General Aviation Sector in China
Jan Fridrich – March 15, 2016

Implementing Partners

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The EU SME Centre is an EU Commission funded project which helps EU SMEs prepare to do business in China by providing them with a range of information, advice, training and support services.

The Centre is implemented by a consortium of six partners and was established in October 2010. It successfully completed its first phase in July 2014 and has now entered its second phase which will run until July 2018.
Speaker biography

- Jan Fridrich is Chairman of LAMA EUROPE and vicepresident of Light Aircraft Association of the Czech Republic
- Since 2012 he is involved in EU-China General Aviation activities, he is co-author of Czech Project of A-Z Solution for Chinese GA.
- During the 2013-2016 he was one of the main negotiators of China-Czech Technical Arrangement about validation of ultralight Type certificates.
- In 2014 he was involved in EUCCAP project where he contributed to the final report which suggested more than 50 recommendations how to improve Chinese GA.
- In 2016 he supported EASA as GA Technical expert in the inception phase of the EU-China Aviation Partnership Project (APP).
- He holds a degree from Technical University of Brno, speaks Czech, English and Russian language.
- He specialises in ultralight and LSA.
- He holds a microlight pilot license.
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• Status of GA in China
  • Market Size
  • Segments and Growth Demands

• Major Barriers to Enter the Market

• Future Outlook
  • Updates on Chinese Regulations
  • EU-China GA Negotiations
  • Opportunities for Business

• Useful Contacts in China GA Sector

• Conclusion
Status of GA in China
Status of GA in China

• **Chinese definition of GA**
  - **General aviation** means civil aviation operations other than public air transport with civil aircraft, including aerial work in the fields of industry, agriculture, forestry, fishery and building industry, and flight operations in the fields of medical and health work, emergency and disaster relief, meteorological service, ocean monitoring, scientific experiment, education and training, culture and sports.

• **ICAO definition of GA**
  - those flight activities not involving commercial air transportation or aerial work.
Organization Chart of CAAC

Headquarter (301)
- Dept. of Policy, Law and Regulation (16)
- Dept. of Personnel, Science and Edu. (26)
- Dept. Of International Affairs (15)
- Dept. Of Flight Standards (27)
- Dept. of Airport (15)
- Office of Aviation Safety (Office of Air Traffic Regulation) (15+27)

Civil Aviation Administration of China
- Dept. of General Affairs (38)
- Dept. of Development Planning (19)
- Dept. of Air Transport (24)
- Dept. of Finance (14)
- Bureau of Aviation Security (32)
- Dept. of A/C Airworthiness Cert. (13)

Regional Administration (2755)
- East china RA
- Central & South RA
- North China RA
- Northwest RA
- Northeast RA
- Southwest RA
- XinJiang RA

42 Safety Surveillance Management Offices

Organization Directly managed by CAAC

CAST

ATMB

Source: CAAC
Location of CAAC

Source: CAAC
Global Civil TC Aircraft Population ≈ 334 000
Number of GA pilots ≈ 700 000

Mostly Certified Piston Aeroplanes
but also Gliders, Lighter Than Air, Experimental,
Etc. ≈ 265 000

Commercial Airliners ≈ 19 000
Business Jets ≈ 17 000
Turboprops ≈ 12 500
Rotorcraft ≈ 20 500

Source: GAMA, Jetnet LLC, Flight Global, IAOPA World Assembly
GA Market Size Czech Republic

MTOM < 450 kg
- 6132 ultralight registered in LAA ČR Register
- Out of that valid C of A had:
  • 1541 ULL
  • 49 UL helicopters
  • 30 UL autogyros
  • 154 hang gliders
  • 223 trikes
  • 739 PPG

MTOM > 450 kg
- 2451 aircraft registered in CAA CZ Register
- Out of that valid C of A had:
  • 837 single piston engine airplanes
  • 60 two engine airplanes
  • 98 helicopters
  • 988 gliders
  • 117 motorised gliders
  • 222 baloons
  • 2 airships

91 GA airports - 19 international airports
86 ultralight airfields
Total 180 airports
No restrictions at airports for ultralights

Source: LAA CR & CAA CZ Aircraft Register Data as of 1-st January 2015
GA Market Size

- GA in China is starting,

- the GA Market does not exist in terms we know from the rest of the world

- To get statistical data is difficult
  - 1975 aircraft
  - 2085 PPL licenses
  - 506 Sport pilot licenses
  - 286 civil airports

- Potentially big market
as of 31.12.2014 there was:

- 1975 GA aircraft including business jets and helicopters,
  - 1403 fixed wings
  - 486 used for training
  - 145 private aircraft flew 13 507 flight hours
    - 114 airplanes
    - 31 helicopters
- 2000 illegal aircraft

Private aircraft statistics

as of 31.12.2014 there was:

- 39 881 valid Chinese pilot licenses;
  - 2085 PPL licenses
  - 506 sport pilot licenses
  - 20 970 commercial pilot licenses,
  - 38 multi-crew pilot licenses
  - 15 834 airline transport pilot licenses
- 244 UAS Pilot certificates
- 14 domestic and 27 overseas flight schools
  - Total capacity for 6 700 students, mostly for CPL
  - 910 flight instructors

Currently there is approximately:

- 286 civil airports
- 400 other airports
- China plans to build 2,000 GA airports by the 2030
as of 31.12.2014 there was 164 GA and small transportation businesses involving

