

COLD-START PROTOCOL PATENT DOCUMENTATION

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Patent No. US 11,842,XXX B2

Filing Date: March 15, 2019

Issue Date: September 22, 2022

1. PATENT OVERVIEW

1 This documentation relates to United States Patent No. 11,842,XXX

2 The Cold-Start Protocol Patent encompasses methods and systems

2. TECHNICAL SPECIFICATIONS

1 The patented technology comprises:

- (a) Thermal management algorithms for critical component pre-heating
- (b) Power distribution optimization during cold-start sequences
- (c) Adaptive sensor calibration protocols for extreme temperature conditions
- (d) Proprietary firmware initialization procedures
- (e) Emergency shutdown and thermal protection protocols

2 Key Components Protected:

- (a) BlueCore(TM) thermal management system
- (b) Cold-resistant battery management system
- (c) Temperature-hardened sensor array

(d) Adaptive power distribution network

(e) Emergency thermal protection circuits

3. PATENT CLAIMS

1 Independent Claims:

(a) Claim 1: Method for initializing autonomous mobile robots in sub-zero environments

(b) Claim 8: System for maintaining operational stability in extreme cold conditions

(c) Claim 15: Thermal management protocol for robotic navigation systems

(d) Claim 22: Power optimization method for cold-environment robotics

2 Dependent Claims: Claims 2-7, 9-14, 16-21, and 23-30 further specify

4. OWNERSHIP AND ASSIGNMENT

1 The Cold-Start Protocol Patent was developed by Company employee

(a) Dr. Elena Frost, Ph.D. - Primary Inventor

(b) Marcus Chen - Co-Inventor

(c) Dr. James Barrett - Co-Inventor

2 All inventors have executed proper assignment agreements transferring

5. MAINTENANCE AND RENEWAL

1 Current Status: Active and in good standing

2 Maintenance Fee Schedule:

- - 4 -

First maintenance fee due: March 15, 2026

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Second maintenance fee due: March 15, 2030

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Third maintenance fee due: March 15, 2034

6. LICENSING AND ENCUMBRANCES

1 The Company maintains exclusive rights to the patent with no curre

2 No liens, security interests, or other encumbrances exist against the

7. FOREIGN PATENT PROTECTION

1 Related Patents Granted:

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European Patent No. EP3,XXX,XXX

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Japanese Patent No. JP6,XXX,XXX

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Canadian Patent No. CA3,XXX,XXX

2 Pending Applications:

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Chinese Patent Application No. CN2019XXXXX

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Korean Patent Application No. KR10-2019-XXXXXX

8. LEGAL OPINIONS

1 Freedom to Operate (FTO) analysis completed by Wilson & Roberts

2 Patentability opinion issued by Morgan & Pierce Patents on February

9. CONFIDENTIALITY NOTICE

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10. CERTIFICATION

The undersigned hereby certifies that this patent documentation is tru
accurate as of January 11, 2024.

/s/ Victoria Wells

Victoria Wells

Chief Financial Officer

Polar Dynamics Robotics, Inc.

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