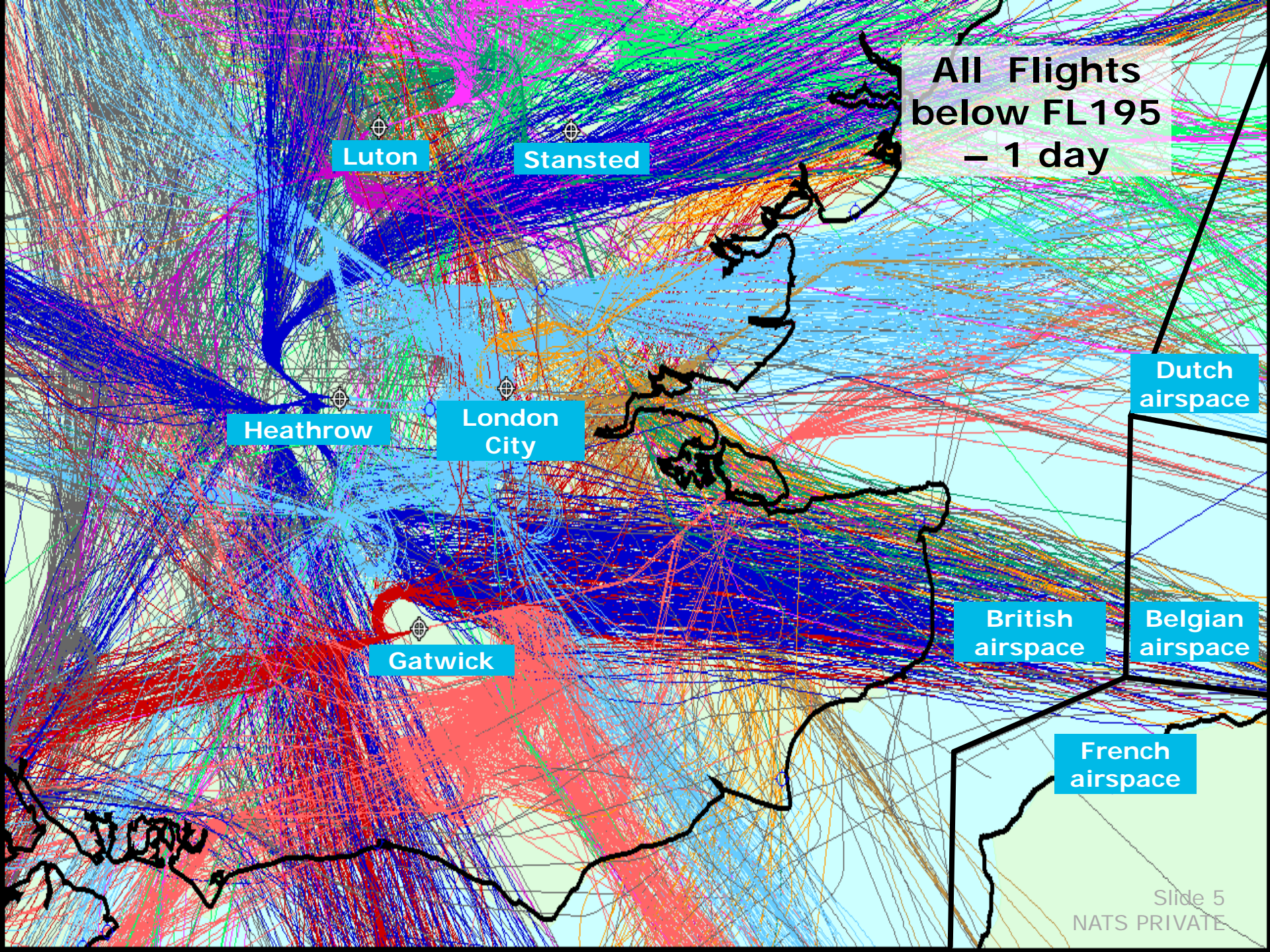
All Flights below FL195 – 1 day

Luton

Stansted

Dutch airspace

Heathrow

London City
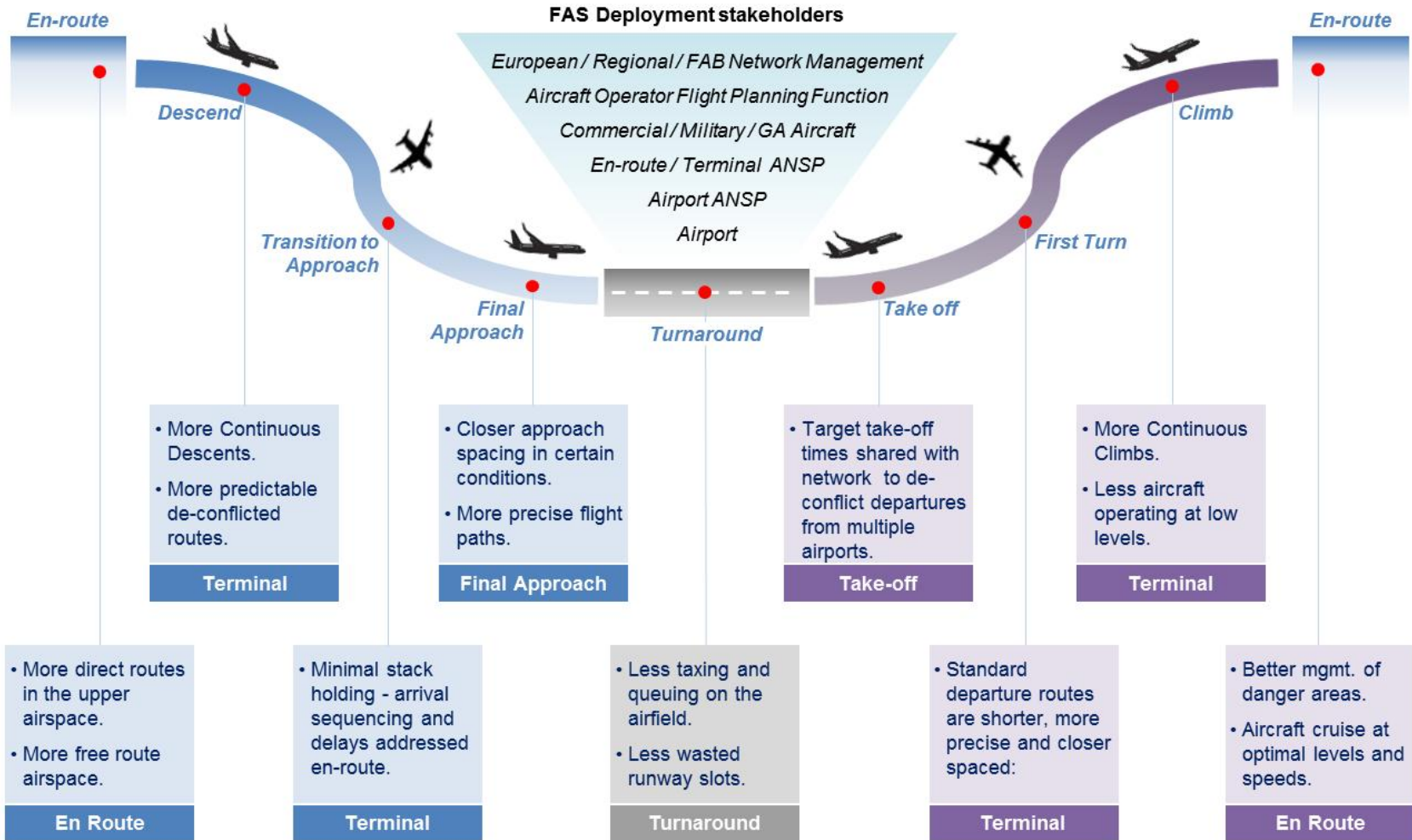
British airspace

Belgian airspace

Gatwick

French airspace

Modernising UK's Airspace – The Need for Change

- Airspace arrangements 40 years old – tweaked over the years
- Global navigation performance standard is Performance Based Navigation – what the International Civil Aviation Organisation (ICAO) and European Aviation Safety Agency (EASA) expects.
- Aircraft come equipped to this standard off the production line.
- Old ground based infrastructure no longer being replaced 'as is'.
- Provides opportunities for doing things differently
- CAA's **Future Airspace Strategy** –safety, capacity, environment and efficiency at its heart.
  - It is not a blueprint of an airspace design; more a shopping list of technologies and methods to be deployed.
  - For 'Industry' to design and implement.

The FAS Industry Deployment Plan

- Cross-Industry Implementation Group established to create strategic roadmap

- Cross-industry Deployment Plan aligns the investments of ANSP, Airports & Airlines

- Investments delivered as one pan-Region initiative with joint programme governance.

FAS VFR Group Deployment Plan

- VFR Community FAS programme to complement the industry programme

- Developing a consistent approach to airspace change

- Identifying priorities for the VFR community.

Performance improvements expected across every phase of flight

FAS Deployment stakeholders

- European / Regional / FAB Network Management
- Aircraft Operator Flight Planning Function
- Commercial / Military / GA Aircraft
- En-route / Terminal ANSP
- Airport ANSP
- Airport

En-route

Descend

Transition to Approach

Final Approach

Turnaround

Take off

