



Moving the “Atlas”



Adapting Siemens TAGMaster to seamlessly move the Airbus A400M tactical heavy lift aircraft

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South Gloucestershire Council**

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- **The Airbus A400M “Atlas” is a four-engine turboprop military transport aircraft with STOL capabilities designed, in part, to replace the C-130 “Hercules”**



- **Currently there are orders for 174 aircraft of which the first delivery of Aircraft took place mid 2013**

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- **Components are manufactured in Belgium; France; Germany; Spain; Turkey: South Africa and the UK before final assembly of the aircraft takes place in Spain (Seville)**



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- **Airbus have a factory at Filton on the South Glos/ Bristol City boundary on the former Bristol Airplane works**
- **Filton is responsible for wing, fuel system & landing gear design within the Airbus group and in particular the composite wing surface manufacture for the A400M**
- **It is a significant employer of “high tech” staff within South Glos (>4,000 on site in Filton with further 10,000 local “linked” jobs) and Airbus are currently making significant investment in the Filton site**

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- **Early shipments of wings from Filton had been undertaken using the Airbus *Beluga* fleet**
- **Unfortunately an over commitment of these aircraft (and the closure of the Filton runway by its owners BAE) meant that this would not be an option from January 2013**



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- For production of the wings to be viable at Filton the only option was to transport them on road to a purpose built storage building at Royal Portbury Docks from where they are shipped to Spain



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- **Initially there will 1-2 convoys a month rising to a 3 a month at full production for next 10-15 years**
- **Each wing “set” is valued at £12 Million and are shipped in pairs (1 left; 1 right!)**
- **Following laser scan survey of route South Glos had already undertaken minor works to relocate street furniture**
- **6 purpose built rear wheel steering trailers constructed and form part of a 10+ vehicle convoy max speed 20 MPH**

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- **The proposed route impacts on 6 junctions, which are controlled by Traffic Signals**
- **The convoy takes approx 20 minutes to clear South Glos network and then 40 minutes to reach Royal Portbury Dock but because of security concerns Airbus were extremely concerned that it not be allowed to stop or be disrupted by changing signals**

