1. Introduction

1.1. Company Overview

WECORP INDUSTRIES is a British, London-based, Defence Challenger Company that does not believe that simply labelling something evil, makes anything better. Founded in 2018, the company aims to bring the “Ethics-First” approach to the industry by developing software-enabled hardware for superior, but sustainable performance on tomorrow’s battlefields.

1.2. Company Vision

A war-less tomorrow.

1.3. Company Mission Statement

Developing advanced technology to disrupt the harms of armed conflict.

1.4. Company Value Proposition

The old-garde of the industry has created a lack of innovation in defence. The resulting capability gap has opened significant competition to Western militaries and their allies.

Defence’s traditional values remain steady while the market around it has fundamentally changed. Modern companies are culturally progressive, value driven, and now compete with other industries for tech talent – more specifically in the software segment.

WECORP INDUSTRIES pledges to challenge the current state of defence by tackling its biggest issue, its access to the tech talent market. Its “Ethics-First” approach will allow a different and more attractive set of values to be adopted to attract the highest calibre candidates that will develop sustainably ethical products for the industry.

1.5. “Ethics-First” Framework

WECORP INDUSTRIES’s Ethical Framework has been established to support the development and operations of the company. The Framework is a system for safeguarding the ethical use of WECORP technologies and services. The objective of this Framework is to deliver judicious assurance of responsible use that is carefully anchored against non-commercial, ethically designed metrics, developed by Compass Consulting, an independent ethics consultancy. What follows, works through the various components of the Company’s framework, highlighting the key stakeholders, its policies, and its oversight procedure. These components work together to challenge current industry practises to improve the state of defence, making WECORP INDUSTRIES the first Ethical Challenger in the Defence Industry.

1.5.1. Stakeholders

1.5.1.1. Compass Consulting

Compass Consulting holds an advisory role with WECORP INDUSTRIES. They actively participate in the development of key components of WECORP’s Ethical Framework and play a crucial role in the day-to-day activities of the companies. Further information on the Compass Consulting Team can be found in the attached document Compass\_Consulting.

1.5.1.2. Kings College London

Kings College London’s Centre for Military Ethics holds a governance position in the Group’s Ethical Framework. The Centre manages all administrative tasks of the board including but not limited to meeting schedules, the members honorarium etc. This ensures a degree of separation to establish clear independence of the Ethics Board.

1.5.1.3. Ethics Board

The Ethics Board (EB) is an independent body that provides oversight of the Group’s daily activities, development, and commercial activity, managed by Kings College London. The Board’s role is to ensure that the activities of the Group are measured and evaluated against its policies.

1.5.2. Policies

1.5.2.1. Guiding Principles

The Guiding Principles (GPs) connect decisions about sales to decisions about acceptable usage policies, to decisions about monitoring compliance with those policies, to decisions about responding to misuse. These separate elements work together to deliver a powerful suite of tools for bringing ethical integrity to the business of weapons technology and security services.

The multi-layered process outlined in this document provides a baseline for decision making that challenges industry standards by implementing ethical safeguards and oversight of its usage.

The GPs provides guidance to answer the 4 following key aspects:

Who do we sell to?

How do customers agree to use our products?

How do we monitor compliance with our usage policies?

How do we enforce compliance?

1.5.2.2. Investor Policy

The investor policy defines guidelines that must be adhered to by all parties involved. It provides certainty that the investors are aligned with and supports the Group’s Ethical Framework.

1.5.2.3. Ethics by Design

The Group’s engineers are offered Ethics by Design workshops offered by Compass Consulting to ensure that ethics is placed at the heart of the design process.

1.5.2.4. On-boarding Ethical Training

The Group enforces a mandatory Ethical On-boarding course for all new recruits. The training focuses specifically on Military and Security ethics to ensure that basic theory is assimilated and understood by all.

1.5.2.5. Day-to-Day Advisory & Monitoring

Compass Consulting provides day-to-day technical & operational consultations to both upper management and team members.

An internal anonymous whistleblowing system has been implemented to report misconduct. It is accessible by all employees of WECORP INDUSTRIES and is monitored and managed by Compass Consulting.

1.5.3. Oversight

1.5.3.1. Kings College London Centre for Military Ethics

Kings College London liaises between the Group and its EB. It holds a governing position that oversees all administrative tasks of the EB, providing an extra layer of independence to ensure objective oversight.

1.5.3.2. Ethics Board

The Ethics Board oversees the development and implementation of Policies that WECORP INDUSTRIES has adopted.

The methodology used for the board selection has been carefully developed by Compass Consulting. It considers independence of board members as well as ensuring that all members have an applied ethics background. A second consideration is the diversity of perspective of all board members. These perspectives include law, business, military, religious and cultural knowledge/breadth, academia (drones, AI, military technology), human rights, previous board experience and corporate governance experience.

