STRATOS PROJECT

Experimental light aircraft design and development towards future use

Original LGT Stratos built, designed and flown by Charles Ligeti in the Mid 1980's. Pictured below flying over Santa Paula USA and Australia.

Aircraft details

- Fully composite single seat experimental aircraft.
- 100KG payload
- 20:1 glide ratio
- VNE 145Knots
- 108 Knots Max Level speed
- 97 Knots cruise
- 86 Knots Econ cruise
- 33 Knots Stall speed
- Range 720 Kilometers
- Endurance 5H 15Min
- Service ceiling 14000ft
- Max rate of climb 670 ft/min
- T/O run 110 Meters
- Landing Run 85 Meters

- Change altitude without pitching
- Turn without banking
- Crosswind landing, keeping nose on runway centerline with wings level
- Superior low speed stability
- Naturally stable and flexible platform for UAV operations allowing increased capability
- Aircraft has helicopter like-strafe ability if coupled with Gatling gun. Capability further enhanced with thermite or U235 rounds

- Fully transportable behind a standard car
- Does not require dismantling to be transported
- Can be stored in standard House garage
- Quick demount from trailer time – within 5 minutes of arriving on airfield aircraft is ready for takeoff
- Can takeoff on grass/ rural runways
- Shown here in 747 freighter on way to USA

Written and prepared by Ron Ligeti – © LGT Aerospace Pty. Ltd.
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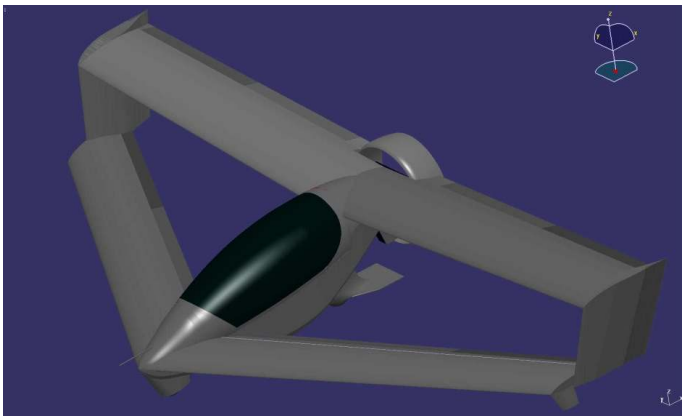
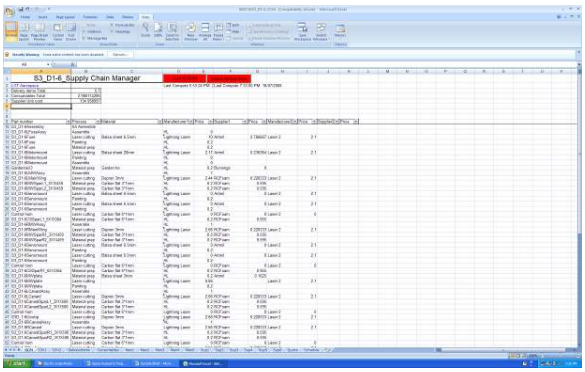
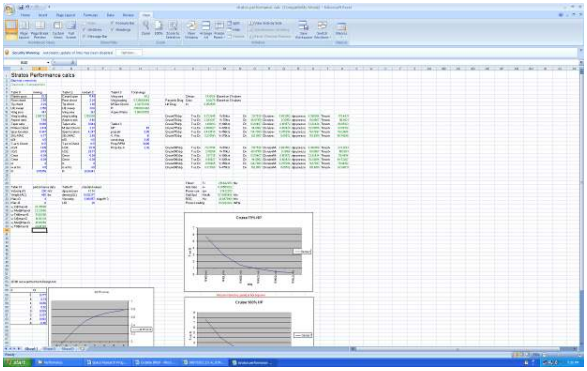
- CAD designed new Variant
- Back engineered from original
- New relational formula based modeling allows instantaneous redesign
- One variable change will re-design the aircraft to the detail part and tooling levels
- Incorporation of various servicing improvements

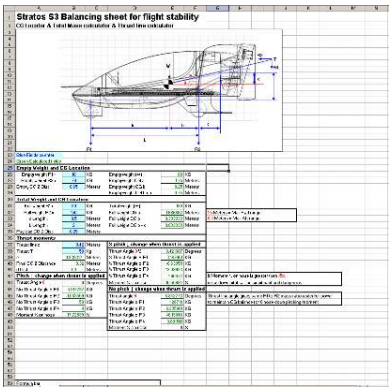


- Created Visual basic program that reads Automated Bill of Material CATIA output.
- Part - materials and processes are automatically assigned to supplier
- Supplier data is entered into array producing a manufacturing cost output.
- Incorporates 2nd supplier data for cost comparison.
- Future Supply Chain Manager tool will incorporate a Microsoft project schedule output.



- Textbook calculations did not work with this aircraft
- Derived modifications to the standard formulas were needed to achieve a new mathematical models that work in predicting performance on design variations.
- Automated and Verifiable on test aircraft
- Automated Balance sheet for flight stability
- Performance Calculations gives figures for future variant, new motor technology /prop combination on UAV variant will give
  - service ceiling of 25,000ft
  - 2,000 + fpm rate of climb
  - 125 Knot Max cruise
- Future turbojet variant is another consideration





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- Simplified RC 3 channel model
- Initial test model showing gentle stall
- Slow speed controllability
- Aerobatic capability

- Full function RC 5 channel test model
- All flight surfaces as per original aircraft
- Affirms original design data and flight characteristics
- Gentle stall typical of canard design

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STRATOS PROJECT

Experimental light aircraft design and development towards future use

- The only original successful Stratos aircraft is currently in Storage, where it has been for 20 years.
- Manufacture of a new prototype S3 variant is beginning
- The aim is to show the aircraft in flight displays. An operational prototype will garner wider interest that is aimed to induce a licensing arrangement for production.
- The design owner retains the IP, the manufacturer is supplied with CAD engineering , tooling and detail construction data also including supply chain data manager tool, automated aerodynamic and balance calculation sheets.
- This business model provides a low risk platform solution for the manufacturer due the supplied engineering CAD data providing automated manufacturing and configuration.
- Prototyping and ground work will be completed before production license is on offer
- Engineering support for production improvement changes can be offered.
- Funds from Licensing fee will be used to design new variants and aircraft modifications, given a market request and license agreement.

External Developments

- Post Stratos patent
- Lockheed Martin skunkworks proposed next generation KCX air to air refueller/ transport. (Picture from LM website)
- Studies done by Lockheed Martin and Stanford University, states that there is a structural weight saving and aerodynamic advantage in this design over conventional aircraft.
- Joint or Box wings are a structurally closed connection system
- Overall Drag is reduced via a highly non planar lift design where canard vortex is reacting with the main wing - wingtips and their associated vortexes.
- Box wing designs have the lowest amount of induced drag of any known design
- Reduced wingspan for equal amount of lift while retaining L/D ratio.

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