

TXT - WELCOME

Because we see aviation from a different perspective, we bring new life and innovation to your needs. Engineers, technicians, managers, pilots, professionals and friends make up the core of our business. We search for cutting edge solutions in terms of performance, apply technology, and develop concepts with unconventional, innovative design.

Transforming every simple piece of engineering in a work of art has always been our philosophy. We look forward to bringing that to meet your needs.

TXT - COMPANY

Elytron Aeronautica specializes in in-house design of manned and unmanned aircraft, in evaluating project data, building prototypes, structural testing and flight testing.

Elytron Aeronautica provides turnkey projects from design to engineering, to supplying assembly lines and training production staff.

Founded in 2010 to design unconventional multi-role aircraft, we base our work on five core principles:

- Focus on optimized mission performance
- Excellent aerodynamics and aesthetics
- Use of the latest additive manufacturing technology
- Proprietary aerodynamic solutions
- A simplified manufacturing and assembly system

Our remote control platforms can be adapted to suit the client's specific requirements, covering a wide range of applications.

ENGINEERING

A qualified team of engineers with great track records should be the expectation. We go above and beyond the basics. Our experience as pilots and engineers is behind everything that we conceive, design, calculate and build.

We understand that results don't happen on paper or computer programs. We value the input of people who will be using and experiencing the end product and system. And we know what it means to send a stable platform in the air that can obtain reliable data through a totally integrated system.

TECHNOLOGY

Our team of highly qualified personnel bring a variety of backgrounds, accurate research, and a wide range of experience to the development of dedicated airframe solutions. Our use of state of the art software and hardware are just some of the features allowing Elytron to develop products with a high technological content.

Finally, our partnerships with some of the leading companies in the field have made it possible to offer avant-garde solutions regarding sensors, remote control, and direct fuel-injection power units.

QUALITY

For many, quality is an ambitious objective. To us, it is a starting point. At Elytron, quality does not mean simply meeting client expectations. It means exceeding them.

Using new materials for 3D printing, highly professional software and aerospace-grade certified materials, the Elytron team has established an accurate production method to always guarantee maximum quality of the finished product. We are currently in the process of achieving APDOA EASA AP481P certification as well

TXT - PLATFORMS

In the last 3 years Elytron has developed an entire ecosystem of unique tandem wing platforms. Today we offer projects/platforms from 25 kg (55 lbs) to 1000 kg (2200 lbs) MTOW. All projects are entirely developed in-house using sophisticated aerodynamic analysis guaranteeing extraordinary performance. Fitted with industrial standard remote control systems, our platforms can be completely customized according to your requirements.

TXT - A - TALISMAN® general description

The Talisman is Elytron's UAV platform weighing up to 50 kg (110 lbs). It may be completely customized according to the client's requirements, guaranteeing extraordinary performance within its weight class. Its accurate design and excellent aerodynamics make it unique in its kind. Finally, the MTOW-cargo ratio is among the best of its category.

The Talisman can operate from semi-prepared surfaces thanks to its sturdy undercarriage, or may be launched with a catapult. Due to the use of 3D printed components and the development of a dedicated power unit, it is a mature product, ready for the global market.

The Talisman is an innovative platform featuring the best weight/cargo ratio in its category. The fuselage features an easily configurable and accessible cargo bay. This means ample space available for fuel, sensors, avionics systems and data links.

TXT - B - ENGINE

The propulsion system (reciprocating engine with electric starter, power generator, muffler, ECU) is centrally positioned, driving a pusher propeller for the best aerodynamic efficiency. The fuel tank is modular to allow short to very long endurance depending by the mission requirement.

TXT - C - CONFIGURATION

The Talisman's tandem wing configuration guarantees inherent stability. It also makes it virtually stall and spin proof. To ensure optimum performance of the wings and provide tangible fuel savings compared to more conventional aerodynamic configurations, Elytron has developed new proprietary wing profiles in collaboration with expert aerodynamics designers.

TXT - D - STRUCTURE

The aircraft was designed for field operations. Its easy assembly makes it possible to be operational on site in just a few minutes. The power unit is conceived as one easily-replaced element, perfectly matched with the fuselage. A sturdy undercarriage system with low-pressure tires, and high-diameter wheels allow the Talisman to operate also from semi-prepared terrain missions. Terrain critical missions can be outfit with catapult and parachute retrieval system.

TXT - E - MISSION

Mission planning is possible thanks to an integrated autopilot specifically calibrated on the Talisman's special flight characteristics. Each flight may be easily planned and simulated thanks to its control system. The Talisman uses a state of the art radar altimeter to manage precision take-off and landing, and an ADS-B transponder system to operate in controlled airspace. The operator may take remote control of the aircraft at any time and safely complete the mission.

TXT - F - APPLICATIONS

The Talisman is a UAV with MTOW up to 50 kg (110 lbs). This makes it ideal for medical supply deliveries, checking pipelines and inspecting transmission towers. Depending on its configuration and sensor equipment, it can be successfully used for aerial photogrammetry missions, SAR operations, law enforcement operations and aerial searches.

TALISMAN® - G - TECHNICAL DATA

Configuration: fixed tandem wing with pusher propeller.