Further information on the Wecorp Ethics Board can be found in the attached document Ethics\_Board.

2. D&S Sector Compatibility

2.1. General Product Strategy

WECORP INDUSTRIES is a defence company that supplies advanced technology for Defence and Security applications. Our industry focus enables the technology to be fine-tuned for maximum performance within these segments. With this specialisation, we are able to identify capability gaps that are not served by the existing industry to avoid direct competition in the early phases of R&D, and build an increasingly competitive ecosystem around our core systems that are supported by hard-to-replicate data. The combined ecosystem of multiple product lines will scale to create internal synergy for a large segment of the market. Within this segment the company can then grow toward other market disruptions through low-end or sustainable innovation, dependent on the level of competition. With individual product lines strategically chosen, it is also possible to unlock partnerships with like-minded companies to achieve a greater impact. This is WECORP INDUSTRIES' strategic direction and a cornerstone to remain attractive to investors over development cycles. As of December 2020, we have developed two product lines, where each product contributes to the seamless integration of technologies.

2.2. The INHIBITOR Product Line

The INHIBITOR is a small, weaponized hexacopter drone, specifically designed for operations in urban warfare environments. It combines a compact lightweight frame with an autonomous flight control system, offering the unique capability of transitioning from flight in an open urban area, to an array of micro-environments inside a building. Thanks to its real-time 270-degree environment awareness capability and sensor fusion strategy, the INHIBITOR offers users stable and controlled flight in both GPS-enabled and GPS-denied environments. The INHIBITOR offers users reliable flight even in the presence of high gusts and/or rain, while reducing the operational burdens of controlling the craft even in adverse weather.

Once deployed on the field, the INHIBITOR enables the operator (or 3rd party observer) to identify targets via the crafts FPV camera The craft also has integrated sensors on the front (IR and Thermal), side (x2 VIO Cameras) and back (x1 VIO Camera) for data collection, for inspection, or for reconnaissance through unknown territories.

Designed with a modular payload system which hosts universal standard mechanical and electrical (power and data) interface, the craft can accommodate any payload (be it advanced sensors or weapons) with a maximum weight of up to 1.5kg. To ensure compatibility in military operations, the first module developed by WECORP INDUSTRIES is a weaponized payload which provides the drone operator the ability to aim the platform and payload to reliably deliver a lethal force to a target without destruction of the platform. The INHIBITOR EFFECOTR MODULE uses 5.7x28mm FN round for defeat of ‘NATO CRISAT MAN’ (level 3A body armour). Because it offers semi-automatic functionality with multiple round magazines and reliably delivers a lethal effect up to 12m distance with 30cm accuracy, the INHIBITOR can deliver a lethal effect whilst eliminating the risk of endangering a soldier’s life in the process.

The craft is lightweight, which allows even light troops to transport the system during infantry operations. It benefits from quick into-action speed so it can be employed in time-critical situations. Designed to be practical when used in an urban combat environment, both the magazine of the weapon system and the battery can be replaced rapidly by the operator without the use of tools.

Due to the user-centric approach in design, ability to hold position and fly both outdoors and indoors, its variety of integrated sensors and ability to deliver lethal force reliably and accurately, the INHIBITOR offers a range of application and solutions to overcome the complexities of urban warfare and the unique opportunity to be used as an alternative to human soldiers walking through unknown urban combat environments.

2.3. The CUSTODIA Product Line

WECORP INDUSTRIES takes pride in being unique in its Ethics-First approach to its products. CUSTODIA is the onboard AI system developed by the company to compliment the INHIBITOR EFFECTOR MODULE and offers the users additional tactical and ethical functionalities for the weapon system. CUSTODIA holds firing prevention mechanisms that will help reduce the harms of war. The product line is the newest addition to the INHIBITOR and is currently in early stages of development. As with every AI, it is dependent on a large and sustainable high-quality set of data. As our relationship with our customers evolves, we would like to explore a data pipeline to train the AI on its two core functions:

Its Tactical Function which will focus on target recognition, acquisition, tracking and low-latency projectile projection capabilities. It will restrict the EFFECTOR MODULE’s firing if the target would be missed. Enhanced with target re-recognition capabilities and indefinite tracking time, CUSTODIA is a powerful tool that brings value to end users by minimizing collateral damage during military operations.

Its Ethical Function is the result of all the above capabilities in combination with person and weapon recognition capabilities and will prevent firing if a target is not legitimate. CUSTODIA is the first step towards software enforced Rules-of-Engagement and starting with the INHIBITOR it is our goal to bring CUSTODIA to every weapon system.