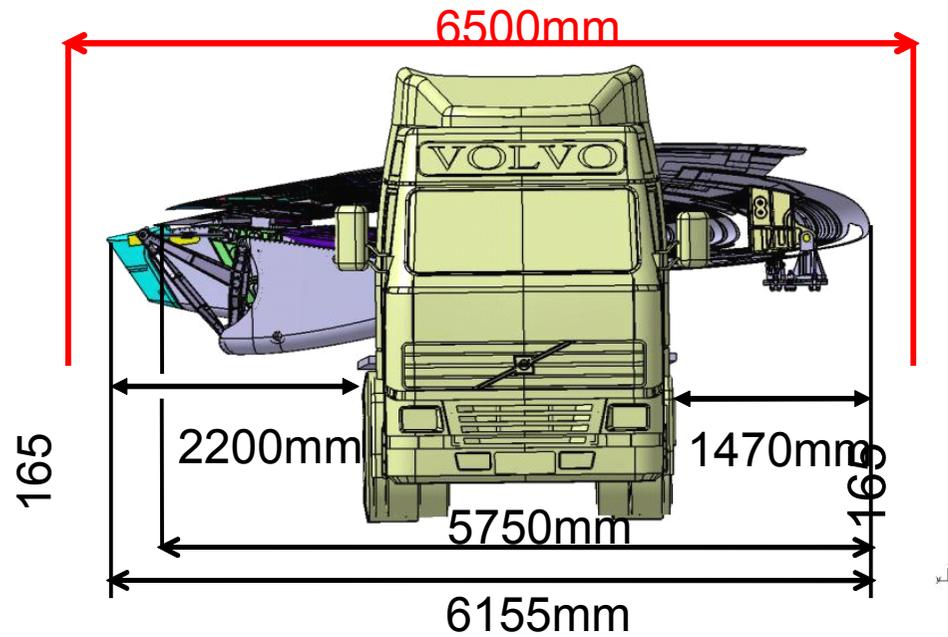
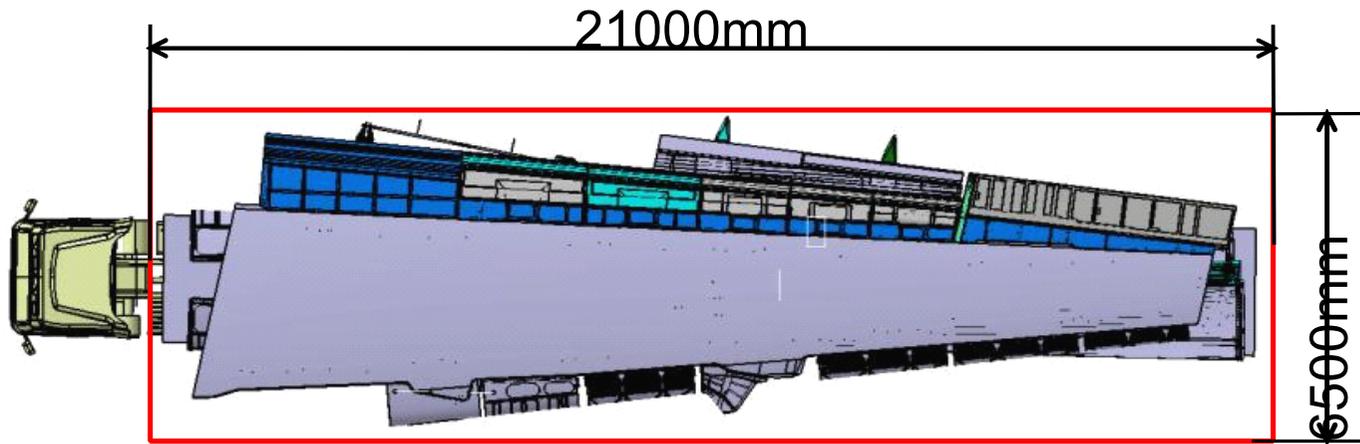
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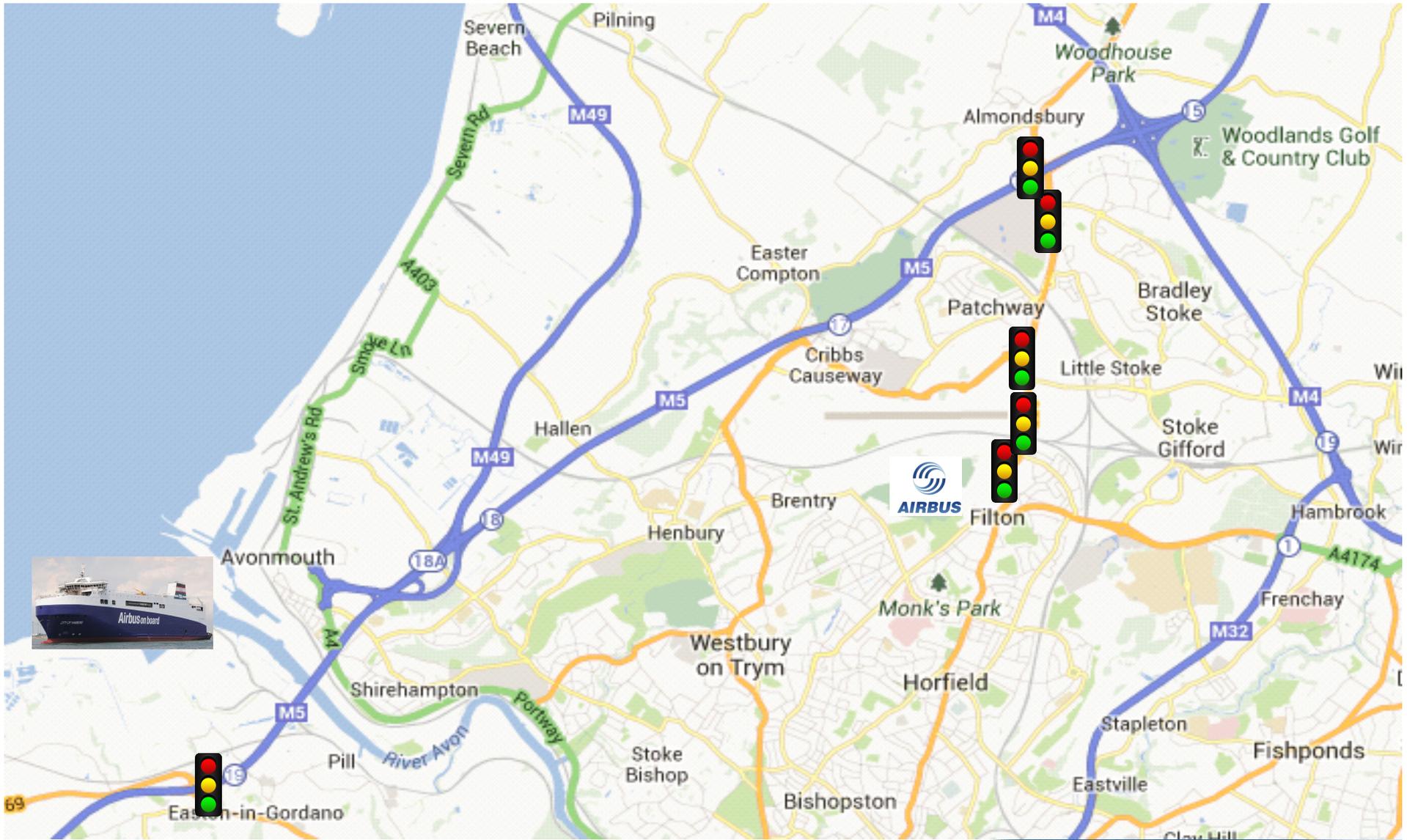
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- **Initially Airbus security thought they would**
“just close junctions using escort vehicles.....”
- **Consideration was given to the use of ACIS bus priority system (installed as part of GBBN) but after sometime waiting for their response it was decided not suitable.**
- **Fortunately all the movements take place at night and all of the junctions operate under MOVA so would “recover” quickly**
- **We therefore had to find an alternative....**

