

Presented by

Manfred Porath
Airbus Vice President
A320 Family
Final Assembly Line and Integration

Building a Final Assembly Line in China

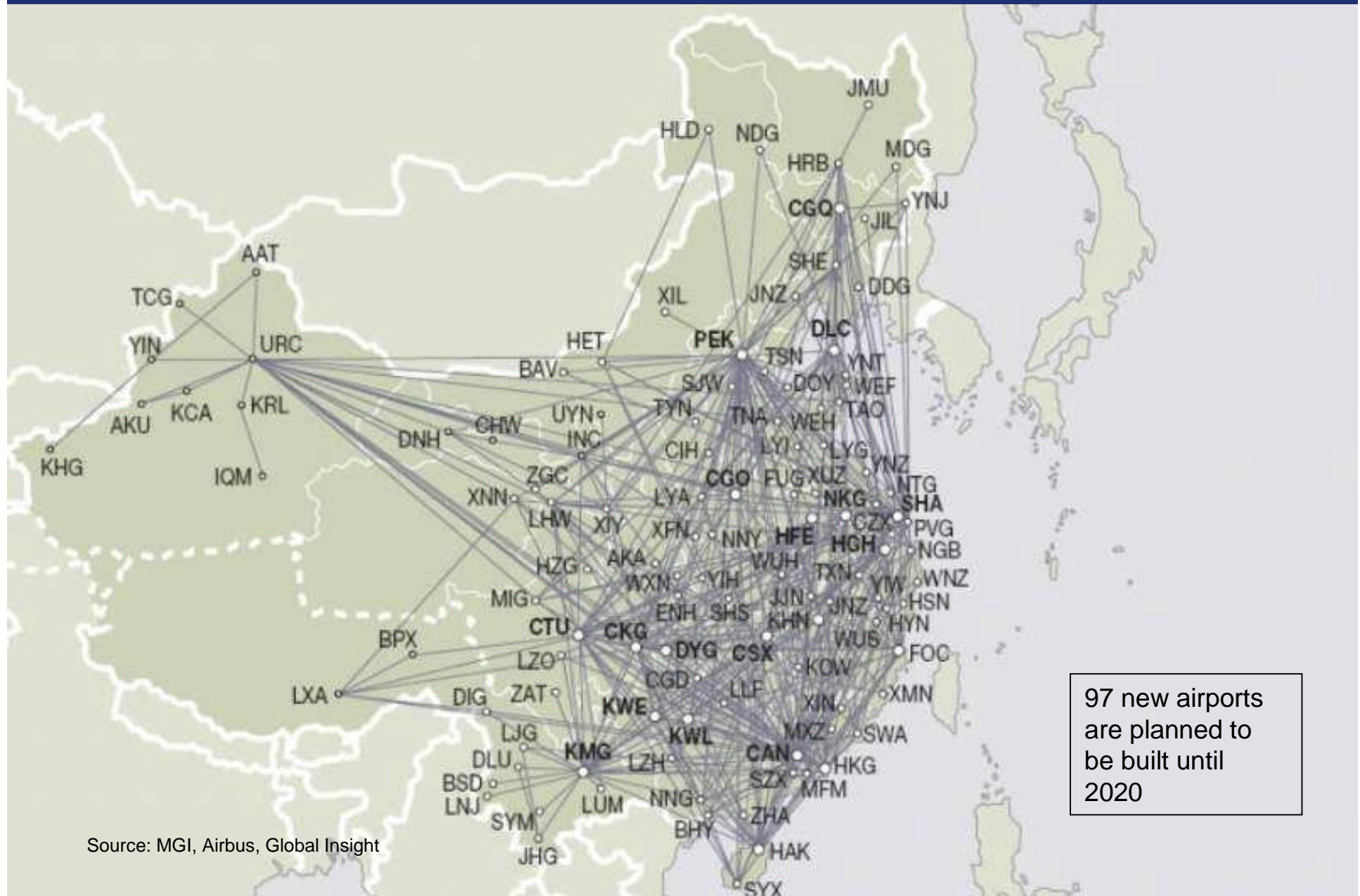
From an idea to reality



Air Traffic in Intra-China (1985)



Air Traffic in Intra-China (2006)



Source: MGI, Airbus, Global Insight

Which of this aircraft was assembled in China ? in Hamburg ?



1st delivery of China Eastern from Tianjin



Same quality in China and Europe



FAL Tianjin

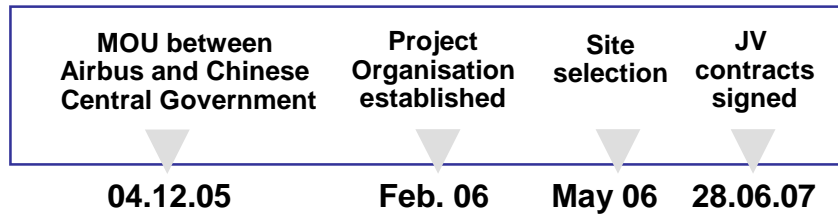


FAL Hamburg

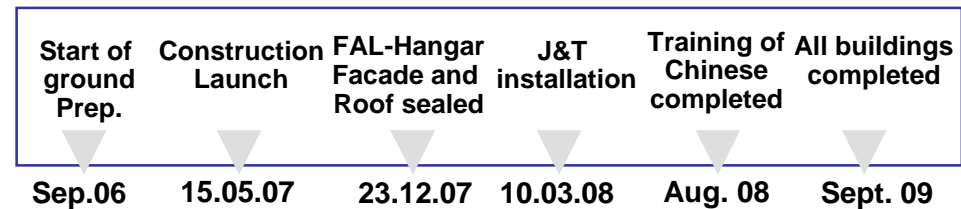
The Final Assembly Line (FAL) in Tianjin is building aircraft with the same quality as FAL Hamburg and FAL Toulouse

