

2026 WIPO IP MOOT COURT COMPETITION

ANNEXES OF THE PROBLEM

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ANNEX A1

**STATEMENT OF TOTAL GRANT OF PROTECTION BY COASTLAND
INTELLECTUAL PROPERTY OFFICE**



**REPUBLIC OF COASTLAND
COASTLAND INTELLECTUAL PROPERTY OFFICE**

STATEMENT OF TOTAL GRANT OF PROTECTION

Notified to The International Bureau Of The World Intellectual Property Organization
In accordance with Rule 18ter (1) of the Common Regulations

I. Office making the notification:
Coastland Intellectual Property Office (COIP), Republic Coastland, Peacefully Hill 30, Green City, 41975. Phone. (+00) 55556666 Fax. (+00) 55556666
II. International registration number : 252526 Date of International Registration : January 2, 2020 Mark : RED IS ON THE WAY
III. Holder of the international registration:
NorthSky Drones Ltd. (NL) Xingfu 12, Lynnborg 111935, Northland
IV. The protection is granted to the mark that is the subject of this international registration for <u>all</u> the goods and all the services for which protection has been requested.
<i>Class 12: Unmanned aerial vehicles (drones) and unmanned helicopters for industrial purposes, and their parts and fittings; aircraft and their parts and fittings.</i>
V. Date of the statement:
February 12, 2021
VI. Signature of the Office:
Signed and Sealed Director of Coastland Intellectual Property Office

ANNEX A2

TRADEMARK APPLICATION FOR “NORTHSKY RED”



COASTLAND INTELLECTUAL PROPERTY OFFICE

Trademark Application

Date of receipt 15/03/2021	Your Reference NL007	Application No.: 4-2021-02711
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Applicant(s)	
Applicant Type:	Applicant Number 1 Legal Entity
Name of legal entity:	NorthSky Drones Ltd.
Street & House No.:	Xingfu 12
City:	Lynnbург
Postal Code:	111935
Country:	Northland
Postal Address:	NorthSky Drones Ltd. (NL) PO Box 1163 Xingfu 12, Lynnbург 111935 Northland
Telephone Number:	+472 230 0884
Email address:	frontoffice@northskydrones.co.nl
Website:	www.northskydrones.nl
IP Representative(s)	
Name of Association:	Representative Number 1 Representative ID: 1000 Blue Horizon Associates
Street & House No.:	17 Lynnbург Avenue, Suite 5
City:	Lynnbург
Postal Code:	LB-72104
Country:	Coastland
Postal Address:	1458
Telephone Number:	+471 884 2300
Email address:	office@bluehorizon-ip.cl
Website:	www.bluehorizon-ip.cl
Trademark details	
Type of mark:	Color
Representation:	
Description of Mark:	Color "red" - HEX code #ff3131
Disclaimer:	
List of goods and services	
Class	Goods and services
12	<i>Unmanned aerial vehicles (drones) and unmanned helicopters for industrial purposes, and their parts and fittings; aircraft and their parts and fittings.</i>

Priority Claim	Yes ☐	No ☒
Country of first application	First Application Number	Filing Date

Fee	
Payment method:	Bank transfer
Basic fee:	1000 NLD
Additional class fee:	
In total	1000 NLD

Date: 15/03/2021

On behalf of the Applicant

(signed)

Trademark Attorney

ANNEX B

PATENT APPLICATION FILED IN NORTHLAND

Application No.	62/856.322
Date Received	18/01/2020



PATENT APPLICATION

☒ Direct ☐ PCT ☐ Divisional ☐ w/ Claim of Priority

TITLE OF INVENTION			
MODULAR UNMANNED AIRCRAFT SYSTEM FOR REMOTE AID DELIVERY AND TELEMEDICINE SUPPORT			
DIVISIONAL INFORMATION (For Divisional Applications, if applicable)			
Parent Application No.		Parent Application Filing Date (yyyy/mm/dd)	
PCT INFORMATION (For National Phase Entry Applications, if applicable)			
International Application Number		International Filing Date (yyyy/mm/dd)	
International Publication Number		International Publication Date (yyyy/mm/dd)	
PRIORITY CLAIM/S (If applicable)			
Prior Foreign Application Number/s	Foreign Filing Date (yyyy/mm/dd)	Country	Certified Copy attached?
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
APPLICANT INFORMATION (For Individual applicants, you may skip Name of Company/Government/School and Position fields)			
Type of Applicant ☒ Individual ☐ Company / Corporation ☐ School ☐ Government			
Applicant	Last Name	First Name	Middle Name
	Chen	Lina	
Address 12 Skyline Crescent, Lynnbург, Northland			
Contact No.	Email Address	Nationality	
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Contact No.	Email Address	Nationality	
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Other Applicant (if available)	Last Name	First Name	Middle Name
	Solis	Anya	
Address 21 Haven, Lynnbург, Northland			
Contact No.	Email Address	Nationality	
	solisa@northsky.com	Northlish	
* At least one Applicant is mandatory The applicant with no agent or authorized representative must inform the office of any changes in the contact information			
INVENTOR INFORMATION (If the inventor is not the same as the applicant)			
Inventor	Last Name	First Name	Middle Name
Address			
Contact No.	Email Address	Nationality	
* At least one Inventor is mandatory			
RESIDENT AGENT / AUTHORIZED REPRESENTATIVE (If supplied, all correspondences will be sent to this contact)			
Agent Number	Company Name (The law firm, if applicable)		
222	Blue Horizon Ltd		
Address			
88 Sunbei, Northport, 111935, Northland			
Contact No.	Email Address		
+472 884 2300	admin@bluehorizon-ip.nl		
Agent or authorized representative must inform the office of any changes in the contact information			

CHECKLIST (To be filled up by Applicant)

This application contains the following documents:	This application as filed is accompanied by the items checked below:										
<table><tr><td>1. Application</td><td>02 sheets</td></tr><tr><td>2. Description</td><td>04 sheets</td></tr><tr><td>3. Claims</td><td>02 sheets</td></tr><tr><td>4. Drawing(s)</td><td>03 sheets</td></tr><tr><td colspan="2">TOTAL <u>11</u> sheets</td></tr></table>	1. Application	02 sheets	2. Description	04 sheets	3. Claims	02 sheets	4. Drawing(s)	03 sheets	TOTAL <u>11</u> sheets		☐ Separate notarized power of attorney ☒ Copy of general power of attorney ☐ Priority document/s (see Priority Claim) Deed of assignment ☐ Cheques for the payment of fees ☐ Physical data carrier containing Sequence Listing in PDF OCR ☒ Statement of compliance to requirements of Free ☐ Prior Informed Consent of Indigenous Cultural Community For PCT Applications ☐ Amendments ☐ Under PCT Article 19 ☐ Under PCT Article 34 ☐ International Search Report ☐ International Preliminary ☐ Examination POA / ARA ☐ PCT/IB/304, if applicable For Divisional Applications ☐ Certified true copy of the parent application, if applicable Other document/s (please specify) :
1. Application	02 sheets										
2. Description	04 sheets										
3. Claims	02 sheets										
4. Drawing(s)	03 sheets										
TOTAL <u>11</u> sheets											

Figure number 1 of the drawing (if any) is suggested to accompany the abstract for publication.

Total Number of Claims : 10

ADDITIONAL INFORMATION (Mandatory)

- The subject matter of the application consists of, or relates to, biological materials and/or genetic resources. (Law 1000) ☐ Yes ☒ No
If yes, please specify the nature and source of origin of the biological materials and/or genetic resources.
- The subject matter of the application consists of, or relates to, traditional knowledge. (Law 1000) ☐ Yes ☒ No
If yes, please specify the nature and source of origin of the traditional knowledge.
- The subject matter of the application consists of, or relates to, Indigenous Knowledge Systems and Practices. (Law 1000) ☐ Yes ☒ No
If yes, please specify the nature and source of origin of the indigenous knowledge systems and practices.

NIPO PRIVACY STATEMENT AS PER DATA PRIVACY ACT 2010 AND SIGNATURE

☒ Agree ☐ Disagree

By ticking the AGREE box and affixing my signature to the right, I understand that I am giving consent to the collection, storage, sharing and other necessary processing of the personal information contained in this application, freely and voluntarily, to the Intellectual Property Office of The State of Northland (NIPO) and its partners, in the exercise of its mandate as the lead government agency for the protection of IP rights and in compliance with the provisions of Data Privacy Act 2010.

I declare that all the information provided above are true and correct to the best of my knowledge.

(signed and sealed)
Patent Attorney

NOTE: Submission of this Application Form and Payment of the Filing Fees do not mean that the application process is already complete. The application review process involves several stages and NIPO may request additional supporting documents, as needed, during said stages. This application is subject to the periods prior to the publication prescribed, if any, in the IP Code and international treaties to which the State of Northland is a signatory. An application shall be deemed completed only upon completion of all stages and requirements, and payment of all required fees.

DESCRIPTION

BACKGROUND OF THE INVENTION

1. Unmanned Aerial Vehicles (UAVs) have been widely adopted for delivery of consumer goods and reconnaissance tasks. Existing systems, such as those disclosed in US 9,863,776 B2, focus on route planning for individuals with mobility impairments using drones for environmental assessment. US 10,189,565 B2 introduces modular UAV architecture with docking capabilities for extended range and mission flexibility. US 10,860,971 B2 addresses parcel delivery workflows and secure access mechanisms.

2. Simultaneously, the frequency and severity of emergency situations including natural disasters, pandemics, armed conflicts, and extreme weather events—have highlighted significant limitations in traditional emergency response systems, which often cannot guarantee timely access to essential medical aid due to damaged infrastructure, restricted mobility, or personnel shortages. Existing medical delivery platforms and telemedicine solutions typically rely on stable ground transportation networks and intact communication infrastructure, both of which may be unavailable in critical scenarios. Consequently, there exists a pressing need for systems capable of rapidly and autonomously transporting telemedicine equipment and urgent medical supplies to affected individuals, thereby enabling remote assessment, early intervention, and stabilization prior to the arrival of professional medical personnel.

SUMMARY OF THE INVENTION

3. The invention provides a modular medical unmanned aircraft system (UAS) comprising a parent UAV and multiple child UAVs configured for medical aid delivery and telemedicine support.

