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Advanced Air Mobility
An Operator Perspective

27 Sep 2023

Spright History

- In 1980, Roy Morgan founded Air Methods with one helicopter and a single hospital contract in Colorado. He pledged his commitment to safety and outstanding patient care as core principals to guide the company's success.
- Today, Air Methods maintains the same values while conducting over 150,000 transports, across 450+ aircraft, with a network of 300+ facilities dispersed throughout 47 states.
- In the spirit of innovation, Air Methods launched Spright as a concept in 2020 to support Air Methods' current and future customer base by offering medical drone delivery services.
- Applying a rich aviation history and unique understanding of a diverse and complex healthcare system, Spright is positioned to lead this emerging sector using the right platform for the mission.

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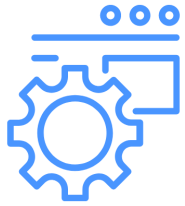
Spright Process

Align with customer needs

Evaluate customer use case requirements and alight it with the best aircraft to meet the specifications



Personalize solution

Combine the selected aircraft with all required ground infrastructure and landing solutions as well as software integrations for workflow management and remote operations

Turnkey implementation

Provide a turn-key end to end solution for the proposed use case and deliver it with a commercial service plan that includes all regulatory approvals, remote piloting, maintenance and updates

Medical Solution Aircraft Spec's & Flight Profiles

Slate

Size	Payload
Small	6lb
<55lb	
Range	**Speed**
50mi	60mph

Max wind

25kts

Eiger

Size	Payload
Medium	10lb
<55lb	
Range	**Speed**
75mi	75mph

Max wind

35kts

Aero 2

Size	Payload
Large	88lb
<300lb	
Range	**Speed**
250mi	110mph

Max wind

40kts

Spright's Regulatory Success

- 100+ years of cumulative aviation experience operating and managing commercial and military aviation services.
- Drones active in US Type Certification process with the Federal Aviation Administration.
- Spright holds an active Part 135 Certificate with the FAA's office in Scottsdale, AZ, allowing for commercial delivery operations via drone.
- Application pending for a 44807 Exemption while the Type Certification process continues.
- Spright operates under an accepted Safety Management System (SMS) – designed to meet Part 5 of 14 CFR - within the FAA's Voluntary Program.
- FAA Tech Assist Program – Remote Operations center development.
- EASA LUC certificate expected to be approved October of 2023.

Medical Delivery Services

- Spright enables healthcare access and minimizes supply challenges through unmanned delivery services for hospitals, clinics, and laboratories.

- Spright applies innovative technology to increase transportation speed, reliability, and efficiency by avoiding road and air traffic challenges that often slow the delivery of vital supplies.

- Medical Logistics: Hospitals < > Clinics
  - Blood supplies
  - Medications
  - Vaccines
  - Medical devices

- Lab Logistics: Collection Site < > Lab
  - Blood samples
  - Tissue samples
  - Diagnostic supplies

- Pharmacy Logistics: Warehouse < > Retail < > Retail
  - High-cost medications
  - Vaccines

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DoD Medical Delivery

NORTHERN STRIKE – 10 Aug thru 14 Aug 2023

- Air Force Innovation Demonstration at the USAF Combat Readiness Training Center in Alpena, MI
- Drone delivery of Ketamine Pump to Field Medic (27-mile BVLOS flight – remotely operated)
- Expanding project to provide medical logistics:
  - Delivery of blood and durable medical equipment to the warfighter at the point of injury (Spark tank 2022 finalist project)
  - FOB re-supply from centralized location

Operational Considerations

Key Factors for Selection

In the HEMS and medical logistics world there are numerous factors to be considered:

- Payload
  - Weight
  - Volume
- Operational Readiness
  - Launch time
  - Turn-time
  - In-Service Rate
- Infrastructure Requirements

Payload

Patient care during transport has changed dramatically over Air Methods' 40+ year history.

- The days of "scoop and go" are gone
- Patient care has evolved into more complex high-level of care during transport
  - ECMO – "Heart and Lung" machine
  - NICU Isolette
- Teams for support requiring a 3rd clinician and/or doctor on board
- New threshold of 1800lbs of payload capacity
  - Equipment
  - Patient size
  - Reduced fuel loads to accomodate

Operational Readiness

Operational readiness has always been a key factor in improving patient outcomes.

- Launch time – How quickly can both the pilot and clinicians be ready to get up into the air
- Turn-time – How quickly can the aircraft and/or crew be ready to go again
  - Transport frequency
  - Infrastructure limitations
- In-Service Rate
  - Aircraft reliability
  - Down-time for scheduled maintenance

Infrastructure

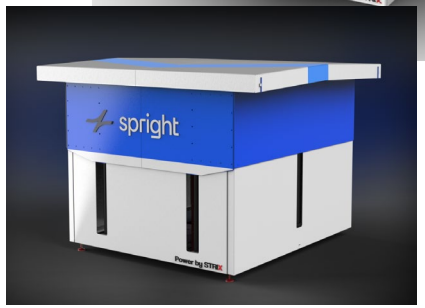
It is recommended that all hospitals construct a permanent, certified landing area on their property for safety, liability and transport issues, that should be safe for the users, patients, and staff.

- The Federal Aviation Administration (FAA) worked with several industry groups in 1994 to develop FAA Advisory Circular (AC) 150/5390-2 – Heliport Design to establish the minimum standards for designing a heliport facility. (Currently at revision D)
    - *The guidance provided in this AC is limited to heliports and helicopter operations.* ***This AC does not specifically consider the characteristics of all vertical takeoff and landing (VTOL) aircraft or unmanned aircraft. New aircraft entrants that have an interest in operating at heliports should work with the FAA Office of Airports and Flight Standards to demonstrate that their aircraft's operational and safety parameters comply with this AC, prior to operations.***
- Limited real estate and specialized infrastructure including re-fueling capabilities as an example may create challenges.

Infrastructure

Limited space and new requirements may create additional challenges for consideration.

- Charging stations
  - Size and space requirements
  - Power grid capacity
- Maintenance/support requirements
  - Battery change logistics
- UAS support equipment
  - Delivery port
  - Charging/storage infrastructure



Future of HEMS and Medical Logistics

Overall there is excitement about what the future can bring

- Greener/quieter operations
- More efficient platforms
    - Maintenance and Operational Expense reductions
- Improved safety levels
    - Automation
    - Crew workload reductions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QUESTIONS?
Thank you
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