Building a Final Assembly Line in China

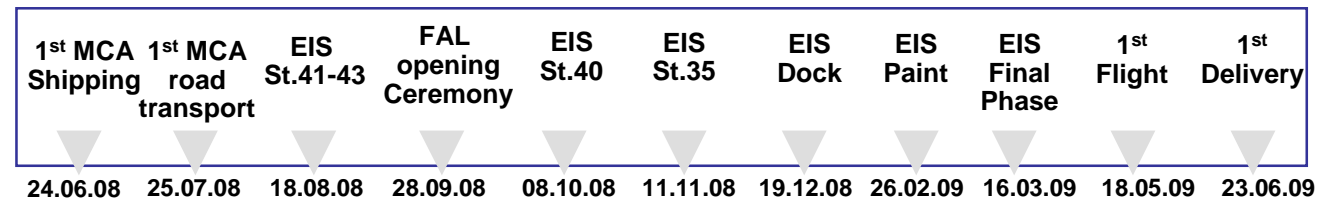
JV set-up Phase



Implementation Phase



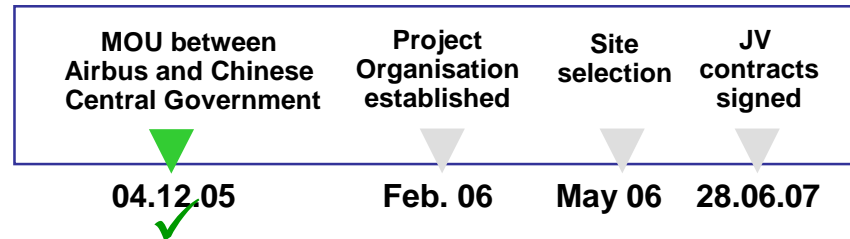
Operational Phase



JV Setup Phase

MOU between Airbus and Chinese Central Government

04 December 2005



The FAL China project was launched in December 2005 by a MoU between Airbus CEO and the Chinese Central Government (NDRC). Its aim was to establish a Final Assembly Line for A319 and A320 a/c in China as a Joint Venture between Airbus and a Chinese Consortium, composed of Tianjin Municipal Government and AVIC.

