

AIRPLANES AFRICA LIMITED

("home of Skyleader in Africa")



Technology Transfer Project

**AIRCRAFT CONSTRUCTION & ASSEMBLY PLANT
AND PILOT & AVIATION MECHANICS TRAINING FACILITY
IN MOROGORO, TANZANIA**



United Republic of Tanzania

February 2022

1. PROJECT AND COMPANY IDENTIFICATION

Project Name: Airplanes Africa Limited - Technology Transfer Project

**Aircraft Construction & Assembly Plant
and
Pilot & Aviation Mechanics Training Facility**

Company Name: AIRPLANES AFRICA Limited (AAL)

ID: 156003549

TAX ID: 156-003-549

Domicile: 193 Rose Garden Rd.
14112 Mikocheni Area, Dar es Salaam

Production: Morogoro Airport
Hangar 1, Morogoro

Directors: Ing. Igor Stratil
Ing. David Grolig, Ph.D.

Project Areas: Aircraft Assembly and Production
Aircraft Maintenance and Service
Pilot Training – Pilot School
Aircraft Mechanics Training – Training Centre

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Banking Identification:

Bank Name: ABSA BANK TANZANIA LTD
Branch Name: OHIO BRANCH
Branch Code and Sort Code: 001 and 020001
Account Name: AIRPLANES AFRICA LIMITED
Account Number (TZS): 0016015679
Account Number (USD): 0016012076

Auditors of the Company:

Greenmark International
Address: Ngome Building
Sinza Africasana Area
P.O. Box 12172
Dar es Salaam, TANZANIA



2. PROJECT AREAS

Project is based on technology transfer of Czech aircraft producer SKYLEADER and its owner Mr. Ing. Igor Stratil. SKYLEADER uses its own know-how to design, manufacture, sell and maintain all-metal and carbon-composite light aircrafts (ultralight / microlight / light-sport aircraft categories) under trademark "SKYLEADER" for more than 22 years. With support of the Institute of Aerospace Engineering at Brno University of Technology in the Czech Republic, the aircraft has been gradually innovated. In addition, the high level of quality standards enables the company to supply the components to the aviation industry.

Aircraft portfolio, consisting of 5 types of small aircrafts, is designed for recreational flying, pilot training and special operations. They are manufactured to the rigorous ASTM International standards. Private individuals around the world enjoy the pleasure of flying these well-designed and price-affordable aircraft.



All of aircrafts have different levels of equipment in their standard 'Ready-to-Fly' configuration. During manufacture at the SKYLEADER factory, each individual aircraft can be extensively customized to the owner's requirements.

The SKYLEADER factory is heavily involved in aviation research, design and commercial manufacture. The company was manufacturing and assembling the doors for the Airbus A320 airliner, plus other certified aviation sub-contracting.

Under the heading of AIRPLANES AFRICA Limited (AAL) Company SKYLEADER products is planning to enter market of Africa. Program of AAL will consist of four project areas:

- Aircraft Assembly and Production
- Aircraft Maintenance and Service
- Pilot Training – Pilot School
- Aircraft Mechanics Training – Training Centre

AIRCRAFT ASSEMBLY & PRODUCTION, AND AIRCRAFT MAINTENANCE & SERVICE

In a new plant in Tanzania the airplane SKYLEADER 500 will be produced. This will be the first “Made in Tanzania” aircraft. During future project phases the aircraft SKYLEADER 600 may be produced.

Factory AIRPLANES AFRICA - SKYLEADER will present its version “SKYLEADER 500” for the African market. The SKYLEADER 500 is a full-metal two-seated, low-wing constructed aircraft with a trapezoidal wing. The aircraft has a tricycle towed fixed landing gear with wheel pants and a steerable nose wheel, retractable gear option. The aircrafts are mainly designed for easy flying, pilot training and special operations.

Aircraft can be customized and has high safety standards, impressive flight characteristics and timeless design which is the result of real ASTM certified aviation production. Easy repairs and maintenance guarantee low operational costs. Simply, the SKYLEADER aircraft provides safety, prestige, and emotion to customers around the world.

Together with production, aircraft maintenance services will be also provided.

TRAINING – PILOT SCHOOL & AIRCRAFT MECHANICS TRAINING – TRAINING CENTRE

A part of the project will be creation of own pilot school or enhancing cooperation with existing. The key is to install own flight simulator that will be used for preselection pilots, basic and advance pilot training and knowledge development.

The SKYLEADER SIMULATOR is designed to provide state-of-the-art, efficient, and cost-effective pilot training. The convertible cockpit simulates a single engine aircraft with classic instrumentation as well as a multi-engine aircraft or a jet with EFIS instrumentation. In future, for Tanzanian use, it is counted with possible cockpit conversion, that takes only few minutes. This solution enables training for following aircraft categories in future: single engine, twin engine, multi engine, turboprop, and jet.