4. The parent UAV transports, houses, and energizes the child UAVs using docking mechanism. The parent UAV conducts preliminary route assessments, hazard mapping, and selection of safe deployment zones.

5. Each UAV is constructed from hazard-resistant material, capable of maintaining shipment stability and safety under extreme temperature, moisture, and mechanical stress. Child UAVs further feature a telecommunication interface enabling immediate telemedicine support.

6. Child UAVs also embody an onboard telemedicine diagnostic pod, storable within the child UAV and deployable at the patient site. The pod includes diagnostic tools such as a pulse oximeter, electrocardiogram (ECG), thermometer, and a video/audio link for remote medical examination.

7. Another aspect of the invention is a secure automated medical payload handling subsystem, including robotic loading/unloading of medical box and automated verification of intended recipients.

8. The invention further provides a method of operating the modular UAS, including route planning, autonomous UAV deployment, automatic unloading of contents, telemedicine session initiation, and post-mission retrieval.

9. Additional objects, advantages, and novel features of the technology will be set forth in part in the description that follows, and in part will become apparent to those skilled in the art upon examination of the following or learned by practice of the technology.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 illustrates the overall modular medical UAS architecture, including the parent UAV and multiple child UAVs.

FIG. 2 a schematic view of a child UAV and its structure for automatic payload handling.

FIG. 3 a schematic view of docking interface for child UAV storage and charging.

FIG. 4 is a flow chart describing an example process for route planning and management using the UAS and individual UAV modules.

DETAILED DESCRIPTION OF THE INVENTION

System Architecture

10. Referring to FIG. 1, the system comprises a parent UAV (10) and a plurality of child UAVs (70), wherein the parent UAV is configured to house, transport, recharge, and deploy multiple child UAVs using an advanced internal docking architecture. According to various embodiments, the UAVs (70) are configured to be dispatched from the parent UAV (10), deliver one medical box to recipient locations and return to the parent UAV (10).

11. In general, the UAV modules are embodied in unmanned flying objects (such as aircraft) capable of independent operation, powered either electrically and/or by conventional means. The parent module is distinguished by a fuselage (20) and a propulsion system 30. The propulsion system may include single or multiple rotors.

12. The fuselage of the described parent UAV is configured with internal docking bays (200), which provides mechanical stabilization, temperature control, and electrical power connection for recharging child UAVs. The fuselage also contains a navigation deck and a power supply (40).

13. The navigation deck (40) is equipped with computing entity for route navigation and analysis and hazard detection system combining Light Detection and Ranging (LIDAR), thermal imaging, temperature or pressure transducers, meteorological sensors, smoke/air quality detection, enabling selection of safe landing/delivery zones.

14. The power supply may be a multi-cell battery pack, fuel cell stack, and/or a supply of aircraft fuel in different embodiments. An electric propulsion system may be used in some non-limiting embodiments of the UAV module, in which case the power supply may take the form of a main battery pack or an additional battery pack located on or within the fuselage. Other power sources may be used, such as solar arrays in order to provide the UAV modules with a suitable and reliable supply of energy for propulsion.

15. All UAVs in the system have a core layer arranged between covering layers. The terminating layer is made of a sheet metal part coated at least on the outside by the coil coating method. The core layer has a honeycomb structure (42). The outer skin is made of thermally insulated, vibration-damped, and fire-resistant material comprising heat-expandable graphite in an amount of 1 to 10 parts by weight based on 100 parts by weight of a polyvinyl chloride-based resin.

16. Communication between UAVs occurs via encrypted radio frequency, satellite, or mesh network

Child UAV Design and automatic payload handling

17. As shown in **FIG. 2**, the child UAV (70) generally comprises a main body (80) and a plurality of propulsion members (81) extending outwardly from the main body (80), and a supporting frame (82) arranged at the lower part of the main body.

18. The propulsion members are configured to lift and guide during flight. The propulsion members (81) may be operable between an “on” configuration, in which the propulsion members (81) provide lift to the UAV (70), and an “off” configuration, in which the propulsion members are stationary and/or do not provide lift to the UAV (70).

19. In the embodiment depicted in **FIG. 2**, the UAV (70) is a quadcopter and includes four separate propulsion members (81). However, as will be appreciated from the description herein, the UAV (70) may include any number of propulsion members suitable to provide lift and guide the UAV during flight.

20. The supporting frame includes at least two blocking rods. The blocking rods (82) are fixedly installed with magnetic pieces (not shown in the embodiment) enabling the rods to carry the modular component. The blocking rods are slidable from the body to adjust to the size of the modular component described below.

21. A modular component (payload) is designed to accommodate first kit aid and medical supplies (objects) (100) required for rescue. The payload (114) may be connected to the UAV through the supporting frame by physical connections and/or power and control connections. The payload may include a conveyor (130). The conveyor may be any type of conveyor capable of transporting objects from the payload to the delivery area. For example, the conveyor (130) may include a conveyor belt, conveyor rollers, or other type of conveyor or moving track. In such an embodiment, the conveyor (130) may be stationary as the movement of the objects (100) is achieved with the sliding device onto the delivery area (116). The tambour delivery door (22) may be latched such that the door remains closed until unlatched by the recipient or the controller.

22. Each child UAV (70) is designed for autonomous flight, last-mile delivery, and telemedicine operations. Each child UAV is also configured with a navigation deck with identical features to that of the parent UAV (see [0017]). The computing entity of child UAVs further includes telemedicine communication and diagnosis suite including a touchscreen interface, a high-resolution camera and microphone, diagnostic devices (pulse oximeter, thermometer, electrocardiogram), patient-identity verification, encrypted uplink to remote medical operators.

23. The parent and child modules do not necessarily have identical structure, but all child UAV have a uniform structure.

Docking system

24. The fuselage of the parent UAV comprises a plurality of docking stations for child UAVs (**FIG. 3**). Each docking station stacks, stabilizes, and charges the UAVs. Stacking UAVs allows for more UAVs to be housed in a smaller surface area.

25. The docking assembly includes a dock (200), having a shaft (201). The dock includes a horizontally

Description of the patent application

disposed base (204) having an upper surface and a lower surface. The shaft (201) vertically extends from the upper surface of the base (204). The shaft (201) of the present invention may include a cylindrical shape. The length of the shaft determines how many UAVs can be stacked on the dock. The dock (200) may further include a balancer foot (205) extending from the upper surface of the base, which enables the user to prop up the base (204) in a stowed position.

26. The shaft may further connect to the power source inside the parent UAV and include a battery charger (202), (203) operable to charge a battery of the child UAVs when they are docked. The battery charger (202), (203) may include a positive charge contact ring (202) and a negative charge contact ring (203) that align with the positive charge contact ring and the negative charge connect ring of the child UAVs.

Operation Method

27. **FIG. 5** outlines the method of operating the system:

1. Hazard scanning by the parent UAV.
2. Identification of landing zones.
3. Autonomous child UAV deployment toward target patients.
4. Medical payload delivery and verification.
5. Telemedicine pod deployment and initiation of remote diagnostic session.
6. Biomedical sensing data transmission to remote clinicians.
7. Return of child UAV to the parent UAV or ground station.

CLAIMS

1. A modular unmanned aircraft system (UAS) for medical aid delivery and telemedicine support, comprising a parent unmanned aerial vehicle (UAV) and a plurality of child UAVs, wherein a parent unmanned aerial vehicle (UAV) in airframe structure configured to house, transport, recharge, and deploy a plurality of child UAVs via an internal docking architecture; a plurality of child UAVs configured for autonomous flight, delivery of medical payloads, and telemedicine operations; the child UAVs are configured for autonomous deployment from the parent UAV to deliver medical payloads and return after delivery.
2. The parent UAV of claim 1 defines a fuselage wherein:
a navigation deck including a computing entity for route navigation and hazard detection using Light Detection and Ranging (LIDAR), thermal imaging, meteorological sensors, and smoke/air quality detection;
a power supply selected from a multi-cell battery pack, fuel cell stack, or aircraft fuel source, a plurality of internal docking bays configured to mechanically stabilize, temperature-control, and electrically recharge the child UAVs.
3. The parent UAV of claim 1 further defines a propulsion system including single or multiple rotors operable for vertical take-off and landing.
4. The internal docking bays according to claim 2, characterized in that a horizontally disposed base and a vertically extending shaft configured to stack multiple child UAVs and provide electrical charging via positive and negative contact rings.
5. The system of claim 1, wherein each child UAV comprises a main body, a plurality of propulsion members extending outwardly from the main body, and a supporting frame including blocking rods and a blocking plate for securing a modular payload.
6. The system of claim 1, wherein each child UAV incorporates a computing entity for route navigation and hazard detection using Light Detection and Ranging (LIDAR), thermal imaging, meteorological sensors, and smoke/air quality detection.
7. The computing entity of claim 5 further includes telemedicine communication and diagnosis suite including a touchscreen interface, a high-resolution camera and microphone, diagnostic devices (pulse oximeter, thermometer, electrocardiogram), patient-identity verification, encrypted uplink to remote medical operators.
8. The system of claim 1, wherein the parent UAV and child UAVs communicate via encrypted radio frequency, satellite, or mesh network protocols.
9. The system of claim 1, wherein the airframe of the parent UAV and child UAVs comprises a core layer with a honeycomb structure arranged between covering layers, the outer skin being thermally insulated, vibration-damped, and fire-resistant, comprising heat-expandable graphite in an amount of 1 to 10 parts by weight based on 100 parts by weight of a polyvinyl chloride-based resin.
10. A method of operating a modular unmanned aerial vehicle system according to claim 1, comprising:

Claims

hazard scanning by the parent UAV;
identification of safe landing zones;
autonomous deployment of child UAVs toward target patients;
delivery of medical payload and verification;
initiation of telemedicine session; and
return of child UAVs to the parent UAV.