To ensure rapid enhancement and development of the onboard AI, the INHIBITOR sensors generate optimal data to train CUSTODIA’s tactical and ethical functions. The INHIBITOR Drone’s unique capabilities enables us to capture high quality data from real life military and law enforcement missions. The more mission-driven data the INHIBITOR produces, the more capable the Tactical and Ethics Functions become. The more capable CUSTODIA becomes, the more successful missions it can execute to gather data.

2.4. WECORP Synergies

WECORP INDUSTRIES’s sister company WECORP is a Security Service Company that shares the same Ethics-First approach. Its core business model is a Shared Drone Emergency Response Service, allowing a single drone to respond to emergency calls within a two-kilometre radius around a remote-nested-drone hub. In the first stage of WECORP’s service, the drone serves as a quick responder to provide visuals on the emergency to confirm the nature of the alarm. In later development stages, WECORP wishes to develop capabilities to mark potential targets of interest as a deterrent. The Shared Drone Emergency Response Service serves as an intermediate between the public and Law Enforcement or Fire Brigades – flying only if a public customer calls for an emergency, subsequently cutting short on false alarms, slow emergency response, and patrolling needs due to the very short two-minute on-site response time. All of this can be achieved while maintaining extremely low prices of 20GBP per month for the customer – unlocking the low-end of the security service market.

While WECORP is utilising existing technologies to start its commercial operations in July 2021 the mid-to-long-term goal is to supply WECORP’s service with WECORP INDUSTRIES technology which will allow the technology of the INHIBITOR ecosystem to grow an untapped market which will benefit the wider Security Ecosystem of the countries/cities we operate in. WECORP itself also attracts a different part of the investor market that over the inter-company relation indirectly benefits the INHIBITOR Ecosystem.

3. Strategic Fit

3.1. Needs, challenges and opportunities driving the innovation

The Western Defence Industry lacks disruptive innovation/software capabilities and quick procurement to compete with rising competition from Russia and China. This has been understood within NATO and kicked off the concept of Warfare Prototypes.

Companies such as Anduril Industries, Shield.AI and Palantir picked up the call and started to bring the lack of above-named capabilities to market. Whilst these companies are clearly leading the charge in closing the capability gaps, it is important to note that all of this did not start with a technical problem – it started with an ethical one. When Google was approached by the US DoD with Project Maven to get access to Google’s world-leading HR capabilities, their people revolted and ultimately prevented MAVEN to be delivered by Google – leading to the creation and success of Palantir. While Palantir delivered on MAVEN it did not deliver on the concerns Google raised – an Ethics-First Design Approach to Defence.

All the problems currently faced by the Western Defence industry can be traced back to an ethical dilemma. Without addressing the ethical concerns of the wider public, Defence will lack the wider accessibility for Top Tier Talent. Without the wider accessibility for top tier talent, no competing technology and without competing technology, no ethical future. Russia and China have a different public perception of Defence and consequently superior access to their Top Tier People.

We, as a Challenger Defence Company, are having an Ethics-First approach to design. When we start developing, we are not afraid of asking the problematic ethical questions. Should drones be self-exploding? Should drones drop explosives? Or do we go the hard way and mimic the same capabilities than soldiers have used before? We are not only asking those questions, but we are also training our teams to ask these questions themselves from early stages of and throughout development. Once we have found their answers, we are able to discuss them with our world leading Ethics Board for consideration. Finally, we only develop what could be considered effective and ethically reasonable. The INHIBITOR Drone and the CUSTODIA AI are representations of this Ethics-First Design approach and we plan to bring this concept to all areas of Defence. Step by Step – product by product. This idea is also explored by our sister company WECORP LTD, which is looking at alternative concepts for Security Services with an Ethics-First approach.

3.2. Impact on the D&S Sector

With the INHIBITOR Drone in service, Defence and Security will get access to a superior platform that will be supported with software updates and ecosystem products to access more missions, maintaining world leading robotic performance. Furthermore, the modularity gives access to true rapid prototyping by allowing 3-month development cycles for most requested modules. This also adds cost benefits due to the competitive prices of modules which centralise the cost of the INHIBITOR Platform over many capabilities and multiple years of use. Finally, WECORP INDUSTRIES’s Ethics-Frist approach to Defence ensures politically/publicly balanced dialogue in Defence.

3.3. User need challenge link

Modern urban warfare is both complex and dangerous. While the official kill or wounded ratio at D-Day was 7/1,000, the kill or wounded ratio in urban warfare conflicts averages around 20/1,000. More concretely speaking: A soldier is three times more likely to get killed or wounded in an urban warfare conflict than if he had fought at D-Day. Moreover, the kill or wounded ratio for urban warfare in enemy stronghold averages around 50/1,000.