First Turn

Climb

En-route

Terminal
- More Continuous Descents.
- More predictable de-conflicted routes.

Final Approach
- Closer approach spacing in certain conditions.
- More precise flight paths.

Take-off
- Target take-off times shared with network to de-conflict departures from multiple airports.

Terminal
- More Continuous Climbs.
- Less aircraft operating at low levels.

En Route
- More direct routes in the upper airspace.
- More free route airspace.

Terminal
- Minimal stack holding - arrival sequencing and delays addressed en-route.

Turnaround
- Less taxing and queuing on the airfield.
- Less wasted runway slots.

Terminal
- Standard departure routes are shorter, more precise and closer spaced:

En Route
- Better mgmt. of danger areas.
- Aircraft cruise at optimal levels and speeds.

FAS Facilitation Fund Project Investments

Project	Sponsor	Stage
Advanced-FUA CONOPS	NERL	Project started
PBN Research Project (DEP2)	NERL	Project Started
Fund Admin	NERL	Project Started
AFUA - LARA FOST Trial	MoD	Project Started
FASVIG Programme	VFR Community	Project Started
PBNRP Enhanced Route Spacing	CAA	Project Started
APV deployments (50% co-funding)	DSG / AOA	Project Started
DPI Roll-Out	Transport Systems Catapult	Project Started
A-CDM CONOPS	Transport Systems Catapult	Project started
PBNRP-Test database	EZY on behalf of the Lead Carrier group	Project Started
Comms – Strategic case for FAS ; video	BATA	Project Started
FASIIG Comms Role	FASIIG Co-Chairs	Project Started
PBNRP-Third Party Simulator Costs	Airlines/NERL	Project Started
LDLCA Electronic Surveillance Trial	HIAL	Project Proposal
AFUA State Project		Proposal Development
Low Power ADS Transponder Device trial	NERL	Proposal Development
D-ATIS	FASIIG	Proposal Development
Departures and Arr ival Transitions	AoA	Proposal Development