Together with pilot school, aircraft mechanics training center will be also created.



3. FINANCING PLAN

The project will be financed by the Foreign Equity from the shareholders of the Project Company. The shareholders expect to contribute about US\$ 3,025,000 for the initial stages of the project. The financing will be done on the following scheme:

Investment Breakdown US\$

Land/Building Renting	US\$ 25,000
Plant, Equipment, Kits, Jigs, etc.:	US\$ 2,000,000
Ground Vehicles	US\$ 150,000
Furniture & Fittings	US\$ 100,000
Pre-expenses	US\$ 200,000
Others	US\$ 300,000
Working Capital	US\$ 250,000
TOTAL	US\$ 3,025,000



4. PROJECT TIME AND ECONOMICAL FRAME

TIME FRAME

a) Decision on programme start	done
b) Partner structure set up	done
c) Registration of company AIRPLANES AFRICA Limited	done
d) Tax Registration, business licence, other technical	done
e) Production hall rental contract (Morogoro)	done
f) TIC Registration and Certification	2/23
g) Production hall adaptation and improvements	02-03/23
h) Delivery of technologies and presentation plane	02-03/23
i) Delivery of flight simulator and production training set	02/23
j) TCAA Certification	03/23
k) Operation of flight simulator and start of provided trainings	since 03/23
l) Delivery of airplane's Kits Skyleader	03/22
m) Start I Phase – airplane's assembly training	since 04-06/23
n) Official opening of production facility	06/23
o) First assembled airplane – presentation	06/23
p) Serial assembly of airplane's kits (Phase 1)	06-12/23
q) Testing Phase of pilot's simulator training	06-12/23
r) Fly school operation and airplane's services	since 11/23
s) II Phase – airplane's assembly training	since 12/23
t) Serial assembly of airplane's kits (Phase 2)	01-12/24
u) Advance pilot rtraining	since 01/24
v) III Phase – airplane's assembly training	since 06/24
w) Certified flight training	since 06/24
x) Serial assembly of airplane's kits (Phase 3)	since 01/25



ECONOMICAL FRAME

Costs for years 2023-2025

A) Costs for production technology transfer	950.000,- USD
B) Costs of training technology transfer	750.000,- USD
C) Costs of facility equipment	700.000,- USD
D) Costs of first supplies	300.000,- USD
E) Costs of first demonstration plane (used)	110.000,- USD
F) Costs of soft activities	500.000,- USD
G) Initiation costs – summary of previous	3.310.000,- USD

Investments in early 2023

H) Proof of first reserved funds (for 2023) – cash	390.000,- USD
I) Proof of first reserved funds (for 2023) – bought plane	110.000,- USD
J) Proof of first reserved funds (for 2023) – bought simulator	400.000,- USD
K) Proof of first reserved funds (for 2023) – bought equipment	650.000,- USD
L) Proof of first reserved funds (for 2023) – summary of previous	1.550.000,- USD



5. INFORMATION ABOUT MOROGORO PRODUCTION FACILITY

Establishing the production facility in Morogoro will set up foundations of aircraft production industry in Tanzania. First target is to transfer knowledge and present new Tanzanian aircraft products and services in Africa. The second target is to build a community of pilots, mechanics and friends of flying, either on professional or recreational level.

New facility of aircraft industry in Tanzania shall help to increase technical knowledge and education. This will overlap also to support of tourism, agriculture, healthcare, mining, and education. Ability of performing in aircraft sector will also influence nearby areas, like car assembly, or assembly of machines, etc.

INFORMATION ABOUT CONTRACT WITH TANZANIA AIRPORT AUTHORITIES

As for base in Tanzania the area of Morogoro was selected. This area will be accessible by SGR and in comparison, to coastal regions, will provide better conditions for company activities.

The contract on hangar rent with Tanzania Airport Authority was concluded. The rent of hangar is from 1.1.2023 till 31.12.2025.



6. PRODUCTION CAPACITY

Production will be realised in teams. Each team will be responsible for set of targets (constructed planes). Growth will be arranged by adding another team. Teams will be added due to market demand and also due to needs of more space.

One team consists of following team members:

- team leader: (1)
- quality control: (1)
- avionic specialist: (1-2)
- engine specialist: (1-2)
- technician: (6-10)
- rivetter: (1-2)

1Y production capacity per team:

- 2023: 06 aircrafts
- 2024: 12 aircrafts
- 2025: 24 aircrafts



TRAINING CENTRE

Training centre will be related to the productions.