The reasons for these devastating numbers can be found urban warfare and related tactics. Military operations often require securing a certain area. Areas are secured by assuring that no enemy forces are present. The securing process can be applied with everything the military has to deploy - be it troops or technology. Modern war machines and technology can easily secure big areas with open spaces but continuously struggles to deal with more complex structures and indoor areas. Although the past has shown that air strikes are effective in destroying complex structures and indoor areas, it comes at the price of infrastructure destruction and civilian lives. Therefore, the only remaining option is to deploy infantry squads. Only human soldiers surpass war machines and technology by being flexible enough to deal with the uncertainties of urban territory. The downside of this flexibility is that human soldiers need to go around unknown corners, closed doors, and shady staircases, consequently increasing the risk of getting wounded or killed. Also known as “going through the gate of hell”.

Military academics all over the world have studied mission reports, created, and consequently updated tactics for infantry squads to deal with this very common threat. Special equipment was designed, and technology developed to reduce the fatal tactical disadvantage of walking into an unknown area. But the flexibility to deal with whatever is on the other side of the door remains a feature not compatible with current military equipment and in the end, the human soldier remains the best “solution”. If a machine was required to substitute a human soldier walking into unknown territory in urban warfare, three core features would be mandatory:

First, the ability to keep up with the speed of an infantry squad in urban territory, being able to deal with stairs, small entrances, uneven ground, broken stairs etc.

Second, the length of time missions in urban territory might take.

Third, the ability to shoot like a soldier of an infantry squad; multiple rounds with the precision to hit the target and spare non-targeted surroundings.

The third is especially important as the first two would only make a reconnaissance machine that supports but does not substitutes an infantry squad. Currently no machine is available that combines the three required features. Land-based machines are either too slow or not able to deal with the complex territorial conditions of urban warfare. Flying drones on the other hand are suffering from a trade-off between the size, operating time, and precision of the related weapon system. A flying drone small enough to fly indoors loses precision due to the recoil of the weapon system. A recoilless weapon system, like a rocket launcher, cannot shoot multiple rounds or requires the size of the drone to increase. Both issues lead to the current state of the market where drones are not capable of shooting indoors. No machine, at present, able to fly, drive or walk can combine these three features.

4. End-users pull

4.1. Customer Segmentation

Starting with the Special User Community in the UK and France and even without the release of new modules or ecosystem products, we would spread to the Infantry and Special Police in most EU/UK countries. As it stands, we have confirmed interests from the US for our capability and hope to secure procurement for the same community within the US Military and Law Enforcement apparatus. With the main platform in service, more modules will spread the use to different departments like e.g. Recon, EOD and Anti-Tank in all relevant countries. With our CUSTODIA AI getting more performant in enforcing Rules of Engagement, we can add more countries to the list of our customers. With the HOMESTATION we are also diversifying into the Security Service Market in collaboration with our Sister Company WECORP. Less lethal modules have also been already requested and open wider use within the Law Enforcement/Security Service community of all of the above mentioned countries. We have also been contacted by Intelligence Authorities and Border Protection Agencies that expressed interest in our capabilities – both are interesting to us but need to be aligned with our Ethics Board.

4.2. Letters of support

Please find attached to this document a series of letters/emails confirming the interest from different parts of the UK/France and US Military and Law Enforcement. This information can be found in the document ANNEX3\_Letters\_of\_Support. Besides the written evidence, we have had verbal interest from the Norwegian, German, Danish, Spanish and Portuguese Special User Community.

4.3. Go-To Market Plan

WECORP INDUSTRIES has invested more than 8M GBP to explore and develop our INHIBITOR Drone Technology. This money was invested in the company thanks to our investor’s shared belief in better defence technology with an Ethics-First approach. We acknowledge that we planned to raise our 12M GBP Series A in 2020 which underwent unforeseen difficulties due to the Covid-19 Pandemic and investors subsequently safeguarding their investments. In 2021, and with much better economic clarity we are feeling confident to close our Series A in July 2021. The company will also apply for a 1.6M GBP Innovation Loan to provide buffer until the closing of its Series A. This is not only the money we commit to build our larger scale production capabilities for the INHIBITOR Drone but also the money to deliver the HOMESTATION, along with some core modules to unlock a wider spectrum of tactical missions. It is worth mentioning that we are developing all of our capabilities inhouse and don’t require substantial partnerships to deliver. Nevertheless, we are open to exploring all kinds of partnerships especially those related to our modular approach.

We are the first Challenger Defence Company with an Ethical-First Approach. This has been well received in the past by investors and we do think that we have unlocked a unique angle to the Defence Investor Market. Furthermore, our approach will address Western Militaries and Securities’ needs and problems by adding more capabilities and future proofing our National Security together, not only from a capability angle but also from a human/sustainability angle.