

IMPERIAL COLLEGE LONDON

DEPARTMENT OF COMPUTING

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# Drone Delivery Network Simulation on SpatialOS *Interim Report*

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To. Be DECIDED

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# **1 Introduction**

## **1.1 Drones**

## **1.2 Autonomous Systems**

## **1.3 Making Money**

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## 2 Background

### 2.1 Drone Considerations

#### 2.1.1 No Fly Zones

#### 2.1.2 Toll Zones

#### 2.1.3 Manned Aviation

#### 2.1.4 Other Drones

### 2.2 Autonomous Air Traffic Control (AATC)

#### 2.2.1 What is AATC?

#### 2.2.2 Global Layer

#### 2.2.3 Reactive Layer

#### 2.2.4 Where to take it next?

### 2.3 Delivery Networks

#### 2.3.1 Planes

#### 2.3.2 Trucks

#### 2.3.3 Drones

### 2.4 Prioritising Economic Value

#### 2.4.1 Quality of Service

#### 2.4.2 Value Curve

#### 2.4.3 skdbsa

### 2.5 SpatialOS

#### 2.5.1 Unity SDK

#### 2.5.2 Layered Simulation

#### 2.5.3 Distributed Simulation

Example text 1

Example text 2

Example text 3

## **3 Project Plan**

**3.1 Phase 1: Porting Global and Reactive Layers to SpatialOS**

**3.2 Phase 2: Implementing a Scheduling Layer**

**3.3 Phase 3: Visualising the Economic Value**

**3.4 Stretch Goals**

## 4 Evaluation Plan

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## References

- [1] P. Balaji, D. Cattle, A. Janoscikova, G. Peycheva, J. Matas, and S. Wood. Autonomous Air Traffic Control. Technical report, 2017.