Aim of training: pilots and mechanics

Lecture room: 10-15 places

Training kit: daily capacity up to 12 hrs

Simulator capacity: daily capacity up to 12 hrs

Types of training: Basic flight, Advanced flight, Certified flight (3 types)

Basic mechanic, Advanced mechanic, Certified mechanic (3 types)



7. EMPLOYMENT AND TECHNOLOGY TRANSFER

The Project is expected to recruit at least 3 to 5 aircraft manufacture experts and trainers from Czech who will bring their expertise and roll out to train Tanzanians by way of succession plan and technology transfer.



Apart from having foreign experts the project will also recruit about 20 to 50 Tanzanians directly who will be involved in the aircraft production, project administration, operations and other marketing and business development.

Within 3 to 5 years the project is expected to employ about 50 to 100 Tanzanians both directly and indirectly. On top of that, the project will invest extensively in state-of-the-art technology applicable in the production of aircrafts in the world.



8. CONCLUSION

This technology transfer project aims to create the bases of aircraft production industry in Tanzania. The base will be built up on complex services using the combination of Skyleader aircrafts and aircrafts simulators of different kinds (e.g. single engine, double engine, transport planes, etc.). This strategy ca aim Tanzania to be leading country in these areas. Export policy is for the first phase East Africa. The southeast and the whole Africa. Finally global exporter.



Benefits for locals may be of several kinds:

- direct investments
- working places for local people
- region promotion to whole East Africa
- air service for local and national pilots
- parallel transfers (!)
- knowledge and tech. transfers to defence market

DIRECT INVESTMENTS

Owners of property will have serious partner (tenant). After starting the production also new facilities will be built.

WORKING PLACES FOR LOCAL PEOPLE

Local people will be directly involved in production. The Czech team will bring experts – supervisors, that will have the role to train, control, and quality check of the local labour power.

First, local people will be tested for their abilities and then a group for production training will be selected.



REGION PROMOTION TO WHOLE AFRICA

The final product (the aircraft) will be labelled with “Made in Tanzania – Morogoro Plant” based on the production place.

Sales are expected to be realized in all countries of East Africa, so the name of production place will be widely known as the place of aircraft production in Africa!

AIR SERVICE FOR LOCAL AND NATIONAL PILOTS

As counter value the project may offer the following training courses and programmes:

- regular aviation training,
- regular training in aircraft service mechanics,
- regular training in aircraft production mechanics,
- use of a simulator for pilot training,
- use of testing planes for pilot training (possibility to fly large number of hours at cost prices).

The offer may be very effective and may greatly enhance the practical experience of the Tanzanian pilots. It can also bring new people to the aviation market. The locals may undergo the programmes and be actively working in the aviation industry afterwards.

PARALEL TRANSFERS

SKYLEADER project is a very important technology transfer project (first technology transfer project from the Czech Republic). This will be great motivation for other technology transfer related projects that may be situated within the same region as project location.

The knowledge, technology transfer and activities of the project may be shared and utilized for potential establishment of cooperation with other companies and institutions operating in security market in Tanzania.



9. ADDITIONAL INFORMATION TO PRODUCT – SKYLEADER 500

THE EQUIPMENT

The aircraft SKYLEADER 500 is in LSA category equipped with standard instruments for flight and engine control. The radio, transponder, glass panel, GPS and another flight and engine instruments are installed on the customer's request.

Colour painting, upholstery and internal cockpit surface adjustment of the aircraft is realized individually on basis of plentiful amount of offered services and products.



THE ENGINE & PROPELLER

The aircraft is equipped with ROTAX 912 UL (80hp) engine, optionally with ROTAX 912 ULS (100hp) or ROTAX 914 UL (115hp turbo) engine. The engine is attached by welded bed with the use of rubber shock absorbers through the firewall into the fuselage stringers and central tunnel. Three (3) blade on-ground adjustable propeller is delivered with the plane as standard. As the optional order may be aircraft equipped with mechanically or electrically in-flight adjustable propeller, two or three blades. Engine operates with normal unleaded car fuel what is very suitable for Tanzania.



THE LANDING GEAR

The landing gear is retractable, controlled by an electric motor with manual emergency control. Fixed landing gear is determined for the Light Sport Aircraft category. Both wheels of main landing gear and the nose wheel are towed, and they are sprung with rubber shock absorbers, created by circular rubber segments. The nose landing gear is at protuberant position connecting with the



foot's control and is controllable at +15° range. The main landing gear wheels are braked with a central manual hydraulic brake lever at the control stick.

THE TAIL UNITS

Full-metal tail units are standard alignment with a rudder and an elevator. The profile of Vertical Stabilizer and Horizontal Stabilizer is symmetrical to NACA 0012. They are created by spars, ribs and cover. An elevator is divided; therefore, it is possible to take it down without disconnecting the controls. The same construction is used at the other control surfaces. A stabilizer is attached to the fuselage by four hinges and is possible to dismantle it without disconnecting the controls.