JV Setup Phase

Project Organisation established

February 2006

MOU between Airbus and Chinese Central Government

Project Organisation established

Site selection

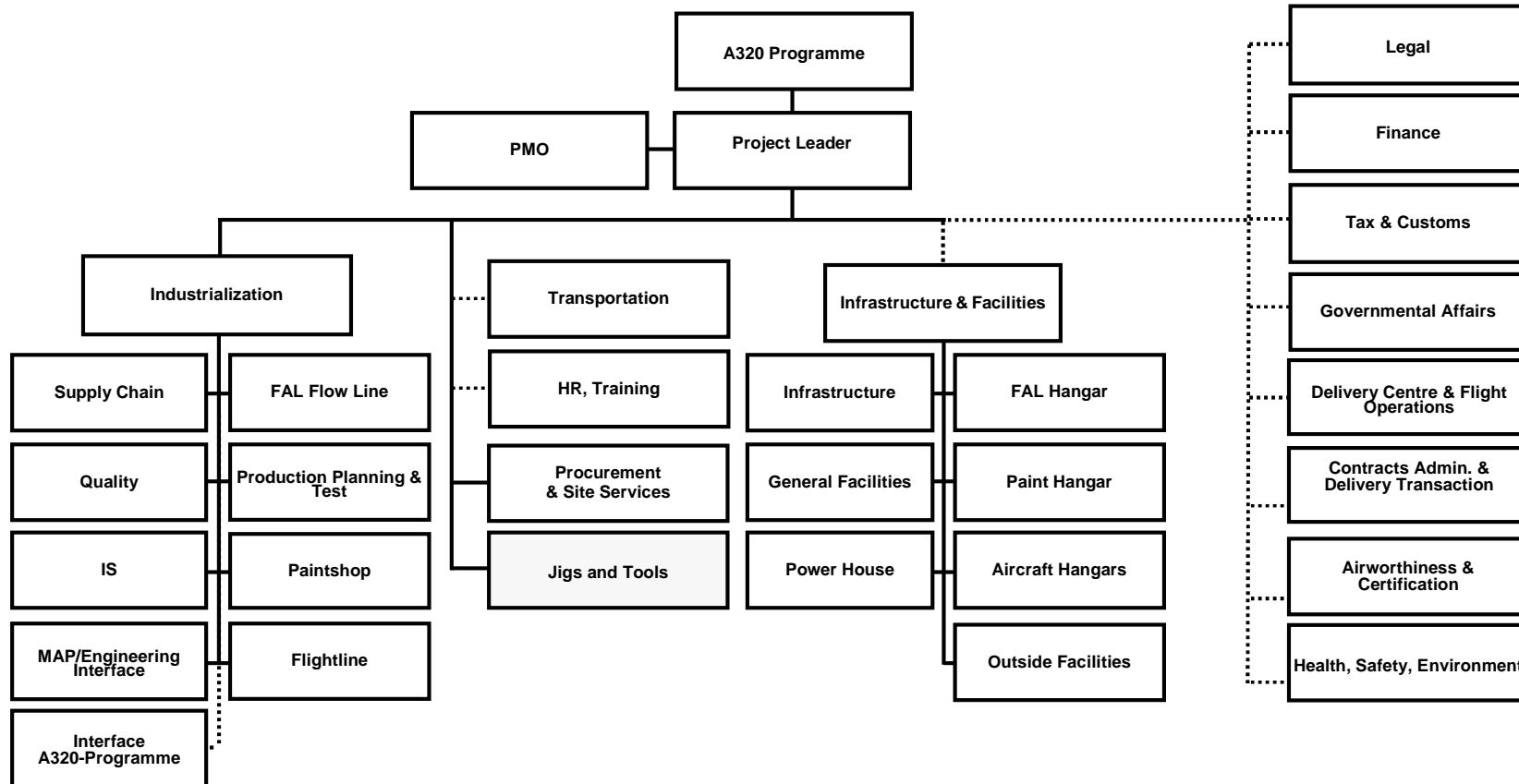
JV contracts signed

04.12.05

Feb. 06

May 06

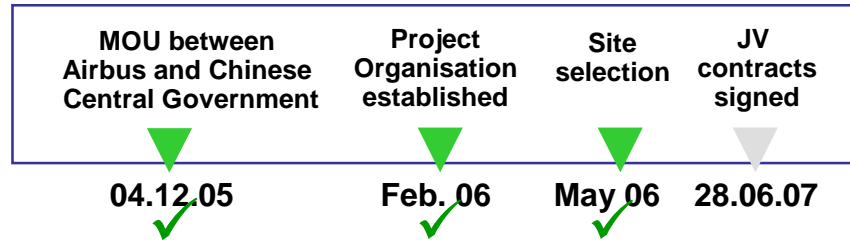
28.06.07



JV Setup Phase

Site selection

May 2006



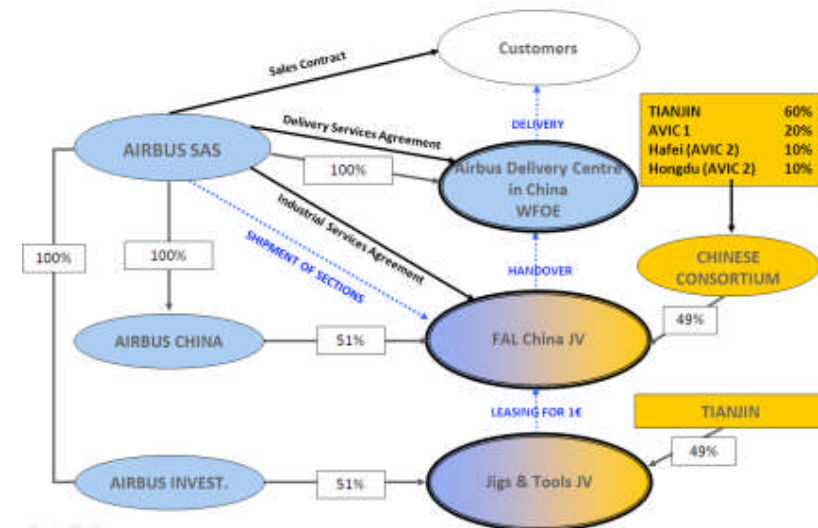
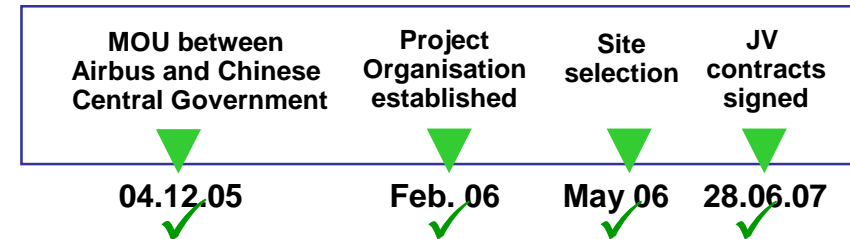
Airbus FAL-China Site

- Located at Tianjin Binhai International Airport
- 35 km to Tianjin Seaport
- 130 km to Beijing by Expressway

JV Setup Phase

JV contracts Signature

28 June 2007

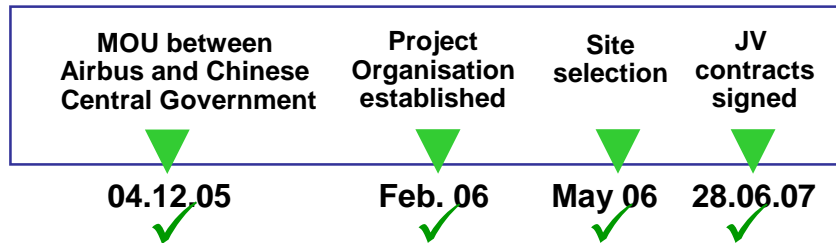


Airbus is owner of the FAL China and Jigs and Tools JV at 51%

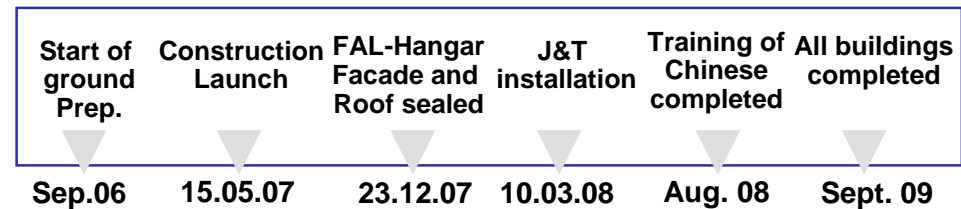
Airbus is fully responsible of the sales and delivery centre