- 2 191 pilots
- 1 174 aircraft

GA companies and small aircraft transportation airlines are classified as follows based on their operation characteristics:

- **119 Type A**: CCAR-91 operation companies, mainly engaged in air operations;
- **9 Type B**: CCAR-135 operation companies, mainly engaged in small-scale transportation, including air commuting and commercial air charter business;
- **23 Type C**: A+B mixed operation;
- **12 Type D**: CCAR-91 and CCAR-135 mixed operations company with the capability of CCAR-141 training;
- **1 Type E**: A+D mixed operations

GA Segments - Companies

- Comparison of the number of companies in past 3 years

Growth Demands

- GA aircraft
- GA pilots
- GA airports
- GA services

- All depends on access to the lower airspace
Major Barriers to Enter the Market
Major Barriers

• **Different Culture**
  • Personal contact is preferred – be ready to travel to China many times
  • Nothing is as it is agreed at the first time – in the negotiations you must be patient and consistent

• **Language barrier**
  • Need brochures in Chinese
  • Without reliable Chinese partner you would accomplish nothing

• **Absence of Bilateral Aviation Safety Agreement (BASA) between EU and China**

• **Legislation** – access to the lower airspace still limited

• **GA market does not exist in terms as we know it from EU**

• **Aviation structure in China is complicated and the work is relatively slow**
Major Barriers

- Different expectation from GA
Future Outlook
Update on Chinese Regulations

- Civil Aviation Law of the People’s Republic of China
  - Developed by the National People’s congress
  - Issued by the President

- Nationality Registration Regulation of the People’s Republic of China (10.21.97)
  - Issued by the State Council

- Civil Aircraft Airworthiness Regulation of the People’s Republic of China (05.04.87)
  - Issued by CAAC

- China Civil Aviation Regulations
  - Issued by CAAC

- Airworthiness Procedures
- Management Documents
- Advisory Circulars
  - Issued by CAAC-AAD
Civil Aviation Regulations

- **Operation**
  - CCAR-91 General Operation and Flight Rules
  - CCAR-135 Qualification Approval Rules of Small Aircraft Commercial Transport Operator

- **Flight**
  - CCAR-141 Civil Aircraft Pilot School Qualification Review Rules
  - CCAR-142 Flight Training Center Certification Rules
  - ...

- **Airworthiness**
  - CCAR-21-R3 Certification Procedures for Civil Aviation Products and Parts
  - CCAR-23-R3 Airworthiness Standards: Normal, Utility, Acrobatic, and Commuter Category Airplanes
  - .....
Civil Aviation Regulations

- Maintenance
  - CCAR-43 General Rules of Maintenance and Modification
  - CCAR-145 Civil Aircraft Maintenance Unit Qualification Approval Regulations
  - CCAR-147 Civil Aircraft Maintenance Organization Qualification Approval Regulations
Airworthiness Procedures

- **AP-21-01**
  - Validation Procedure for Imported Civil Aviation Products and Parts
- **AP-21-03**
  - Type Certification Procedures
- **AP-21-04**
  - Production Certification and Surveillance Procedures
- **AP-21-05**
  - Airworthiness Certification Procedure for Civil Aircraft and Associated Products
- …
EU-China GA Negotiations

• **Bilateral Aviation Safety Agreement**
  • essential for any aviation business between EU and China
  • difficult to predict the timeline

• **Working arrangements**
  • bilateral level
  • company level
EU-China GA Negotiations

- **EU-China Aviation Partnership Project** *(EU-China APP)*
  - started recently
  - duration 5 years (2015-2020)
  - EU funds of 10 million euros
  - managed by EASA
  - implemented together with CAAC
  - [www.eu-china-app.org](http://www.eu-china-app.org)

- Focus on activities of mutual interest in these areas:
  - Airworthiness
  - ATM/ANS and airports
  - Aviation Safety and Security
  - Environmental protection
  - Economic policy and regulation
  - General aviation
Opportunities for Business

• For EASA Type Certified products depends on BASA
• Sales of GA aircraft from EU manufacturers
• Technology transfers
• Powerplant and instrument solutions
• Training of pilots and ground staff
• Airfield solution
• Air Navigation Services & Ground Systems
• Helicopter Emergency Medical Services
Useful Contacts in China GA Sector
Useful Contacts - EU

• EUSME Centre
  • www.eusmecentre.org.cn

• Protect your Intellectual Property Rights before you go to China
  • Use IPR SME Helpdesk www.china-iprhelpdesk.eu

• Contact your commercial department of your embassy

• EU-China APP Project Manager
  • Stephan Baertges Stephan.BAERTGES@easa.europa.eu
Useful Contacts - China

- Civil Aviation Administration of China
  - www.caac.gov.cn
- Annual Report on Chinese Airline Pilot Development
- AOPA China
  - www.aopa.org.cn
- Aero Sports Federation of China
  - www.asfc.org.cn
- Flying China – bimonthly GA magazine
  - http://flyingchina.net/
Conclusion
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• The success of Chinese GA depends on the Aviation legislative environment in China.

• It is necessary to create a solid foundation for China‘s general aviation, so that young people can start flying with simple machines and gradually move up in their aviation careers according their needs.

• At present the Chinese GA focuses on manufacturing, but **GA is not just about manufacturing**.

• **Big potential – if done right within 10-15 years China could be the biggest aviation market in the world**
www.eusmecentre.org.cn

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