DRAWINGS

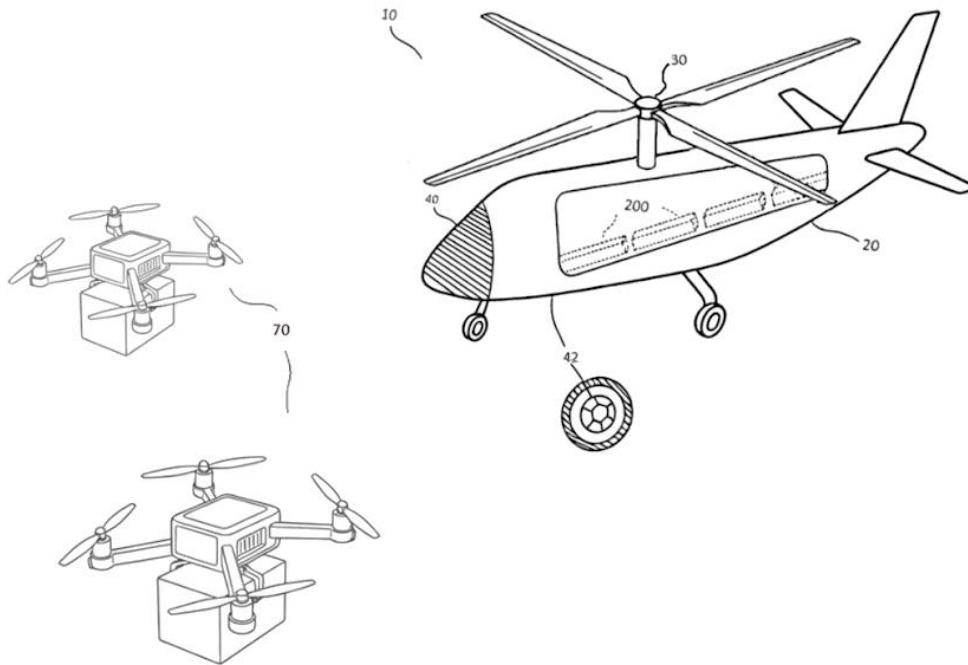


FIG 1

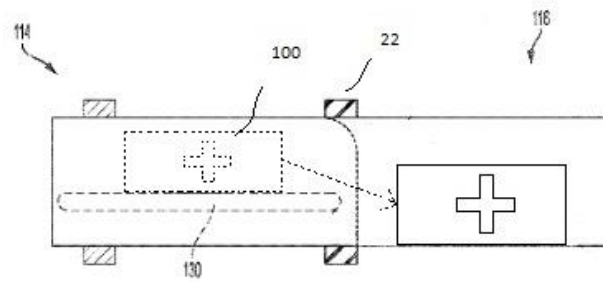
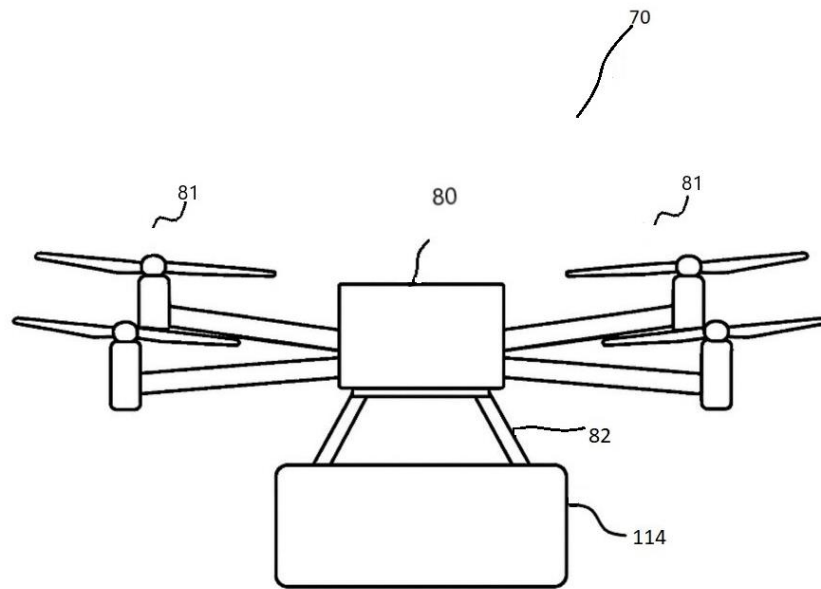


FIG 2

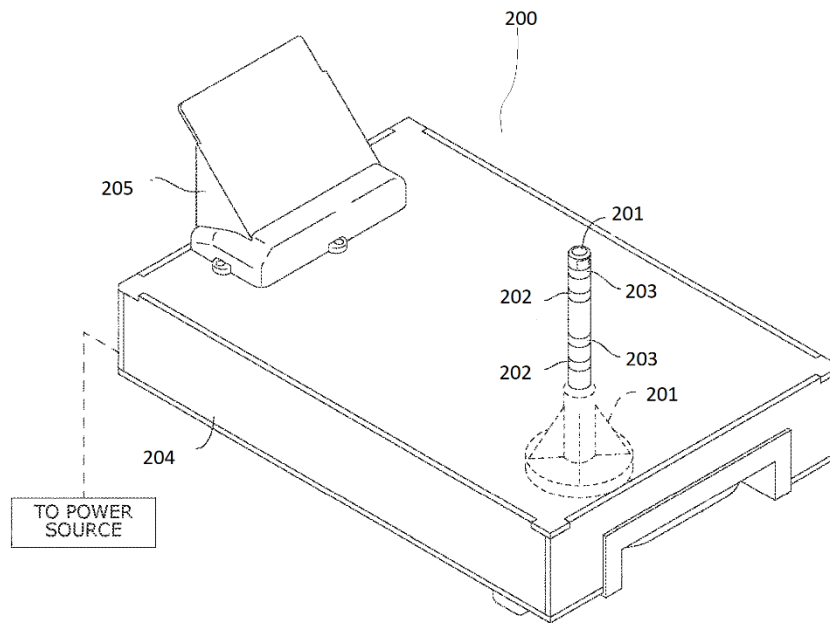


FIG 3

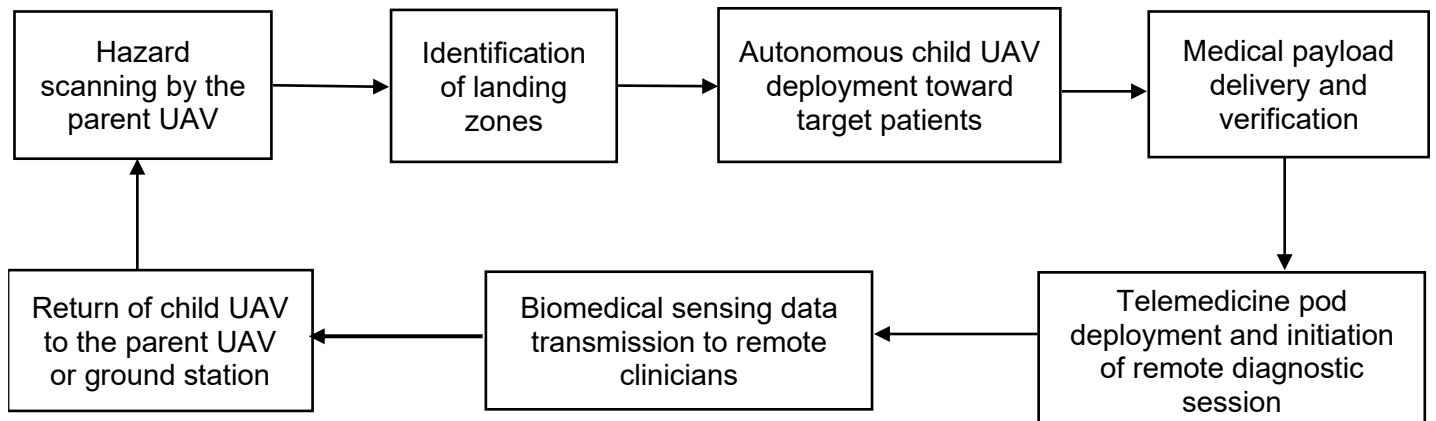


FIG 4

ANNEX C

PRIOR ART - EXCERPT FROM “DREAMS OF TOMORROW’S WORLD”

(...)

Flames clawed at the wooden rooftops, sending black smoke spiraling into the icy sky. The mountain wind carried the cries of villagers, their voices raw with fear and despair. Snow melted into muddy rivulets as the inferno devoured everything in its path. For miles around, the peaks stood silent witnesses to a tragedy unfolding in the heart of winter.

Through the haze of smoke and ash, the sky shimmered with a metallic glint. From beyond the horizon came a big silver helicopter with massive blades slicing through the thin air with a steady, rhythmic hum. The giant hovered above the burning valley and suddenly opened its door releasing its smaller flying objects, glinting like metallic dragonflies. Each carried a mysterious box underneath. The helicopter remained high and silent, a sentinel in the clouds, while its mini versions skimmed over the ash-strewn ground. They glided past collapsing roofs and charred trees, their polished frames flashing like shards of light. One after another, they descended gracefully, landing near clusters of crying villagers. With a soft hiss, the boxes detached, revealing precious bread, water bottles, and blankets to fight nature’s anger. Then came the moment no one expected. The mini objects scanned their bodies, beams of soft blue light sweeping over skin and clothing. Magically, doctors showed up on the surface of the tiny crafts, asking them about their conditions. Their voices were clear, crashing through the smoky air, taking the people from the valley of despair to the summit of hope..



The illustration used in the book for the chapter

ANNEX D1

PATENT ASSIGNMENT (CHEN & NORTHSKY DRONES LTD.)

Dated 1 December 2020

Between

(1) Dr. Lina Chen, of 12 Skyline Crescent, Lynnburg, Northland,
(Assignor);

and

(2) NorthSky Drones Ltd., a company a company incorporated under the laws of Northland, with
registered office at Xingfu 12, Lynnburg 111935, Northland,
(Assignee).

PATENT ASSIGNMENT

This Assignment dated 1 December 2020 is between:

- (1) **Dr Lina Chen** (the “Assignor”), an individual residing at 12 Skyline Crescent, Lynnbург, Northland; and
- (2) **NorthSky Drones Ltd.** (the “Assignee”), a company incorporated under the laws of Northland under registration number NL-2048-01923, whose registered office is at Xingfu 12, Lynnbург 111935, Lynnbург, Northland.

The Assignor and the Assignee together shall be referred to as the “Parties” and individually shall be referred to as a “Party”.