Building a Final Assembly Line in China

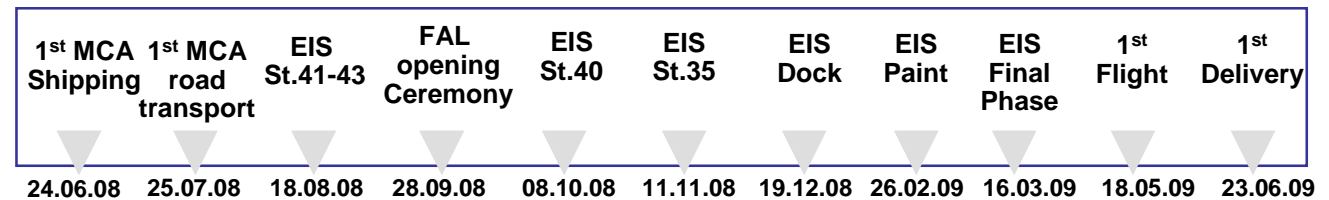
JV set-up Phase



Implementation Phase



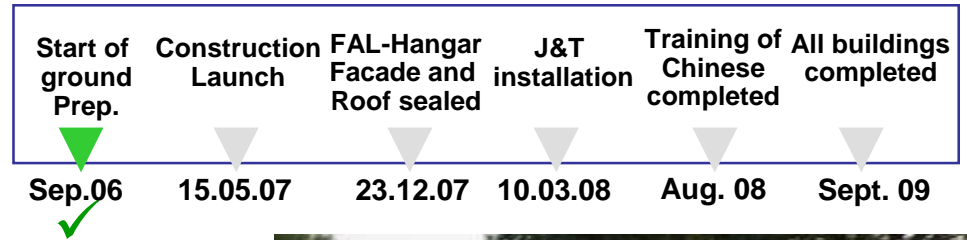
Operational Phase



Implementation Phase

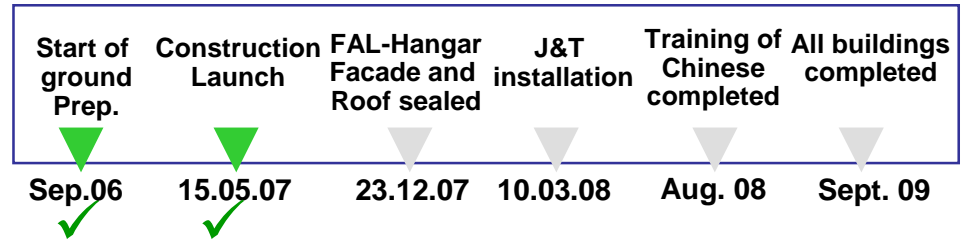
Start of Ground Preparation

Sept 2006



Implementation Phase Construction Launch

15.05.2007



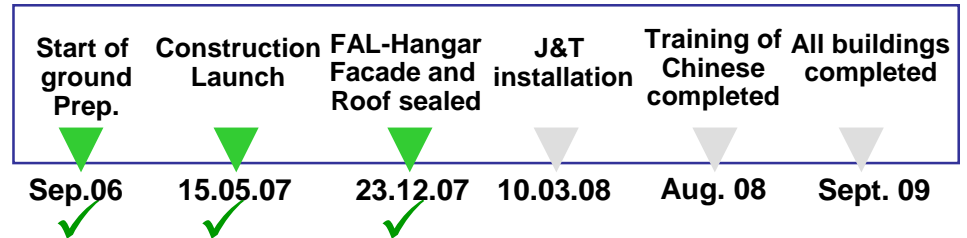
Building a Final Assembly Line in China – Manfred Porath



Implementation Phase

FAL-Hangar Facade and Roof sealed

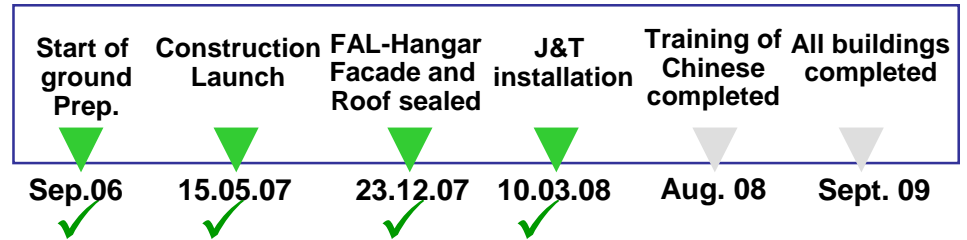
23.12.2007



Implementation Phase

Jigs and Tools installation

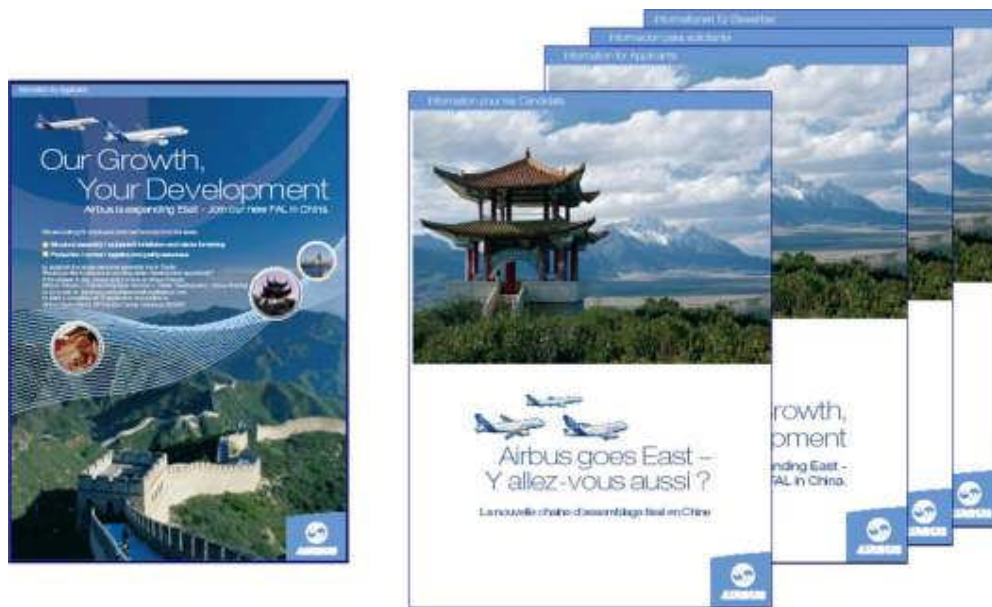
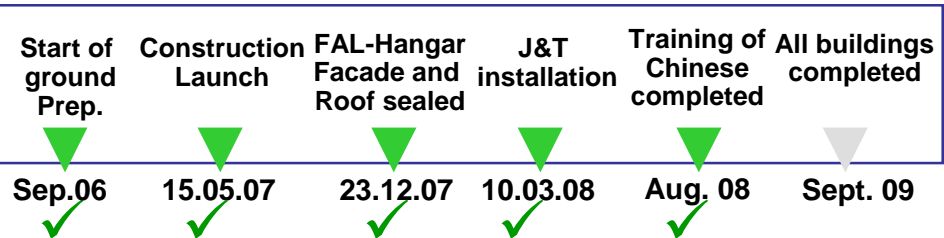
10.03.2008



Implementation Phase

Training of Chinese employees

Aug. 2009



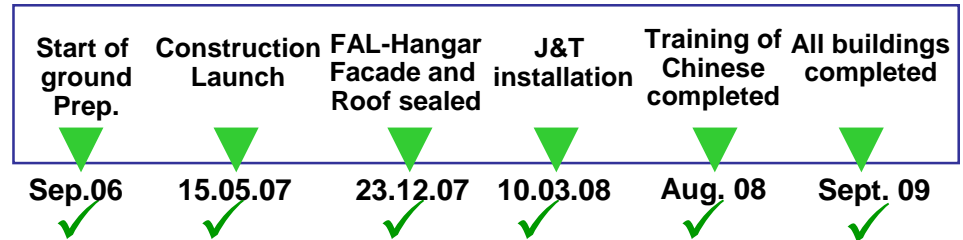
250 Chinese have been trained in the European FALs



