

# teTra aviation corp.

## Overview

Mar. 2020



# Vision



## Economy Jams

You must feel uncomfortable  
in Traffic jams,  
which consumes your **time**.



# Vision



You know that birds move freely.  
It is easy to imagine that using the air frees  
people to move.

People want to move like birds. Everybody  
have been conducting various studies for a  
long time.

It because It wants people to move freely. So  
does flying mean free movement?

I think free is people have choices in how  
they use their time and method of travel.



# Vision



We have many choices on different scales: bicycles and skateboards, cars and trains, ships and planes. Each option is made with a great deal of technology and achievements, and is scattered with ideas to make traveling fun and comfortable, which you have once experienced the fun and wonderfulness. However, nothing cannot be combined.

Compact and personal  
vehicles for traveling in the air.





# Winning design

We have made a prototype for Proof-of-concept.

Pratt & Whitney awarded us in GoFly Prize sponsored by Boeing.



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GO BEYOND



<https://newatlas.com/aircraft/gofly-tetra-3-disruptor/>





# Business Development Plan

We start by manufacturing high-end, haute couture and concept machines and purchasing them with our sympathetic customers.

After that, aircraft based on the same model will be refurbished from time to time for commercial use, and will be offered in medium-scale mass production.





# FAA Certified



UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION/FEDERAL AVIATION ADMINISTRATION SPECIAL AIRWORTHINESS CERTIFICATE	
CATEGORY/DESIGNATION	Experimental
PURPOSE	Research and development, Exhibition
MANUFACTURER	NAME N/A ADDRESS N/A
FLIGHT	FROM N/A TO N/A
N134TA	MODEL N134TA SERIAL NO. N134TA-001
BUILDER	Teora Aviation Corporation DATE OF ISSUANCE 20 Feb 2020
Unless sooner surrendered, suspended, revoked, or the termination date of 18 Feb 2021, this airworthiness certificate is effective under the conditions prescribed by 14 CFR, Part 21, Section 21.191 or 21.217.	
SECRETARY OF TRANSPORTATION	DEPARTMENT OF OFFICE NO. AIR-872

-- Conditions and Limitations --

The following operating limitations are applicable to operations in the National Airspace System (NAS):

- (1) The (model designation) unmanned aircraft (UA), control station(s), and communication equipment (include if applicable) comprise the UAS.
- (2) No person may operate this UAS for other than the purpose of research and development (R&D), showing compliance with regulations, crew training, exhibition, market survey, and/or production flight testing new production aircraft (select appropriate purpose(s)) as specified on the front of the FAA Form 8130-7, Special Airworthiness Certificate. These operating limitations do not provide any relief from any applicable law or regulation. This aircraft must be operated in accordance with the applicable regulations and the additional limitations prescribed herein. These operating limitations are a part of the FAA Form 8130-7 and are to be available to the pilot in command (PIC) of the aircraft.
- (3) The airworthiness certificate, aircraft registration certificate, aircraft manuals, and FAA Form 7711-1, Certificate of Waiver or Authorization (COA), must be located at the control station.
- (4) When changing between operating purposes, the operator must determine that the UAS is in a condition for safe operation and appropriate for the operational purpose intended. A record entry will be made in the maintenance records to document the operational purpose change and that the UAS is in a condition for safe operation.

Note: This limitation applies only when two or more § 21.191 operational purposes are listed on the FAA Form 8130-7.

- (5) This UAS must be operated in accordance with the applicable air traffic and general operating rules of 14 CFR part 91, and all additional limitations herein prescribed.
- (6) No person may operate this UAS to carry persons or property for compensation or hire.
- (7) Each UA must be controlled by only one control station at a time. A control station may not be used to operate multiple UA.

FAA Form 8130-7 (11/2016) Previous Edition Dated 04-2011 May be Used until Depleted N134TA 20 Feb 2020 Page 1 of 6

The first Japanese company who achieved FAA Special airworthiness certificate 14CFR Part 21.192 as UAS. Aircraft require a "type" dependent permit. This type-based permission requires a great deal of effort until it is obtained, but once you get the permission, you can reuse most of it unless you change the base type . We are already we will market by selling aircraft, and we will foster technologies with customers and markets.