The Parties agree as follows:

1. Definitions

- 1.1 *Definitions.* In this Assignment, the following term shall have the following meaning:

Patents All patents and patent applications identified in the attached Schedule, and any future patents and patent applications which derive priority from or share a right of priority with any such patents and/or patent applications, including in particular the right to claim priority from the Northland national patent application identified in the Schedule for any present or future filings.

2. Assignment

- 2.1 *Assignment.* For valuable consideration (the receipt and sufficiency of which is hereby acknowledged), the Assignor hereby assigns and transfers to the Assignee all her right, title, and interest in and to the Patents, which assignment and transfer is hereby accepted by the Assignee.

- 2.2 *Further details of the assignment.* Without limiting the scope of Clause 2.1, the assignment effected by Clause 2.1 shall include the assignment and transfer to the Assignee of:

- (a) all patents listed, and all patents that may be granted pursuant to any applications listed, in the attached Schedule, as well as all patents that may derive priority from or share a right of priority with any of the Patents in any country of the world (including all divisions, continuations, continuations in part, reissues and extensions), and the Patents shall be deemed to include all such items of intellectual property;
- (b) the right to apply for, and obtain, any item of intellectual property referred to in Clause 2.2(a); and
- (c) all rights of action, powers, and benefits arising from ownership of the Patents, including the right to sue for damages and other legal and equitable remedies in respect of all causes of action arising before, on or after the date of this Assignment.

- 2.3 *Further assurances.* The Assignor shall: (a) execute, acknowledge, and deliver such further documents; and (b) give such assistance as the Assignee may reasonably require at the Assignee’s reasonable expense to secure the vesting in the Assignee of all rights in the Patents.

- 2.4 *Further work.* For the avoidance of doubt, nothing in this Assignment shall require the Assignor to do any further development, investigation, or other work in respect of or in relation to the inventions described in the Patents.

- 2.5 *Registration.* The Assignee shall be entitled to notify and/or register on the Assignor’s behalf the assignment under Clause 2.1 to the relevant patent offices, the costs of which shall be borne by the Assignee.

3. General

- 3.1 *Interpretation.* In this Assignment: (a) any reference in this Assignment to a Clause or a Schedule is to a clause of or a schedule to this Assignment; (b) the provisions of the Schedule shall form part of this Assignment as if set out here; (c) the headings in this document are inserted for convenience only and shall not affect the construction or interpretation of this Assignment; and (d) where the word “including” is used in this Assignment, it shall be understood as meaning including without limitation.
- 3.2 *Governing law and jurisdiction.* The validity, construction, and performance of this Assignment shall be governed by the laws of Northland and shall be subject to the exclusive jurisdiction of the courts of Northland, to which the Parties submit. Notwithstanding the preceding sentence, any question concerning the validity of any intellectual property right shall be subject to the law and jurisdiction of the country in which such intellectual property right exists.

Agreed by the Parties through their authorised signatories:

For and on behalf of
Dr Lina Chen (Assignor)

For and on behalf of
NorthSky Drone Ltd. (Assignee)

Signed

Signed

Dr Lina Chen
Print name

Alec Morgan
Print name

Founder and Lead Engineer
Title

Chief Executive Officer
Title

1 December 2020
Date

1 December 2020
Date

ANNEX D2

PATENT ASSIGNMENT (OKAFOR & NORTHSKY DRONES LTD.)

Dated 1 December 2020

Between

(1) Jonas Okafor, of 15 North Avenue, Lynnborg, Northland,
(Assignor);

and

(2) NorthSky Drones Ltd., a company a company incorporated under the laws of Northland, with
registered office at Xingfu 12, Lynnborg 111935, Northland,
(Assignee).

PATENT ASSIGNMENT

This Assignment dated 1 December 2020 is between:

- (1) **Jonas Okafor** (the “Assignor”), an individual residing at 15 North Avenue, Lynnborg, Northland; and
- (2) **NorthSky Drones Ltd.** (the “Assignee”), a company incorporated under the laws of Northland under registration number NL-2048-01923, whose registered office is at Xingfu 12, Lynnborg 111935, Northland.

The Assignor and the Assignee together shall be referred to as the “Parties” and individually shall be referred to as a “Party”.

The Parties agree as follows:

1. Definitions

- 1.1 *Definitions.* In this Assignment, the following term shall have the following meaning:

Patents All patents and patent applications identified in the attached Schedule, and any future patents and patent applications which derive priority from or share a right of priority with any such patents and/or patent applications, including in particular the right to claim priority from the Northland national patent application identified in the Schedule for any present or future filings.

2. Assignment

- 2.1 *Assignment.* For valuable consideration (the receipt and sufficiency of which is hereby acknowledged), the Assignor hereby assigns and transfers to the Assignee all her right, title, and interest in and to the Patents, which assignment and transfer is hereby accepted by the Assignee.

- 2.2 *Further details of the assignment.* Without limiting the scope of Clause 2.1, the assignment effected by Clause 2.1 shall include the assignment and transfer to the Assignee of:

- (a) all patents listed, and all patents that may be granted pursuant to any applications listed, in the attached Schedule, as well as all patents that may derive priority from or share a right of priority with any of the Patents in any country of the world (including all divisions, continuations, continuations in part, reissues and extensions), and the Patents shall be deemed to include all such items of intellectual property;
- (b) the right to apply for, and obtain, any item of intellectual property referred to in Clause 2.2(a); and
- (c) all rights of action, powers, and benefits arising from ownership of the Patents, including the right to sue for damages and other legal and equitable remedies in respect of all causes of action arising before, on or after the date of this Assignment.

- 2.3 *Further assurances.* The Assignor shall: (a) execute, acknowledge, and deliver such further documents; and (b) give such assistance as the Assignee may reasonably require at the Assignee’s reasonable expense to secure the vesting in the Assignee of all rights in the Patents.

- 2.4 *Further work.* For the avoidance of doubt, nothing in this Assignment shall require the Assignor to do any further development, investigation, or other work in respect of or in relation to the inventions described in the Patents.

- 2.5 *Registration.* The Assignee shall be entitled to notify and/or register on the Assignor’s behalf the assignment under Clause 2.1 to the relevant patent offices, the costs of which shall be borne by the Assignee.

3. General

- 3.3 *Interpretation.* In this Assignment: (a) any reference in this Assignment to a Clause or a Schedule is to a clause of or a schedule to this Assignment; (b) the provisions of the Schedule shall form part of this Assignment as if set out here; (c) the headings in this document are inserted for convenience only and shall not affect the construction or interpretation of this Assignment; and (d) where the word “including” is used in this Assignment, it shall be understood as meaning including without limitation.
- 3.1 *Governing law and jurisdiction.* The validity, construction, and performance of this Assignment shall be governed by the laws of Northland and shall be subject to the exclusive jurisdiction of the courts of Northland, to which the Parties submit. Notwithstanding the preceding sentence, any question concerning the validity of any intellectual property right shall be subject to the law and jurisdiction of the country in which such intellectual property right exists.

Agreed by the Parties through their authorised signatories:

For and on behalf of
Jonas Okafor (Assignor)

For and on behalf of
NorthSky Drone Ltd. (Assignee)

Signed

Signed

Jonas Okafor
Print name

Alec Morgan
Print name

Senior R&D Engineer
Title

Chief Executive Officer
Title

1 December 2020
Date

1 December 2020
Date

ANNEX E

PATENT NO. 3 456 000 B

(19)

(12)



3 456 000 B1

PATENT SPECIFICATION

(45) Date of publication and mention of the grant of the patent: **29.02.2024 Bulletin 2024/29**

(21) Application number: **19972110.6**

(22) Date of filing: **11.01.2021**

(51) International Patent Classification (IPC):



(52) Cooperative Patent Classification



(86) International application number:
PCT/NL/2021/151233

(87) International publication number:
WO 2021/111111 (11.06.2020 Gazette 2021/21)

(54) **MODULAR UNMANNED AIRCRAFT SYSTEM FOR REMOTE AID DELIVERY AND
TELEMEDICINE SUPPORT**

(30) Priority: **13.01.2020 NL 62/856,322**

(43) Date of publication of application:
10.10.2022 Bulletin 2022/27

(73) Proprietor: **NorthSky Drones Ltd., Xingfu 12,
Northport, Lynnborg 111935, Northland**

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12 Skyline Crescent, Lynnborg, Northland
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(56) References cited:
US 9,863,776 B2
US 10,189,565 B2
US 10,860,971 B2

Remarks:

The file contains technical information submitted after the application was filed and not included in this specification

Note: Within nine months of the publication of the mention of the grant of the patent in the Coastland Patent Bulletin, any person may give notice to the Coastland Intellectual Property Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. *** Coastland Patent Law).

DESCRIPTION

BACKGROUND OF THE INVENTION

1. Unmanned Aerial Vehicles (UAVs) have been widely adopted for delivery of consumer goods and reconnaissance tasks. Existing systems, such as those disclosed in US 9,863,776 B2, focus on route planning for individuals with mobility impairments using drones for environmental assessment. US 10,189,565 B2 introduces modular UAV architecture with docking capabilities for extended range and mission flexibility. US 10,860,971 B2 addresses parcel delivery workflows and secure access mechanisms.

2. Simultaneously, the frequency and severity of emergency situations including natural disasters, pandemics, armed conflicts, and extreme weather events—have highlighted significant limitations in traditional emergency response systems, which often cannot guarantee timely access to essential medical aid due to damaged infrastructure, restricted mobility, or personnel shortages. Existing medical delivery platforms and telemedicine solutions typically rely on stable ground transportation networks and intact communication infrastructure, both of which may be unavailable in critical scenarios. Consequently, there exists a pressing need for systems capable of rapidly and autonomously transporting telemedicine equipment and urgent medical supplies to affected individuals, thereby enabling remote assessment, early intervention, and stabilization prior to the arrival of professional medical personnel.

SUMMARY OF THE INVENTION

3. The invention provides a modular medical unmanned aircraft system (UAS) comprising a parent UAV and multiple child UAVs configured for medical aid delivery and telemedicine support.

4. The parent UAV transports, houses, and energizes the child UAVs using docking mechanism. The parent UAV conducts preliminary route assessments, hazard mapping, and selection of safe deployment zones.

5. Each UAV is constructed from hazard-resistant material, capable of maintaining shipment stability and safety under extreme temperature, moisture, and mechanical stress. Child UAVs further feature a telecommunication interface enabling immediate telemedicine support.