Implementation Phase

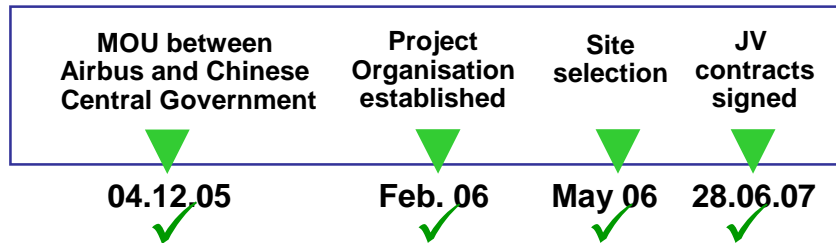
All building completed

Sept. 2009

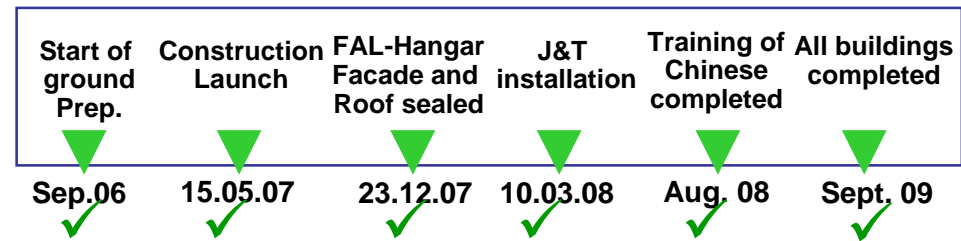


Building a Final Assembly Line in China

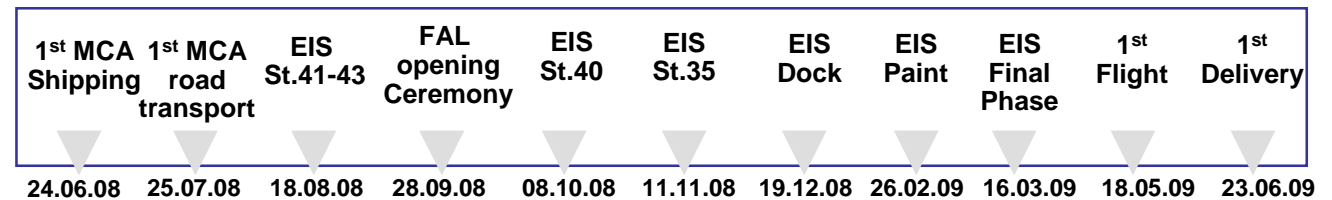
JV set-up Phase



Implementation Phase

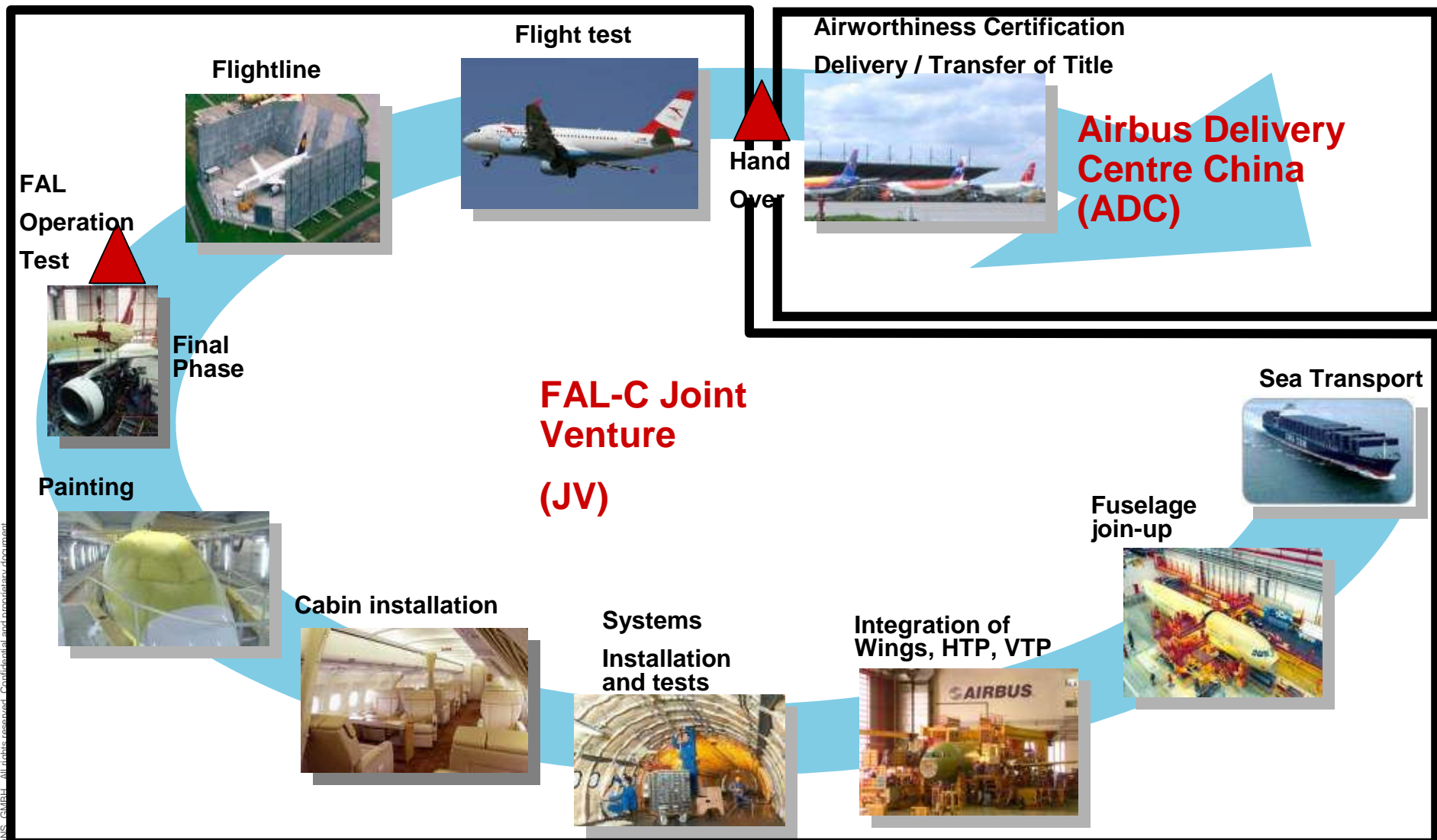


Operational Phase