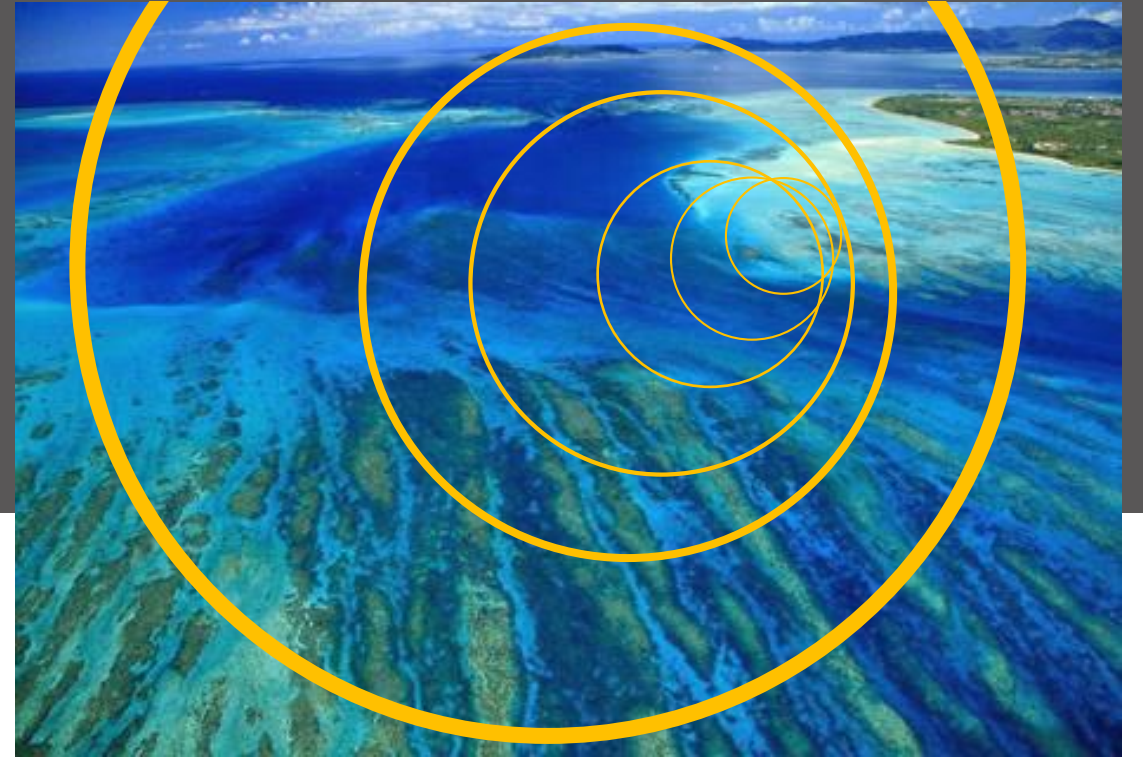
# Control Method

Radio Control Flight

Manual control Flight

Fully Autonomous Flight

Sand Box Manual Flight





# How to takeoff and landing/Place

VTOL inside of the envelope.