6. Child UAVs also embody an onboard telemedicine diagnostic pod, storable within the child UAV and deployable at the patient site. The pod includes diagnostic tools such as a pulse oximeter, electrocardiogram (ECG), thermometer, and a video/audio link for remote medical examination.

7. Another aspect of the invention is a secure

automated medical payload handling subsystem, including robotic loading/unloading of medical box and automated verification of intended recipients.

8. The invention further provides a method of operating the modular UAS, including route planning, autonomous UAV deployment, automatic unloading of contents, telemedicine session initiation, and post-mission retrieval.

9. Additional objects, advantages, and novel features of the technology will be set forth in part in the description that follows, and in part will become apparent to those skilled in the art upon examination of the following or learned by practice of the technology.

BRIEF DESCRIPTION OF THE DRAWING

10. **FIG. 1** illustrates the overall modular medical UAS architecture, including the parent UAV and multiple child UAVs.

11. **FIG. 2** a schematic view of a child UAV and its structure for automatic payload handling.

12. **FIG. 3** a schematic view of docking interface for child UAV storage and charging.

13. **FIG. 4** is a flow chart describing an example process for route planning and management using the UAS and individual UAV modules.

DETAILED DESCRIPTION OF THE INVENTION

System Architecture

14. Referring to FIG. 1, the system comprises a parent UAV (10) and a plurality of child UAVs (70), wherein the parent UAV is configured to house, transport, recharge, and deploy multiple child UAVs using an advanced internal docking architecture. According to various embodiments, the UAVs (70) are configured to be dispatched from the parent UAV (10), deliver one medical box to recipient locations and return to the parent UAV (10).

15. In general, the UAV modules are embodied in unmanned flying objects (such as aircraft) capable of independent operation, powered either electrically and/or by conventional means. The parent module is distinguished by a fuselage (20) and a propulsion system 30. The propulsion system may include single or multiple rotors.

16. The fuselage of the described parent UAV is configured with internal docking bays (200), which provides mechanical stabilization, temperature control, and electrical power connection for recharging child UAVs. The fuselage also contains a navigation deck and a power supply (40).

17. The navigation deck (40) is equipped with computing entity for route navigation and analysis and hazard detection system combining Light Detection and Ranging (LIDAR), thermal imaging, temperature or pressure transducers, meteorological sensors, smoke/air quality detection, enabling selection of safe landing/delivery zones.

18. The power supply may be a multi-cell battery pack, fuel cell stack, and/or a supply of aircraft fuel in different embodiments. An electric propulsion system may be used in some non-limiting embodiments of the UAV module, in which case the power supply may take the form of a main battery pack or an additional battery pack located on or within the fuselage. Other power sources may be used, such as solar arrays in order to provide the UAV modules with a suitable and reliable supply of energy for propulsion.

19. All UAVs in the system have a core layer arranged between covering layers. The terminating layer is made of a sheet metal part coated at least on the outside by the coil coating method. The core layer has a honeycomb structure (42). The outer skin is made of thermally insulated, vibration-damped, and fire-resistant material comprising heat-expandable graphite in an amount of 1 to 10 parts by weight based on 100 parts by weight of a polyvinyl chloride-based resin.

20. Communication between UAVs occurs via encrypted radio frequency, satellite, or mesh network protocols.

Child UAV Design and automatic payload handling

21. As shown in **FIG. 2**, the child UAV (70) generally comprises a main body (80) and a plurality of propulsion members (81) extending outwardly from the main body (80), and a supporting frame (82) arranged at the lower part of the main body.

22. The propulsion members are configured to lift and guide during flight. The propulsion members (81) may be operable between an "on" configuration, in which the propulsion members (81) provide lift to the UAV (70), and an "off" configuration, in which the propulsion members are stationary and/or do not provide lift to the UAV (70).

23. In the embodiment depicted in **FIG. 2**, the UAV (70) is a quadcopter and includes four separate propulsion members (81). However, as will be appreciated from the description herein, the UAV (70) may include any number of propulsion members suitable to provide lift and guide the UAV during flight.

24. The supporting frame includes at least two blocking rods. The blocking rods (82) are fixedly installed with magnetic pieces (not shown in the embodiment) enabling the rods to carry the modular component. The blocking rods are slidable from the

body to adjust to the size of the modular component described below.

25. A modular component (payload) is designed to accommodate first kit aid and medical supplies (objects) (100) required for rescue. The payload (114) may be connected to the UAV through the supporting frame by physical connections and/or power and control connections. The payload may include a conveyor (130). The conveyor may be any type of conveyor capable of transporting objects from the payload to the delivery area. For example, the conveyor (130) may include a conveyor belt, conveyor rollers, or other type of conveyor or moving track. In such an embodiment, the conveyor (130) may be stationary as the movement of the objects (100) is achieved with the sliding device onto the delivery area (116). The tambour delivery door (22) may be latched such that the door remains closed until unlatched by the recipient or the controller.

26. Each child UAV (70) is designed for autonomous flight, last-mile delivery, and telemedicine operations. Each child UAV is also configured with a navigation deck with identical features to that of the parent UAV (see [0017]). The computing entity of child UAVs further includes telemedicine communication and diagnosis suite including a touchscreen interface, a high-resolution camera and microphone, diagnostic devices (pulse oximeter, thermometer, electrocardiogram), patient-identity verification, encrypted uplink to remote medical operators.

27. The parent and child modules do not necessarily have identical structure, but all child UAV have a uniform structure.

Docking system

28. The fuselage of the parent UAV comprises a plurality of docking stations for child UAVs (**FIG. 3**). Each docking station stacks, stabilizes, and charges the UAVs. Stacking UAVs allows for more UAVs to be housed in a smaller surface area.

29. The docking assembly includes a dock (200), having a shaft (201). The dock includes a horizontally disposed base (204) having an upper surface and a lower surface. The shaft (201) vertically extends from the upper surface of the base (204). The shaft (201) of the present invention may include a cylindrical shape. The length of the shaft determines how many UAVs can be stacked on the dock. The dock (200) may further include a balancer foot (205) extending from the upper surface of the base, which enables the user to prop up the base (204) in a stowed position.

30. The shaft may further connect to the power source inside the parent UAV and include a battery charger (202), (203) operable to charge a battery of the child UAVs when they are docked. The battery

charger (202), (203) may include a positive charge contact ring (202) and a negative charge contact ring (203) that align with the positive charge contact ring and the negative charge connect ring of the child UAVs.

Operation Method

31. **FIG. 5** outlines the method of operating the system:

1. Hazard scanning by the parent UAV.
2. Identification of landing zones.
3. Autonomous child UAV deployment toward target patients.
4. Medical payload delivery and verification.
5. Telemedicine pod deployment and initiation of remote diagnostic session.
6. Biomedical sensing data transmission to remote clinicians.
7. Return of child UAV to the parent UAV or ground station.

CLAIMS

1. A modular unmanned aircraft system (UAS) for medical aid delivery and telemedicine support, comprising a parent unmanned aerial vehicle (UAV) and a plurality of child UAVs, wherein
 - a parent unmanned aerial vehicle (UAV) in airframe structure configured to house, transport, recharge, and deploy a plurality of child UAVs via an internal docking architecture;
 - a plurality of child UAVs configured for autonomous flight, delivery of medical payloads, and telemedicine operations;
 - the child UAVs are configured for autonomous deployment from the parent UAV to deliver medical payloads and return after delivery.
2. The parent UAV of claim 1 defines a fuselage wherein:
 - a navigation deck including a computing entity for route navigation and hazard detection using Light Detection and Ranging (LIDAR), thermal imaging, meteorological sensors, and smoke/air quality detection;
 - a power supply selected from a multi-cell battery pack, fuel cell stack, or aircraft fuel source,
 - a plurality of internal docking bays configured to mechanically stabilize, temperature-control, and electrically recharge the child UAVs.
3. The parent UAV of claim 1 further defines a propulsion system including single or multiple rotors operable for vertical take-off and landing.
4. The internal docking bays according to claim 2, characterized in that a horizontally disposed base and a vertically extending shaft configured to stack multiple child UAVs and provide electrical charging via positive and negative contact rings.
5. The system of claim 1, wherein each child UAV comprises a main body, a plurality of propulsion members extending outwardly from the main body, and a supporting frame including blocking rods and a blocking plate for securing a modular payload.
6. The system of claim 1, wherein each child UAV incorporates a computing entity for route navigation and hazard detection using Light Detection and Ranging (LIDAR), thermal imaging, meteorological sensors, and smoke/air quality detection.
7. The computing entity of claim 5 further includes telemedicine communication and diagnosis suite including a touchscreen interface, a high-resolution camera and microphone, diagnostic devices (pulse oximeter, thermometer, electrocardiogram), patient-identity verification, encrypted uplink to remote medical operators.
8. The system of claim 1, wherein the parent UAV and child UAVs communicate via encrypted radio frequency, satellite, or mesh network protocols.
9. The system of claim 1, wherein the airframe of the parent UAV and child UAVs comprises a core layer with a honeycomb structure arranged between covering layers, the outer skin being thermally insulated, vibration-damped, and fire-resistant, comprising heat-expandable graphite in an amount of 1 to 10 parts by weight based on 100 parts by weight of a polyvinyl chloride-based resin.
10. A method of operating a modular unmanned aerial vehicle system according to claim 1, comprising:
 - hazard scanning by the parent UAV;
 - identification of safe landing zones;
 - autonomous deployment of child UAVs toward target patients;
 - delivery of medical payload and verification;
 - initiation of telemedicine session; and
 - return of child UAVs to the parent UAV.