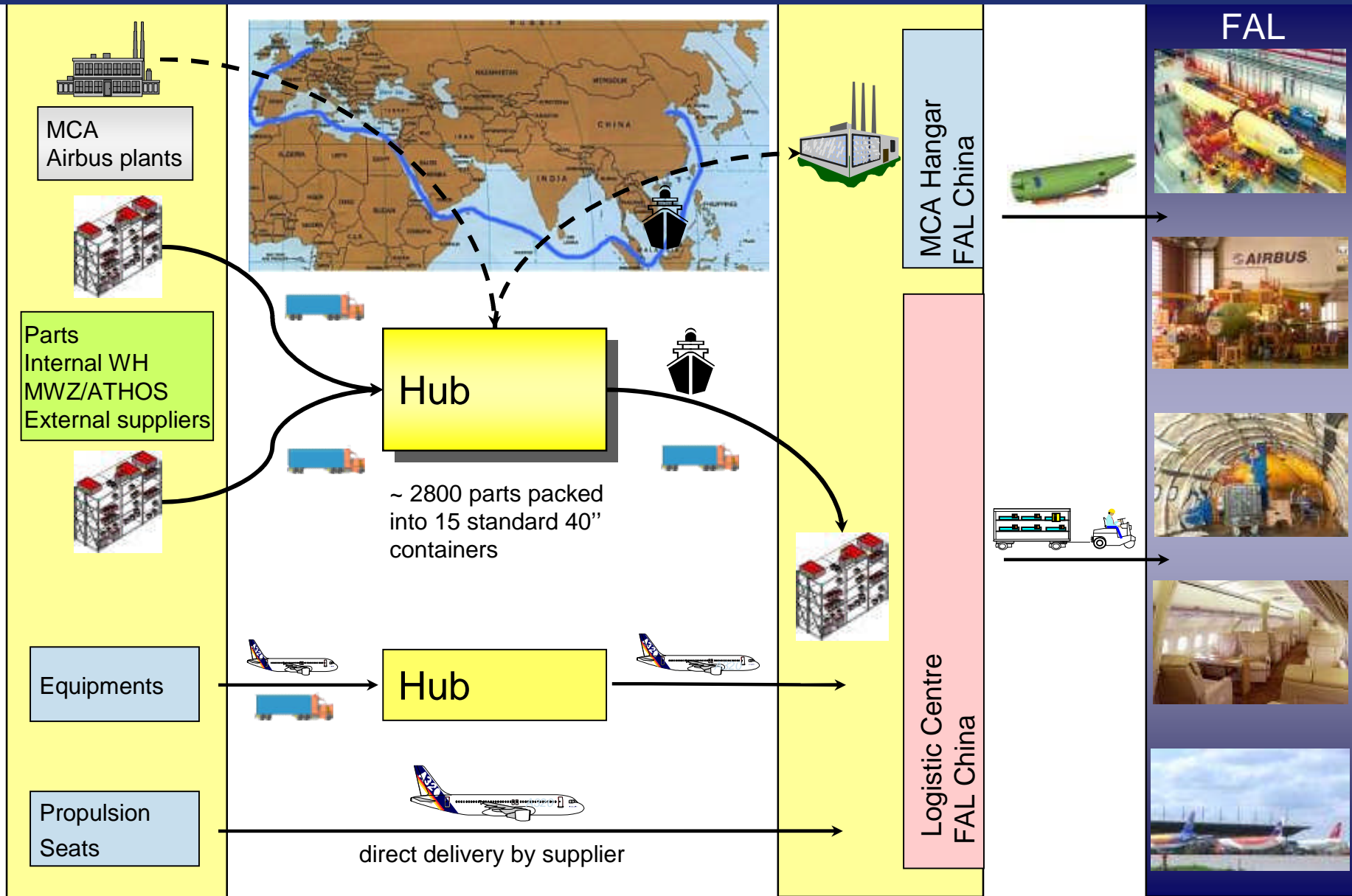


Operational Phase

Aircraft assembly process



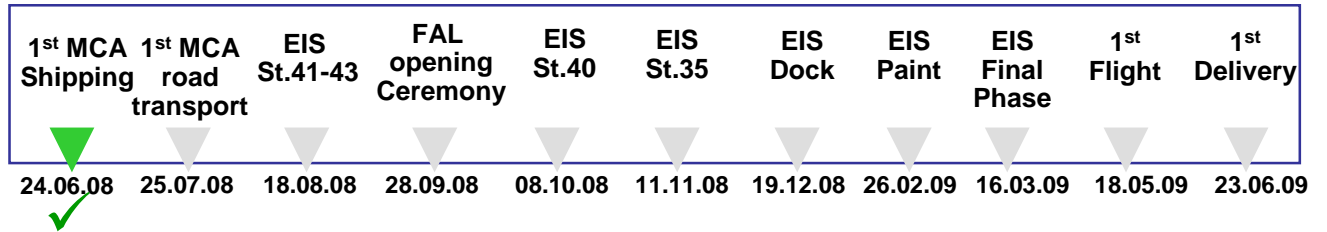
Operational Phase Logistics Principles



Operational Phase

1st Major Constituant Assembly Shipping

24 June 2008

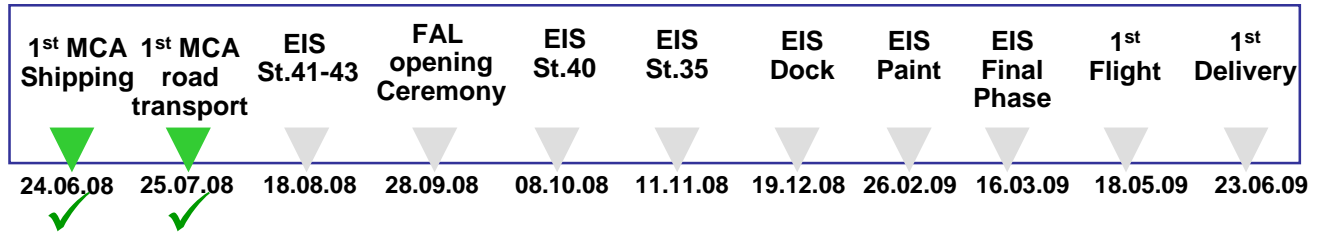


The aircraft section are shipped by boat (6 weeks travel time)

