SESAR RPAS Demonstration Projects
Demonstration Projects, which include integrated pre-operational flight trials activities, have been selected;

Main objectives:

- Demonstrate how to integrate RPAS into non-segregated airspace in a multi-aircraft flight environment, with the purpose of exploring the feasibility of integration within the wider aviation community by 2016
- Identify gaps and provide insight into filling them
- Improve our knowledge of key operational and technical issues that will help us during the forthcoming RPAS definition phase
A large number of stakeholders in European key location

Source: Google Maps, SJU analysis, simplified for clarity reasons
Timeline and deliverables

**Phase 1**
"Definition"

- **Kick-Off Meeting (KOM)**
  - Oct. / Nov. 2013

**Phase 2**
"Implementation"

- **45 to 90 Days from KOM**
  - Jan. / March 2013

**Final Report**
Max. 24 Months from KOM
- Oct. / Nov. 2015

**Deliverable D.01**
- Today

**Deliverable D.02**
- Oct. / Nov. 2015

**Demonstration Plan**
- Including a Communication Strategy

FROM INNOVATION TO SOLUTION
CLAIREF - CiviL Airspace Integration of RPAS in Europe

**MAIN OBJECTIVE:** Develop a regulatory framework and to enable technologies which currently only allow the operation of RPAS in a segregated environment. 4-D trajectory information exchange between ATCO and RPAS operator and RPAS air vehicle, and alternative RPAS-specific interoperable surveillance, communications and navigation solutions will be addressed.

**VALIDATION APPROACH:** Simulations and flight trials on a fully remotely piloted Thales Watchkeeper installed with Detect & Avoid (D&A) capabilities.

**TYPE OF RPAS:** MALE optionally piloted.

**PROJECT ENDS:** October 2015;

**PARTNERS:**

**Location:** UK and The Netherlands
MAIN OBJECTIVE: Demonstrate the application of Remotely Piloted Aircraft Systems for coastguard activities, in non-segregated airspace. The envisioned coastguard tasks will involve flights Beyond Visual Line Of Sight. This requires the aircraft to be equipped with appropriate sensors and on-board Detect and Avoid capabilities, which will be implemented and tested.

VALIDATION APPROACH: Flight trials on an optionally piloted Gyro-copter.

PROJECT ENDS: October 2015

PARTNERS:

LOCATION: The Netherlands

Kick-off meeting 25.10.2013
Normal RPAS Operation:

- Unmanned aircraft made little or no difference to ATM operations
  - speed differentials for some RPAS compared to commercial aviation posed more of a challenge but well within ability of ATCOs
  - R-T for normal operation was the same as manned aviation
  - considered more predictable
  - sector handover identified no issues
  - no significant increase in ATCO workload
- ATCOs developed techniques for RPAS operations
- Operational transponder considered essential
- Control Station handovers
  - seamless, but RPAS pilots should ensure that handovers do not coincide with sector handovers
  - should be as transparent as possible to the ATCO
Abnormal Events and Situations:

- Increase in ATCO workload
  - consistent with manned aviation
- Slow speed of RPAS was considered positive and negative
- RPAS considered significantly more predictable than manned aviation
- Backup communication between ATSU and RPAS Pilot
  - worked well in simulations
  - specific procedures required
- Sector Handovers gave no problems
Thanks for your attention