Heliport

Off-site airfield

Parking lot in Shopping mall





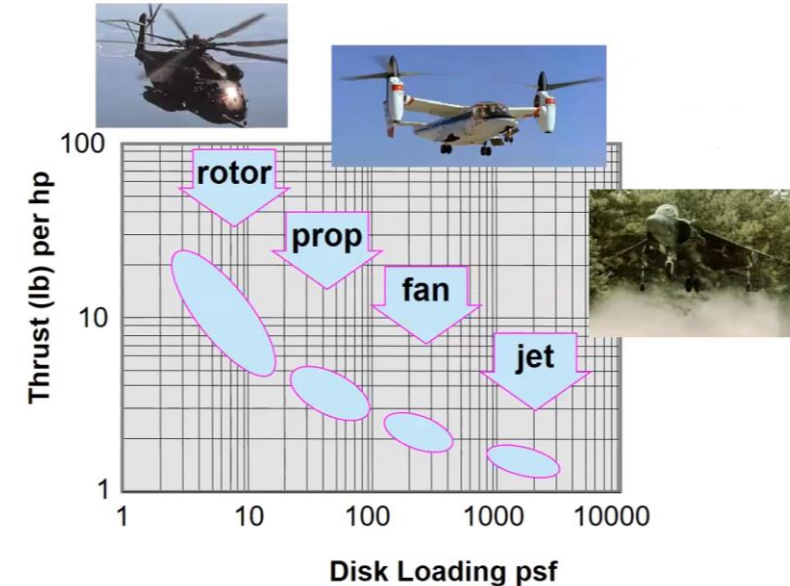
## POWER LOADING

Aircraft type	Typical $P/W$		Typical power loading (lb/hp)
	hp/lb	{Watt/g}	
Powered sailplane	0.04	{0.07}	25
Homebuilt	0.08	{0.13}	12
General aviation—single engine	0.07	{0.12}	14
General aviation—twin engine	0.17	{0.3}	6
Agricultural	0.09	{0.15}	11
Twin turboprop	0.20	{0.33}	5
Flying boat	0.10	{0.16}	10
Helicopter (civilian)	0.12	{0.20}	8.3
Helicopter (high perf/military)	0.22	{0.36}	4.6

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## HOVER EFFICIENCY OF VTOL AIRCRAFT



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We are investigating how much power and design requires to carry single person for stable flight, while it meets customer satisfied its quality.

Also once this Size/Weight/Power requirement achieved, it is really helpful to other manufacturer and market growth.



# teTra aviation corp. – Company Profile

## Technology for Transportation



**Established**  
June 1, 2018



**Capital as  
of Sep 2019**  
\$ 38.5 million yen  
(capital reserve: 37.5 million  
yen)



**Development  
base**  
Toda City, Saitama  
Prefecture and  
the Robot Test  
Field in Japan  
(Dec 2019-)



**Head office**  
Bunkyo-ku, Tokyo



**Trademarks  
and patents  
acquired**  
(Business Application  
2018-078099 / Patent No.  
6774075)



**Shareholders**  
CEO has over 75% of  
shares



**Capital at  
establishment**  
\$ 10K



# Board Member



Tasuku Nakai (CEO)

The University of Tokyo

The Department of Mechanical Engineering

Design/Structure/Material/Safety

Mechanical structure  
(fracture mechanics of aluminum structure)

[in tasuku-nakai-tetra/](https://www.linkedin.com/in/tasuku-nakai-tetra/)



Akihiro Mizutani (COO)

Tokyo Metropolitan University

Birdman contest (second place)

From Heavy Industries (Jet Engine Development Department)

Project management (PMP certified)  
especially schedule and resource management

[in akihiro-mizutani-5a591915b/](https://www.linkedin.com/in/akihiro-mizutani-5a591915b/)



Hidemi Arai (Director)

Certified Administrative Procedures Legal Specialist,

Osaka University Law bachelor

Has a network with IT-related companies and has knowledge of cutting-edge technologies, so it has knowledge not only of back office operations but also of ICT and software

[in hidemiarai](https://www.linkedin.com/in/hidemiarai)



# Engineer



Masanori Suto  
University of Tsukuba  
Engineer of Terle  
communication network



Koya Kuwamura  
Nagoya University  
(Flight Technologies)  
Engineer of flight control system



Pritish Tripathy Debasis  
Vellore Institute of Technology  
Bachelor of Technology (B.Tech)  
Engineer of power electronics and  
safety design



Osamu Suzuki  
National Institute of Technology  
Toyota College, graduated  
at the top of the list  
Engineer of mechanical design



# Technology Partner

## CFRP



## Aluminum high precision machining



## Electric components



## Material



## Propeller



## Measurement





Thank you,  
keep in touch  
with us



🐦 @teTra\_aviation

f tetraaviation

<https://www.tetra-aviation.com/>