Operational Phase

1st MCA Road Transport

25 July 2008

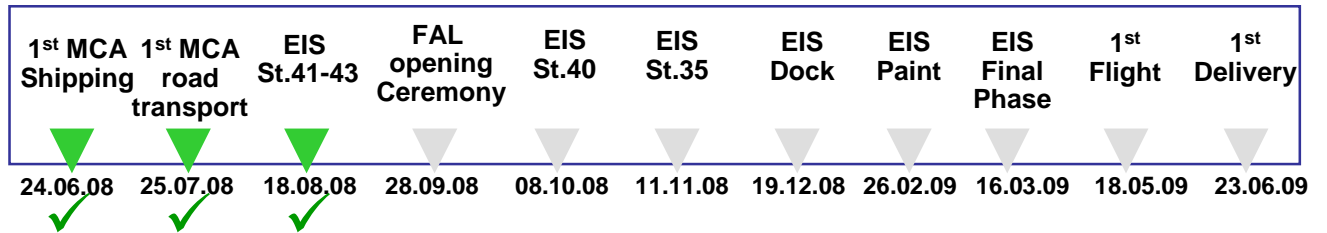


35 km road transportation
from Tianjin Seaport to
Tianjin Final Assembly Line

Operational Phase

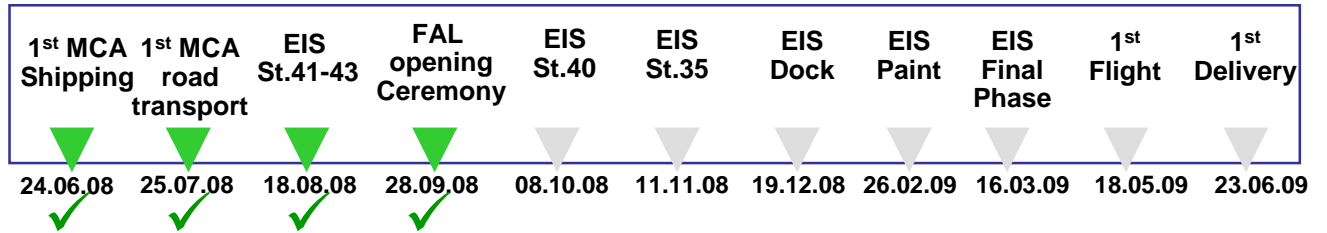
Entry-Into-Service of Station 41-43

18 August 2008



Operational Phase FAL Opening Ceremony

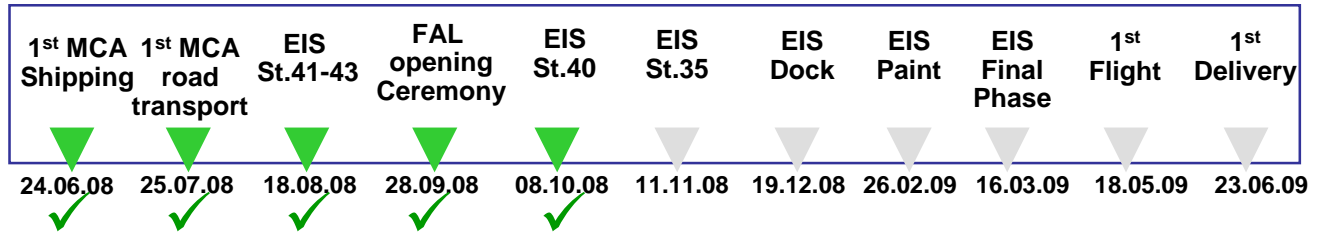
28 September 2008



Operational Phase

EIS Station 40

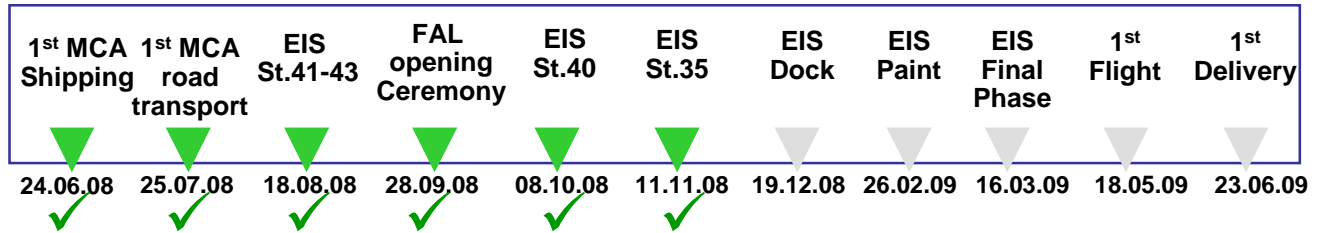
8 October 2008



Operational Phase

EIS Station 35

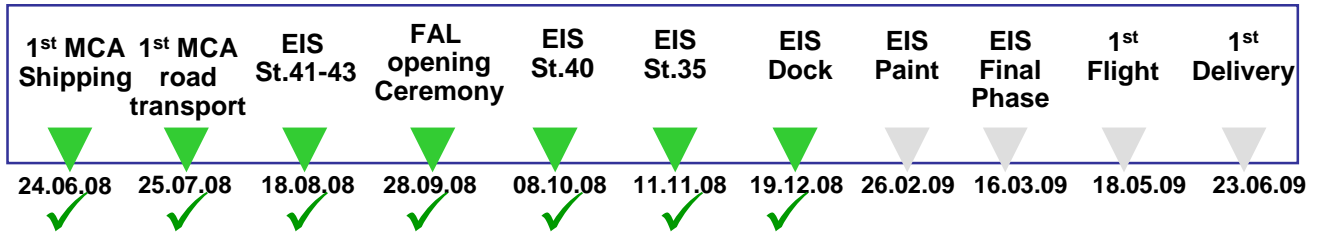
11 November 2008



Operational Phase

EIS Dock Station

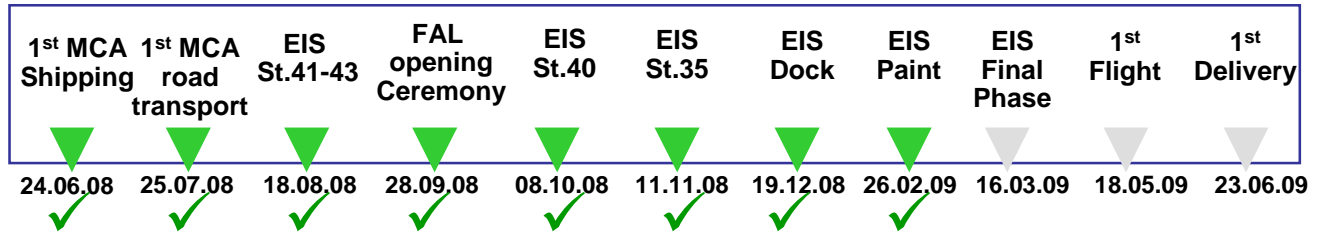
19 December 2008



Operational Phase

EIS Paint

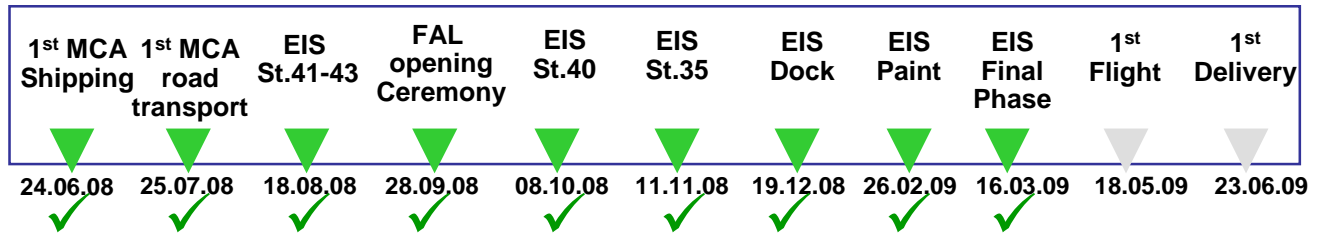
26 February 2009



Operational Phase

EIS Final Phase

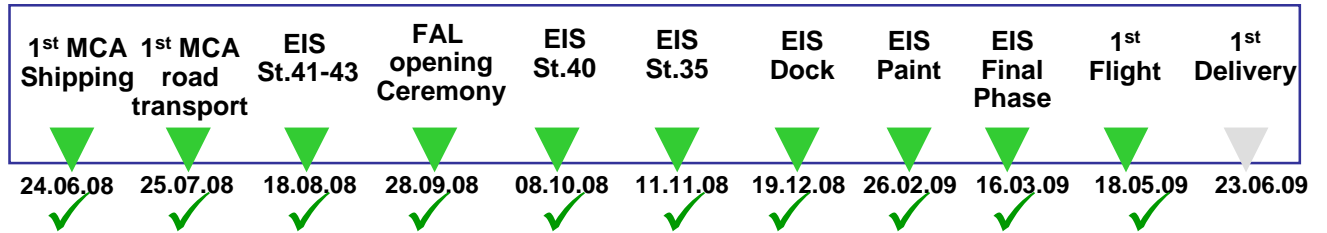
16 March 2009



Operational Phase

1st Flight

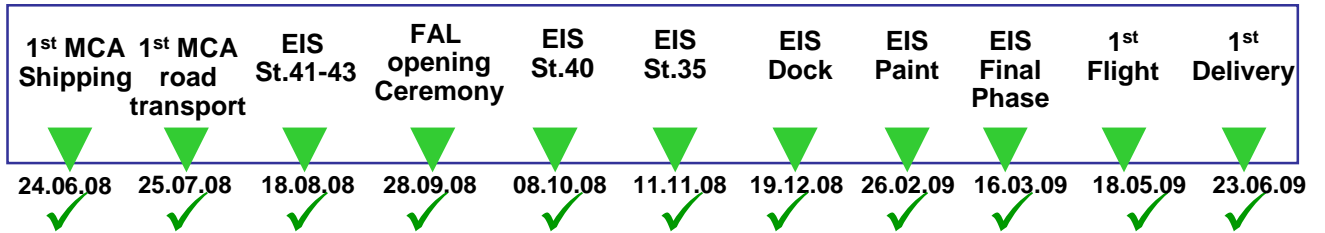
18 May 2009



Operational Phase

1st Delivery

23 June 2009



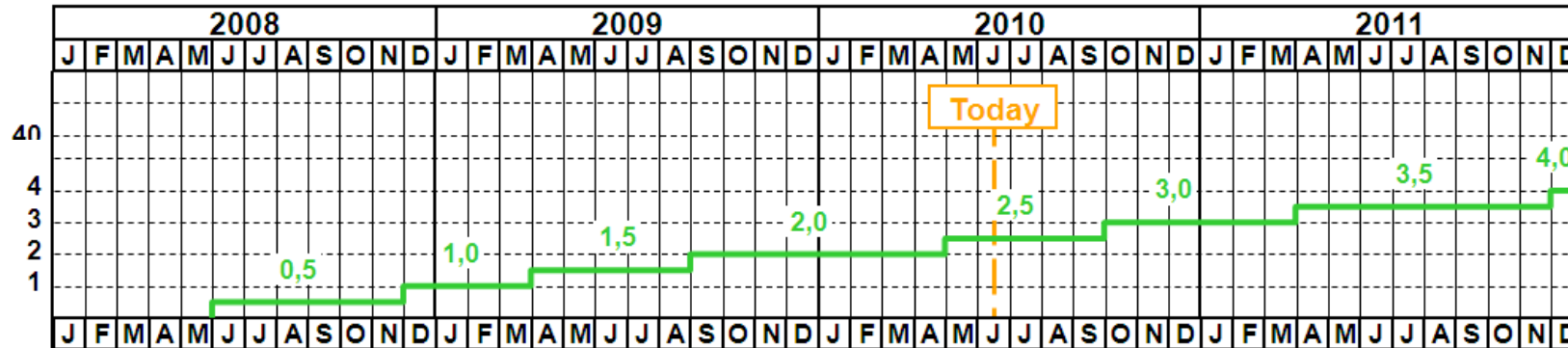
And one Year later...



Already 22 deliveries from FAL Tianjin to Chinese customers



Ramp-up



- The A320 program will increase rate to 36 in December 2010
- Rate 4 in FAL Tianjin will be achieved end of 2011

FAL China: Conclusion

⇒ **The success story:**

- All major milestones met
- Excellent product quality
- Level of expenditures are fully inside the business case

⇒ **Most important success factors:**

- Excellent team spirit, experienced people on board, very high level of motivation, tasks and responsibilities well structured, good internal communication
- Support from Chinese government

⇒ **Major challenges:**

- Short Lead Time / keep all clusters synchronized
- Chinese Culture / JV Partner
- New ground: recruitment in China, training, supply chain, transportation, sourcing in China, Chinese administration

⇒ **Lessons learnt:**

- Don't underestimate the importance of HR tasks (recruitment, training, expats...)
- Make use of local experience to avoid surprises

Thank you !



Back-up

Examples of Airbus parts and sub-assemblies manufactured in China

SA E-Bay Door



SA Nose Landing Gear Bay



LR Frame 1

A319 fixed Trailing Edge



A319 Wing Box (2007)



SA Rear Pax Doors