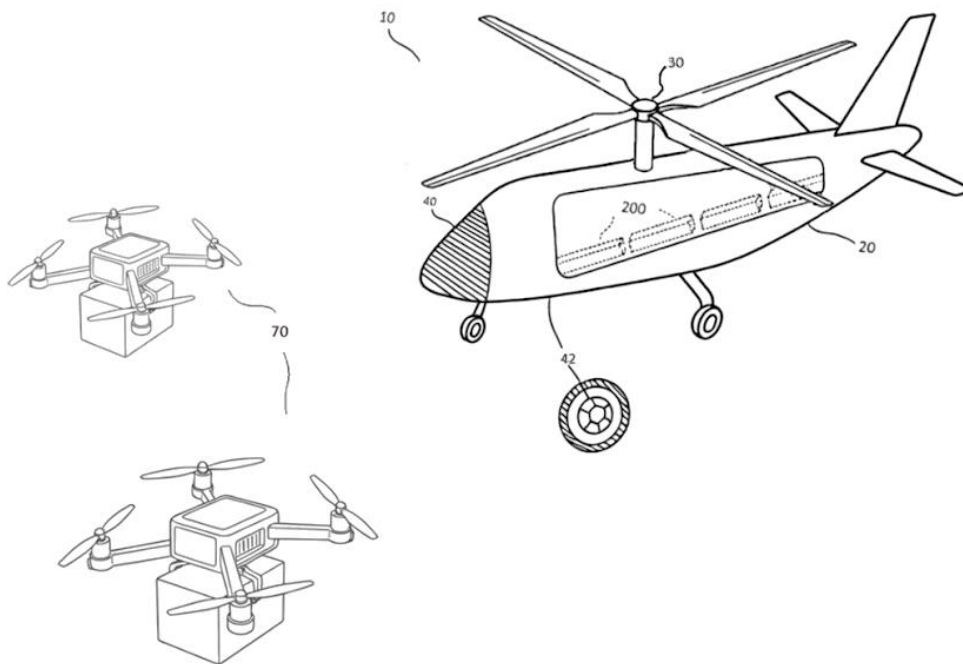


FIG. 1

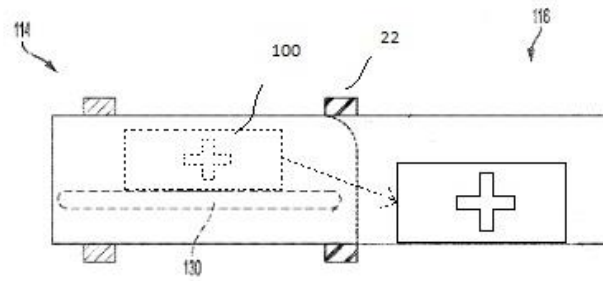
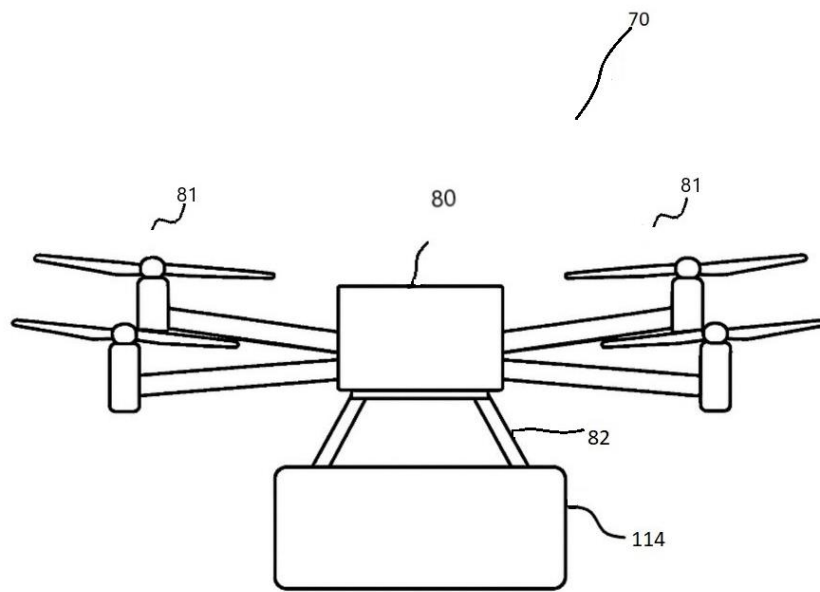


FIG. 2

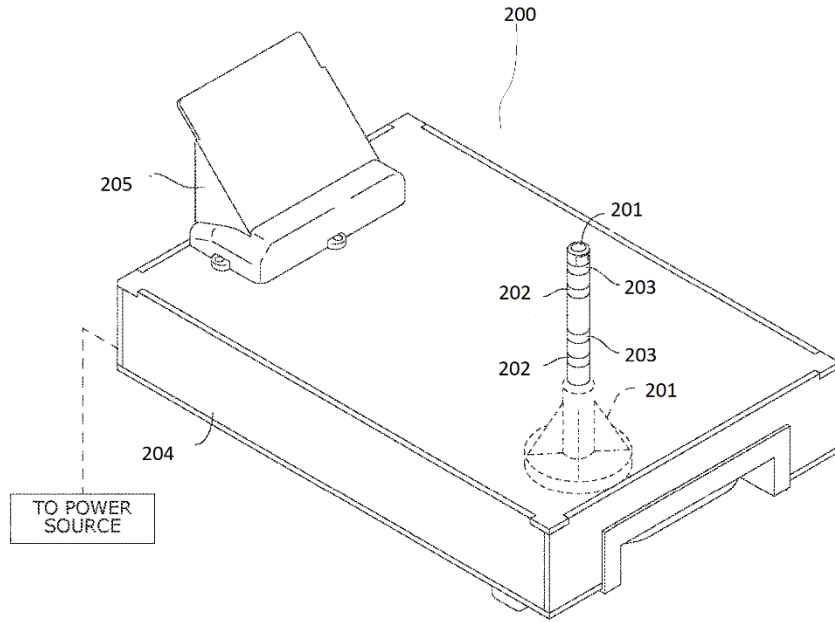


FIG. 3

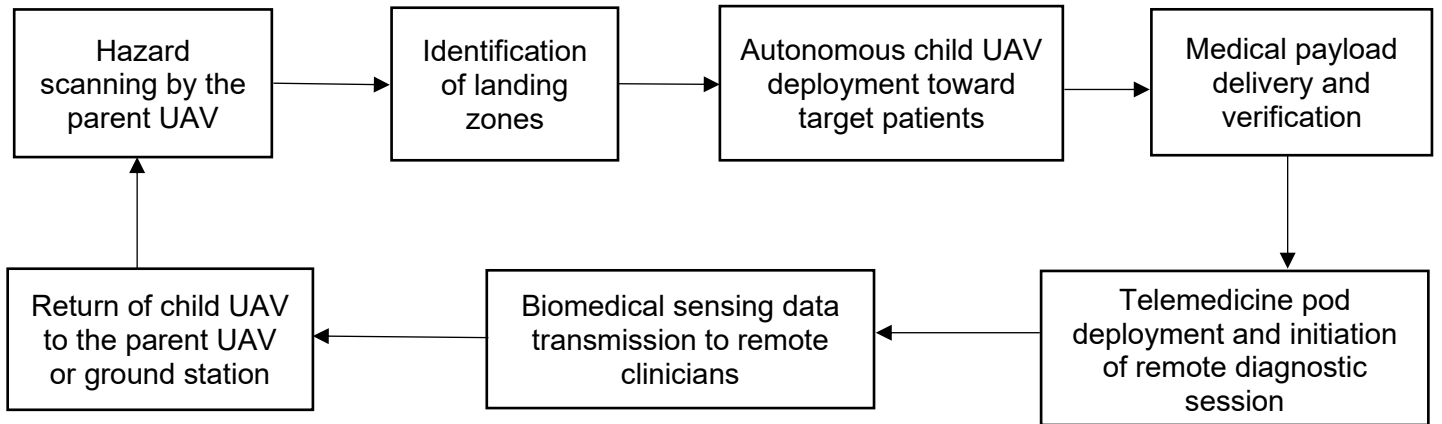


FIG. 4

ANNEX F1

AFFIDAVIT OF ELENA MARIE NOVAK

AFFIDAVIT

I, the undersigned:

Full Name: Elena Marie Novak

Address: 1907 Alpha Drive, Velora, Coastland

Nationality: Northlish

Professional capacity (if applicable): Director of Coastline's Advanced Medical Logistics Division

HEREBY DECLARE THE FOLLOWING:

1. From February 2018 through December 2023, I was employed by NorthSky Drones, Ltd. in Lynnberg, Northland.
2. While at NorthSky, I worked as a control-systems and software engineer. I was assigned to the Project Lifeline Team and worked on discrete aspects of the navigation algorithms and environmental sensing integration.
3. As part of my employment with NorthSky, I executed a non-disclosure agreement, a true and correct copy of which is attached hereto as **Exhibit A**.
4. I left NorthSky to take a position at Coastline Drone Logistics. Ltd. in Velora, Coastland in March 2024.
5. I am currently serving as the Director of its Advanced Medical Logistics Division, and oversee the team working on the Medi-Scout Pro.
6. While I supervise the team members working on the Medi-Scout Pro's navigation algorithms, I have never disclosed NorthSky's algorithms to anyone at Coastline.
7. In addition, I did not personally draft any of the algorithms that run Medi-Scout Pro's navigation system.
8. While I was at NorthSky, I was never informed that the navigation algorithms were trade secrets nor did I observe NorthSky taking measures to protect them from disclosure.
9. I stored my work, including all drafts of the algorithms, in a shared drive accessible by every members of NorthSky's Lifeline team. The algorithmic material was accessible by those employees not working on the navigation system, including temporary, unpaid interns who worked at NorthSky for only a few weeks in the summer months.
10. Dr. Chen stated to me on more than one occasion that she thought that it was important that anyone working on the Lifeline project should be able to access all

aspects of the R&D because her motto was “you never know who will have the next great idea.”

I solemnly declare on my honour that the information provided in this statement is true and accurate.

Place: Velora Coastland

Date: May 15, 2025

Signature: (Signed by Elena Marie Novak)

ANNEX F2

EXHIBIT TO THE AFFIDAVIT OF ELENA MARIE NOVAK

EMPLOYEE NON-DISCLOSURE AGREEMENT

This Non-Disclosure Agreement (“Agreement”) is entered into as of the date of the last signature below by and between: NorthSky Drones Ltd., a Northland limited company (“Company”), and Elena Marie Novak, an individual (“Employee”). The Company and Employee may be referred to individually as a “Party” and collectively as the “Parties.”

1. Employment Involves Research & Development. Employee is engaged in duties related to the Company’s Research & Development (R&D) activities, which require access to confidential, proprietary, and trade secret information. The purpose of this Agreement is to protect such information from unauthorized use or disclosure.