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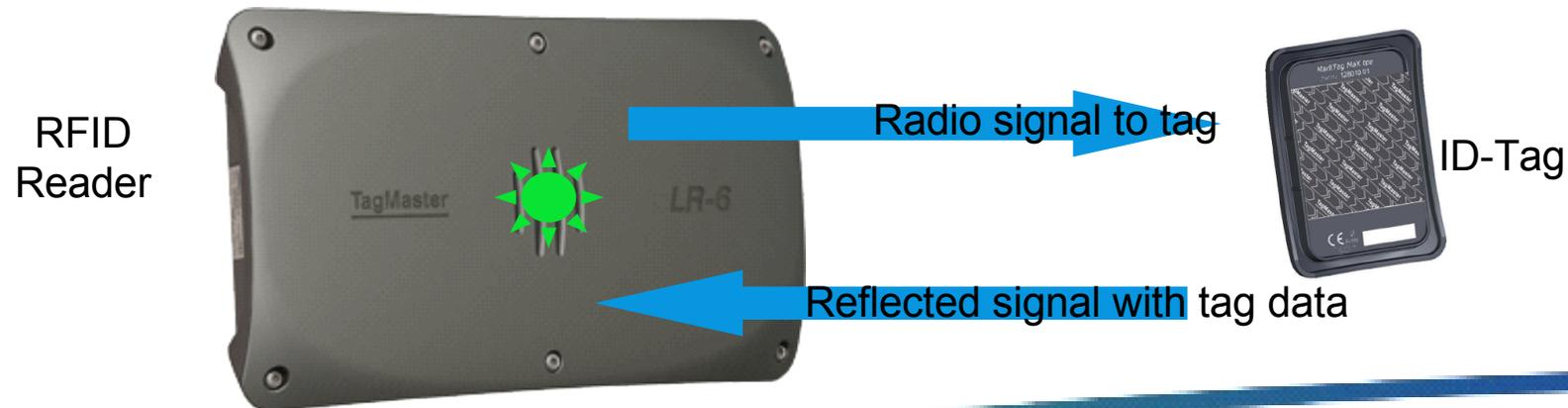
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SIEMENS TagMaster Selective Vehicle system

- Readers mounted on standard signal pole on approach to junctions
- Active RFID Tags mounted in convoy vehicle windscreens
- Confirmatory LED upon detect



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- **Tags, Readers, re-cabling and civil works to install poles to mount readers was undertaken by Siemens (as South Glos current Traffic Signals contractor)**
- **Controller Re-Configurations," Factory testing"; Re-Commissioning of sites; Testing in use and modify of configurations by JSTSM (Original designers of MOVA configurations at 4 of affected sites)**
- **Sites had to be fully operational for first wing movements by January 2013**

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- Readers were placed at each affected junction (6 No) on standard traffic signal poles

- The output from each reader went into adjacent controller and re-configuration removed MOVA “CRB” and initiated alternative priority stage (NB separate LED installed to avoid confusion with AUX LED’s)



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- **Each subsequent detected vehicle then resets timer effectively extending priority stage for duration of convoy**
- **After last vehicle has passed timer elapses and junction returns to MOVA (MOVA demands inserted to ensure MOVA restarts)**



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Does it work?

- **YES!!**
- **Airbus (HQ) observers "amazed" how simple and effective system works (certainly compared with highway works and Police escort in Spain!)**

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Lessons learnt

- Initial “calculated” times to clear junctions were too short and had to be revised
- Some problems with heated front screens in support cars
- “Lock up” of readers (Discovered as part of pre movement checks **BEFORE** convoy movement)
- If your sourcing kit from Sweden remember that it snows (a LOT!) around November/ December delaying delivery!

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Questions?

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