(depending by the configuration short or long range, standard or heavy lift, engine, generator, data link etc.); the following data are just for reference:

Dimensions and weights

Length 260 cm / 102in

Wing Span 300 /360cm 118/141,7in (standard and heavy lift version)

High 84 cm 33,07in

Empty Weight kg 14/19Kg 30,8/41,9lbs

Maximum Take Off Weight up to 50kg 110 lbs

Useful Load up to 31 kg / 68,3/lbs

Power Plant

Two Stroke, 5,5 hp with electrical starter (base configuration, other options available)

Performances (ISA)

Minimum operative speed (@MTOW) 53 km/h / 28.6kts

Maximum level speed (@MTOW) 155 km/h / 83.6kts

Rate of climb: 7,3m/s (4,5 heavy lift)

Best endurance speed (@MTOW) 94 km/h / 50.7kts

Maximum Operational Altitude 3600m / 12.000ft

Best endurance up to 25 hours

PROJECTS

One example of our work is our optimization of a unique tandem wing concept. Elytron Aeronautica created an inherently stable, stall and spin proof aircraft configuration using a tandem wing design.

We developed a special configuration and new high-performance aerodynamic profiles, making it possible to achieve high autonomy. In addition, we achieved a significantly higher than average MTOW/Empty weight ratio when we compared our finished work to aircraft of the same class.

In this project, the platforms developed included high altitude, manned reconnaissance aircraft and unmanned systems weighing up to 1000 kg.

We look forward to bringing those skills and many others to your needs.

SEARCHER® - 150 kg/330 Lbs

The Searcher is a low and medium altitude UAV engineered to perform long missions as a reconnaissance aircraft. It is well suited for pipeline and powerline inspections, border protection, goods delivery and law enforcement. Great payload capabilities, low fuel consumption, easy to manage configuration, and automated or manual flight control come together to create a top of the line UAV platform.

The Searcher is equipped with the SmartCG System enabling the aircraft to maintain balance keeping the center of gravity in the most optimal position for the flight. This allows for quick installation of any kind of sensor. Our clients enjoy the most suitable configuration for their needs.

TECHNICAL DATA

Configuration: fixed tandem wing

Dimensions and weight

Wingspan: 400 cm (13.1 ft)

Length: 410 cm (13.4 ft)

Height: 105 cm (41 in)

Maximum Take Off Weight: 150 kg (330 lbs)

Useful Load: 75 kg (165 lbs)

Empty Weight: 75 kg (165 lbs))

Power Plant

Engine: 30-45 hp (22-34 kW)

Endurance: 12 hours

Performance

Minimum operative speed (@MTOW): 43 kts (80 kph)

Maximum speed (@MTOW): 100 kts (185 kph)

Ceiling: 5000 m (16000 ft)

P300® - 300 kg/660 Lbs

The Project 300 is an easy to fly, unmanned flying aircraft for special operations, reconnaissance, humanitarian aid and border protection. It is bringing a new generation of tandem wing remotely piloted aircraft to your needs. The aircraft remains perfectly on its center of gravity thanks to the SmartCG system, which adapts the position of the fuselage to the installed payload.

This UAV is designed to perform a mission for many hours. Once the first mission is completed, it can return to base to be reconfigured in a short time and take off again a few minutes later with completely different sensors in type, size and weight. If different sensors are not required, it can also be loaded with loads to be ejected or gravity drop offs.

TECHNICAL DATA

Configuration: fixed tandem wing

Design Dimensions and weights

Wingspan: 650 cm (21.3 ft)

Length: 480 cm (15.7 ft)

Height: 170 cm (67 in)

Maximum Take Off Weight: 300 kg (660 lbs)

Useful Load: 160 kg (352 lbs)

Empty Weight 140 kg (308 lbs)

Power Plant

Engine: 40-60 hp (30-45 kW)

Endurance: 10 hours

Design Performance

Minimum speed (@MTOW): 32 kts (59 kph)

Maximum speed (@MTOW): 100 kts (185 kph)

Ceiling: 5000 m (16000 ft)

EXPLORER® - 750 kg/1653 Lbs

The Explorer is an optionally manned, medium altitude UAV designed for strategic missions. These can include, but are not limited to, environment analysis, meteorological damage assessment, intelligence, special operations, reconnaissance, humanitarian aid, border surveillance, communication relay. It can also carry loads to be ejected or gravity drop offs.

Manufactured with state of the art composite materials, it is an efficient, flexible and optimized flying platform. The Explore can be fully equipped according to your particular needs.

TECHNICAL DATA

Configuration: fixed tandem wing

Dimensions and weights

Wingspan: 859 cm (28.1 ft)

Length: 691 cm (22.7 ft)

Height: 305 cm (120 in)

Maximum Take Off Weight: 750 kg (1653 lbs)

Useful Load: 350 kg (771 lbs)

Empty Weight 400 kg (882 lbs)

Power Plant

Engine: 150-200 hp (112-150 kW)

Endurance: 12 hours

Performance

Minimum speed (@MTOW): 40 kts (74 kph)

Maximum speed (@MTOW): 120 kts (222 kph)

Ceiling: 7000 m (20000 ft)