2. Definition of Confidential Information. “Confidential Information” includes all non-public information disclosed to or accessed by the Employee, whether oral, written, electronic, or otherwise, including but not limited to:

- a. Trade secrets, formulas, designs, prototypes, inventions;
- b. Research data, test results, technical reports;
- c. Product development plans, technical specifications;
- d. Algorithms, source code, software tools;
- e. Manufacturing processes, methods, and know-how;
- f. Business strategies, market analyses, pricing;
- g. Vendor, partner, and customer information; and
- h. Any other information designated as confidential or that reasonably should be understood as confidential due to its nature.

Confidential Information does not include information that: (i) is or becomes publicly available through no fault of the Employee; (ii) is lawfully obtained by the Employee from a third party without breach of confidentiality; (iii) is independently developed by the Employee without use of Company information; (iv) is required to be disclosed by law (with prior notice to Company where legally permissible).

3. Obligations of Employee. Employee agrees to:

- a. Maintain strict confidentiality of all Confidential Information.
- b. Use Confidential Information exclusively for the benefit of the Company and only as required by their job duties.
- c. Not disclose Confidential Information to any third party, including other employees who do not have a legitimate need to know.
- d. Not copy, download, transmit, or remove Confidential Information from Company premises or systems unless required for authorized work.
- e. Return or destroy all Confidential Information upon termination of employment or upon Company request.
- f. Promptly notify the Company of any suspected unauthorized disclosure or security breach.

4. Trade Secrets. Employee acknowledges that certain Confidential Information constitutes trade secrets under applicable law and may remain protected indefinitely. Employee agrees to maintain trade secret confidentiality for as long as the information remains a trade secret, regardless of employment status.

5. Inventions and Intellectual Property. Employee agrees that:

- a. All inventions, discoveries, designs, developments, processes, and works created during employment and related to the Company's business are the exclusive property of the Company.
- b. Employee will promptly disclose all such inventions to the Company.
- c. Employee will assist in securing patents, copyrights, or other protections as requested.

6. Duration. Employee's obligations regarding Confidential Information remain in effect during his or her employment, and for a period of 3 years after termination of employment (whether voluntary or involuntary), except for trade secrets, which remain protected for as long as they retain their trade secret status.

7. Remedies. Employee acknowledges that unauthorized disclosure or use of Confidential Information may cause irreparable harm to the Company. The Company is therefore entitled to injunctive relief, monetary damages, and any other remedies permitted by law.

8. Governing Law. This Agreement is governed by the laws of the State of Northland, without regard to conflict of laws principles.

9. Entire Agreement. This Agreement constitutes the entire understanding between the Parties regarding confidentiality and supersedes all prior agreements on the subject.

EXECUTED AND AGREED:

NORTHSKY DRONES LTD.,

By: (signed)

Name: Dr. Lina Chen

Title: CEO

Date: 2 February 2018

EMPLOYEE

Signature: (signed)

Name: Elena M. Novak

Date: 2 February 2018

ANNEX G1

ORDER REGARDING PROVISIONAL MEASURES

**ORDER OF THE PRESIDENT
OF THE VINEAPOLIS COMMERCIAL COURT – IP CHAMBER**

Date: 18 March 2025

Case: *Ex parte* application for provisional measures

Applicant:

NorthSky Drones Ltd., Lynnburg (Northland)

Represented by:

Ms. Evelyn Reed, Attorney-at-Law, Vineapolis Bar.

Targeted Party (Alleged Infringer):

Coastline Drone Logistics Ltd. (“Coastline”), Riverton (Coastland)

Subject:

Application for provisional measures of description and seizure pursuant to Articles 3.01 et seq. of the Intellectual Property Rights Enforcement Law (IPREL) of Coastland

THE PRESIDENT OF THE VINEAPOLIS COMMERCIAL COURT – IP CHAMBER,

Ruling in *ex parte* proceedings on the application filed on 18 March 2025 by **NorthSky Drones Ltd.**,

Whereas NorthSky Drones Ltd. (hereafter, the Applicant) relies on rights arising from the Patent No. 3 456 000 B1 for a “Modular Unmanned Aircraft System for Remote Aid Delivery and Telemedicine Support” delivered by the Coastland Intellectual Property Office and published on 29 February 2024 following an application filed on 11 January 2021 with priority on 13 January 2020.

Whereas the Applicant has submitted reasonably available evidence in support of its application, including video recordings made at the ongoing **Velora International Drone & Robotics Trade Fair**, tending to show acts that might be considered as a patent infringement in connection with Coastline’s product marketed under the name *Medi-Scout Pro*;

Whereas the requested provisional measures are warranted in order to allow the Claimant to ascertain whether the suspicion of patent infringement is confirmed or not and to allow him to lodge an action for patent infringement in the first case,

Whereas the requested provisional measures are urgent, given that the Trade Fair is currently in progress, that key public and institutional purchasers are present, and that any delay would be liable to cause irreparable harm to the Applicant by allowing Coastline to conclude strategic commercial agreements and to influence market perceptions before proceedings on the merits can be initiated;

HEREBY ORDERS AS FOLLOWS:

I. Measures of Description and Seizure

1. Appointment of an Expert

Pursuant to Article 3.01, § 1, IPREL, **Dr. Helena V. Strathmore**, certified patent attorney proposed by the Applicant, is appointed as Expert and authorized to carry out on-site inspection and descriptive measures.

2. Scope of the Expert's Mission

The Expert is authorized to describe all objects, components, documents, and processes capable of establishing the alleged infringement, as well as its origin, destination, and scope.

The mission shall specifically concern the *Medi-Scout Pro* units presented by Coastline at the Velora International Drone & Robotics Trade Fair, including any such units located on the stand of any potential customer of Coastline.

3. Sampling and Reproduction Measures

In accordance with Article 3.01, § 2, IPREL, the Expert may take all measures necessary for the performance of the mission and within its limits, including:

- taking extracts, copies, photocopies, photographs, and audiovisual recordings;
- obtaining samples of the allegedly infringing goods, including the taking of drones as samples.

4. Prohibition of Interference

Pursuant to Article 3.01, § 7, IPREL, Coastline is prohibited from disposing of, moving, removing, concealing, altering, or modifying the inspected *Medi-Scout Pro* units in any manner that could affect their integrity or operation.

This prohibition is deemed necessary and proportionate in view of the circumstances of the Trade Fair.

II. Conditions and Procedure

5. Payment of a Security Bond

Pursuant to Article 3.03 IPREL, the measures hereby authorized are subject to the payment by the Applicant of a security bond of CF twenty thousand (20,000-) with the Registry of the Court.

6. Presence of the Applicant's Counsel

Pursuant to Article 3.04, § 1, IPREL, the attorney-at-law of the Applicant, Ms. Evelyn Reed, is authorized to be present during the implementation of the provisional measures.

This authorization is justified by the need for immediate legal input for the technical identification of the allegedly infringing features, subject to strict compliance with the Expert's obligations concerning confidentiality.

7. Protection of Confidential Information

Throughout the inspection operations and in the drafting of the report, the Expert shall ensure the protection of the legitimate interests of the alleged infringer, in particular with

respect to confidential information, in accordance with Article 3.06 IPREL.
This order determines the conditions governing the description with a view to safeguarding such confidential information, pursuant to Article 3.01, § 3, IPREL..

8. Filing of the Expert Report

The Expert shall file and lodge the report with the Registry of the Court within **fifteen (15) working days** following the implementation of the measures at the Trade Fair. A copy of the report shall be sent without delay by registered mail to the Applicant and to the holder of the described objects, in accordance with Article 3.07, § 1, IPREL.

9. Service of the Order

This order shall be served prior to the commencement of the description and seizure operations, in accordance with Article 3.01, § 8, IPREL.

10. Time Limit for Proceedings on the Merits

The Applicant shall bring proceedings on the merits before the competent court within **twenty (20) working days or thirty-one (31) calendar days**, whichever period is longer, calculated from the date of submission of the Expert's report to the Registry. Failing this, the present order shall lapse by operation of law pursuant to Article 3.09, § 1, IPREL. In such event, the Applicant shall be prohibited from using or disclosing the contents of the report, without prejudice to any claim for compensation.

Done at Vineapolis, Republic of Coastland

President of the Vineapolis Commercial Court – IP Chamber
[Signature]

ANNEX G2

OFFICIAL REPORT OF EXECUTION OF PROVISIONAL MEASURES

****OFFICIAL REPORT**

OF EXECUTION OF PROVISIONAL MEASURES
(DESCRIPTION AND SEIZURE)**

REPUBLIC OF COASTLAND

Bailiff's Office – District of Velora

Bailiff: Marian J. Everhart, Judicial Officer

Office Address: 14 Coastal Avenue, District of Velora, Republic of Coastland

Case Reference: *NorthSky Drones Ltd. v. Coastline Drone Logistics Ltd.*

Date of Execution: March 19, 2025

Location of Execution: Velora International Drone & Robotics Trade Fair, Coastline Drone Logistics Ltd. booth, Velora, Coastland

I. Introduction

On the nineteenth (19th) day of March, Two Thousand and Twenty-Five (2025), I, **Marian J. Everhart**, Bailiff of the Republic of Coastland, duly commissioned and acting from my office at 14 Coastal Avenue, District of Velora, proceeded to execute the provisional measures ordered by the President of the Commercial Court of Vineapolis – IP Chamber in the Order dated March 18, 2025.

These measures concern **description and the taking of samples** relating to the product designated *Medi-Scout Pro*, pursuant to Article 1.01 of the Intellectual Property Rights Enforcement Law (IPREL) of the Republic of Coastland.

An official certificate issued by the Registry of the Commercial Court of Vineapolis has been provided to me by Ms. Evelyn Reed, better identified in point II below, as proof of payment of a security bond of CF 20,000- by NorthSky Drones Ltd, before I served the Order of the President of the Court in accordance with point III below.

This Official Report is drawn up to record the facts observed during execution of the judicial mandate.

II. Persons Present

Upon arrival at the Coastline Drone Logistics Ltd. booth at the opening of the Velora International Drone & Robotics Trade Fair, the following persons were present:

Dr. Helena V. Strathmore, Appointed Expert (Chartered Materials Scientist – Aerospace Polymers)

Ms. Evelyn Reed, Attorney-at-Law representing the Plaintiff, NorthSky Drones Ltd.

