

#### UNCLASSIFIED – Approved for Public Release Australian Government

**Department of Defence** Science and Technology



## **Microsoft HoloLens and Air Combat Simulation**

Kevin McDonald and Lyndon Benke Aerospace Capability Analysis Joint and Operations Analysis Division



## Outline

- Introduction
- Current Development
- Hardware Overview
- App Development
- Demonstration

## **DSTG Structure**



## **Air Combat Analysis Program**



- Air Combat Analysis
  - Supporting introduction into service for EA-18G and F-35A
  - Control of the Air, Strike, Airborne Electronic Attack

**.**...

- Focus on:
  - Integration into the wider force
  - Supporting CONOPS development
  - Upgrades

### Viper-1

### UNCLASSIFIED – Approved for Public Release







Viper-3



Constructive simulation environment for multi-ship beyond visual range air combat.

Warlock-1

Warlock-2





Warlock-2

Warlock

## **The Need for Advanced Visualisation**



## The Need for Advanced Visualisation



## **Augmented Reality Proof of Concept**

Proof of Concept Developed: November 2014

8

"Augmented Reality as an Interface to Air Combat Multi-Agent Simulation", SimTecT: August 2015

Execute Sim

New Sim

Gridlines

GROUP

## **Collaboration Established**















Science and Technology for Safeguarding Australia

### **Requirements:**

- Tool showing impact of decisions

a X.

- Visualisation of environment
- Real time manipulation

#### Aims:

- Inform Defence about AR Tech
- Explore how tech may be applied





## **Microsoft HoloLens**



## **Microsoft HoloLens**



### **Sensors**



## **Onboard Processing**

17



Science and Technology for Safeguarding Australia

## **Display**

18

.....



## **Thank You**

....

ŀ

::\*

-



....

....

-----

**.**