Representatives and engineers of Coastline Drone Logistics Ltd.

The undersigned Bailiff, Marian J. Everhart

A significant number of visitors were present owing to the public nature of the Trade Fair.

III. Service of the President of the Court Order

In accordance with Article 1.01, §8, IPREL, **I formally served the President of the Court’s Order of March 18, 2025**, authorizing measures of description and sample-taking, upon the representatives of Coastline Drone Logistics Ltd.

Service was completed **prior to commencement of any investigative operations**.

IV. Objection Raised and Continuation of Operations

1. Objection by Coastline Representatives

Following service of the Order, Coastline’s representatives expressed an objection and requested that the operations be postponed. They stated that their attorney-at-law and in-house legal counsel were traveling from another city and would arrive in approximately four hours.

2. Expert’s Decision

The appointed expert, **Dr. Helena V. Strathmore**, informed the parties that she would **not delay the operations**. This decision was made in the context of the immediate availability of the Plaintiff’s counsel and the need to conduct the court-ordered measures without undue postponement.

3. Proceeding with Description and Demonstration

The operations continued. I observed the expert requesting Coastline personnel to demonstrate the Medi-Scout Pro system.

The demonstration showed:

A parent UAV (box-shaped) containing

Two smaller “child” UAVs, also box-shaped,

Deployment of the child UAVs upon receipt of target coordinates,

Automated landing and opening of the payload compartment.

Technical questions were posed by the expert to Coastline’s engineers throughout the demonstration.

V. Taking of Samples

In accordance with Article 1.01, §2, the expert proceeded to **take drone units as samples** at the conclusion of the descriptive operations. These samples were taken for the purpose of later disassembly and material analysis.

I confirm that the taking of samples occurred in an orderly manner and was limited to what was necessary for the execution of the judicial mission. The expert upheld her statutory obligation to safeguard any confidential information pursuant to Article 3.06 of the Intellectual Property Rights Enforcement Law.

VI. Closing Statement

This Procès-Verbal is drafted to attest to:

The service of the judicial Order,

The objection raised by Coastline Drone Logistics Ltd.,

The continuation of operations as decided by the appointed expert,

The description and demonstration observed,

The taking of samples pursuant to statutory authority.

Executed in good faith on March 19, 2025.

Marian J. Everhart

Bailiff of the Republic of Coastland

Bailiff’s Office, 14 Coastal Avenue

District of Velora, Republic of Coastland

ANNEX G3

EXPERT REPORT ON PROVISIONAL MEASURES

EXPERT REPORT ON PROVISIONAL MEASURES (DESCRIPTION AND SEIZURE)

Case File Reference: *NorthSky Drones Ltd. v. Coastline Drone Logistics Ltd.*

Court: Commercial Court of Vineapolis – IP Chamber (Order dated March 16, 2025)

Date of Execution of Measures: March 19, 2025

Expert Appointed: Dr. Helena V. Strathmore, Certified Patent Attorney, Chartered Materials Scientist (Aerospace Polymers)

Date of Report: April 3, 2025

1. Mandate and Legal Framework

This report is prepared pursuant to the Order of the President of the Commercial Court of Vineapolis – IP Chamber, issued on March 18, 2025, authorizing provisional measures of description and the taking of samples concerning the Medi-Scout Pro product exhibited by Coastline Drone Logistics Ltd. (“Coastline”) at the Velora International Drone & Robotics Trade Fair.

The mandate required the expert to describe all objects, elements, documents, or processes capable of establishing the alleged infringement of Patent No. 3 456 000 B1 granted by the Coastland Patent Office. The expert was also authorized to take samples of the goods suspected of infringing the intellectual property right. This report is submitted within fifteen working days following the implementation of the measures, as stipulated by the Court. The expert must ensure that the legitimate interests of the alleged infringer, particularly concerning the protection of confidential information, are safeguarded (Article 3.06).

2. Execution of Provisional Measures

The measures were executed on March 19, 2025, at the Coastline booth during the opening of the Velora Trade Fair. The execution team consisted of the appointed expert, the bailiff, and the attorney-at-law representing NorthSky.

The bailiff notified the court order to the representatives of Coastline before the commencement of the description operations. Coastline representatives requested a delay to allow their attorney-at-law and in-house legal counsel to arrive from another city, estimating an arrival time of at least four hours. Prompted by NorthSky’s attorney-at-law, the expert did not agree to wait and proceeded with the description.

The expert requested Coastline’s representatives to demonstrate the functioning of the Medi-Scout Pro drones, posed technical questions to the Coastline engineers present, and subsequently took drones as samples for later disassembly and material analysis.

3. Description of Coastline’s Medi-Scout Pro System

Based on the demonstration and inspection of the seized samples, the Medi-Scout Pro is described as follows:

System Architecture: The system uses a carrier drone, described as a parent drone (box-shaped), which carries two mini box-shaped drones, referred to as child UAVs, inside its structure.

Modular Functionality: The system features a modular, docking architecture which allows the parent drone to deploy and enable in-flight charging of the child UAVs.

Deployment and Delivery: The parent drone flew over a simulated disaster zone, released the child UAVs, and the latter landed precisely on marked points, opening the bottom payload compartment automatically after ground contact.

Telemedicine Support: The child UAVs incorporate a built-in camera and microphone, enabling remote medical guidance.

Durability: The drones appeared to fly smoothly and stably under simulated harsh environmental conditions (strong winds, hail, and wildfires).

4. Comparison with Patent No. 3 456 000 B1

The comparison emphasizes the resemblance and dissemblance of the Coastline Medi-Scout Pro compared, in particular, to Claim 1 and Claim 9 of Patent No. 3 456 000 B1.

4.1 Comparison with Claim 1

Feature of Claim 1	Medi-Scout Pro Observation/Analysis	R / D
A modular UAS for medical aid delivery and telemedicine support.	The Medi-Scout Pro is a modular system providing advanced medical	R

Feature of Claim 1	Medi-Scout Pro Observation/Analysis	R / D
	delivery and telecommunication capabilities.	
Parent UAV in airframe structure configured to house, transport, recharge, and deploy a plurality of child UAVs via an internal docking architecture.	The parent drone houses child UAVs internally and enables in-flight charging and deployment using its docking architecture.	R
A plurality of child UAVs configured for autonomous flight, delivery of medical payloads, and telemedicine operations.	The child UAVs autonomously deploy, land, unload medical packages, and transmit audio/video for remote medical support.	R
Child UAVs configured for autonomous deployment and return.	Autonomous deployment was confirmed; the return sequence was not demonstrated, but the architecture suggests the capacity for retrieval.	R (Functionally supported)

Conclusion regarding Claim 1:

The Medi-Scout Pro exhibits substantial resemblance to the combination of elements claimed in Claim 1. The box-shaped geometry cited by Coastline does not affect the functional alignment with the protected features.

4.2 Comparison with Claim 9 (Airframe Material)

Claim 9 concerns: (i) a layered airframe with a honeycomb core; and (ii) a fire-resistant coating comprising heat-expandable graphite in a PVC-based resin.

Feature of Claim 9	Medi-Scout Pro Observation/Analysis	R / D
Airframe comprises a core layer with a honeycomb structure between covering layers.	Controlled disassembly of one seized UAV showed a multilayer structure with a honeycomb-type core between composite skins.	R
Outer skin being thermally insulated, vibration-damped, and fire-resistant.	Stable operation was demonstrated under simulated extreme conditions (winds, heat, fire exposure), indicating the presence of thermal, vibrational, and fire-resistant characteristics.	R (Functional observation)
Heat-expandable graphite (1–10 parts by weight) in 100 parts of a PVC-based resin.	Coastline asserted use of an acrylonitrile-type resin. The expert obtained a coating sample during the Trade Fair; laboratory analysis confirmed the matrix polymer was acrylonitrile-based, not PVC-based.	D (Literal Chemical Difference)

Analysis of Claim 9

The coating sample collected during the Trade Fair and subsequently analyzed confirmed the presence of an acrylonitrile-type resin rather than the PVC-based resin specified in Claim 8, creating a literal material difference.

Scientific literature shows that both acrylonitrile-type resins and PVC-based resins are selected in engineering practice for roles requiring lightweight structural stability, heat resistance, and reduced flammability in composite skins. Sources such as Fink (*High Performance Polymers*, 2014), Camino & Costa (*Polymer Degradation and Stability*, 1991), and Hull (*Fire Retardant Materials*, 2001) describe the suitability of these resin families for fire-mitigating, thermally stable outer layers.

Taken together, these sources indicate that acrylonitrile-type resins and PVC-based resins are both selected in engineering practice for applications that require lightweight structural stability, resistance to heat, and fire-mitigating behavior in composite outer skins.

Accordingly, although the resin identified in the seized sample differs from the resin explicitly mentioned in Claim 8, the performance characteristics relevant to the claim—

such as thermal insulation, vibration damping, and resistance to fire exposure—can also be obtained with acrylonitrile-type formulations, as reflected in the materials-science literature.

5. Summary of Evidence Secured

The description and technical discussions confirmed the operational nature of a modular parent-and-child UAV system that closely corresponds to the structural and functional features of Claim 1 of Patent No. 3 456 000 B1.

For Claim 9, the functional behavior of the airframe aligns with the performance requirements described in the patent. The expert's disassembly confirmed the honeycomb-core structure (R). Material analysis confirmed Coastline's use of an acrylonitrile-type resin instead of the PVC-based resin specified (D). Scientific sources show that both classes of resins are used in similar contexts requiring fire-resistant, vibration-damped composite structures. Verification of the precise graphite-loading ratio is pending further laboratory testing.

Samples of the Medi-Scout Pro drones are retained for any further analysis ordered by the Court.

6. Remarks on Execution Procedure (Article 3.06)

The expert notes Coastline's objection regarding the commencement of the measures prior to arrival of their legal counsel. Given the projected delay of at least four hours, the expert proceeded as authorized, limiting the inspection to elements strictly relevant to the alleged infringement while safeguarding confidential information in accordance with Article 3.06 of the Intellectual Property Enforcement Code of Coastland.