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B Corporation: the importance of Environmental, Social and
Corporate Governance

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Margarida Gaspar Franja Franco Gonçalves

**B Corporation: the importance of Environmental, Social and
Corporate Governance**

Coimbra, October of 2023



Margarida Gaspar Franja Franco Gonçalves

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Internship report submitted to the Instituto Superior de Contabilidade e Administração de Coimbra to fulfil the requirements for the **Master's degree in Management Control**, under the supervision of the Professor Fernanda Cristina Pedrosa Alberto and Parshva Mehta.

Coimbra, October of 2023

STATEMENT OF RESPONSIBILITY

I declare to be the author of this internship report, which is an original and unpublished work that has never been submitted to another institution of higher education to obtain an academic degree or other qualification. I also certify that all quotations are properly identified and that I am aware that plagiarism constitutes a serious lack of ethics, which could lead to the cancellation of this internship report.

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ABSTRACT

This internship report comes in the scope of the Master's in Management Control, at Instituto Superior de Contabilidade e Administração de Coimbra. The report, developed in the context of PolyPerception, the start-up where the curricular internship took place, has the goal of proposing improvements to the ESG framework of PolyPerception, by first exploring the importance of environmental, social, and corporate governance in companies. Moreover, intends to research on B Corp Certification, and assess its viability in the context of PolyPerception.

The conclusion was that the ESG framework is an important tool for companies to be compliant and demonstrate their focus on sustainable growth, and additionally shows the importance of corporate governance in start-ups, being this a big focus of PolyPerception. Furthermore, the B Corp Certification appears as a differentiator for companies which are considerate of their impact on people and the planet, revelling as a powerful tool for PolyPerception.

Even though, these two approaches are promising, it wasn't possible to analyse the aftermath of implementing these tools, since there wasn't the space to apply them throughout the internship due to lack of resources in PolyPerception.

Keywords: B Corporation Certification; Environmental, Social and Corporate Governance; ESG; Start-up; Sustainability.

RESUMO

O presente relatório de estágio surge no âmbito do Mestrado em Controlo de Gestão, do Instituto Superior de Contabilidade e Administração de Coimbra. Este relatório, desenvolvido no contexto da PolyPerception, empresa onde foi realizado o estágio curricular, tem como objetivo propor melhorias à *framework* de ESG da PolyPerception, começando por explorar a importância da governação ambiental, social e corporativa nas empresas. Adicionalmente, pretende analisar a certificação *B Corporation* e avaliar a sua viabilidade no contexto da PolyPerception.

Concluiu-se que a *framework* de ESG é uma ferramenta importante para as empresas cumprirem com a legislação e demonstrarem o seu interesse no crescimento sustentável, tendo também o estudo realizado salientado a importância da governação corporativa nas *start-ups*, sendo este um grande foco da PolyPerception. Relativamente à certificação *B Corporation*, concluiu-se que esta surge como um fator diferenciador para as empresas que têm em consideração o seu impacto nas pessoas e no planeta, revelando-se uma ferramenta poderosa para a PolyPerception.

Apesar de estas duas abordagens serem promissoras, não foi possível analisar as consequências da sua implementação, uma vez que as propostas apresentadas não foram executadas no decorrer do estágio devido à falta de recursos na PolyPerception.

Palavras-chave: Certificação *B Corporation*; ESG; Governação Ambiental, Social e Corporativa; *Start-up*; Sustentabilidade.

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List with short names

AI - Artificial Intelligence

ASA - Amazon Sustainability Accelerator

BIA - B Impact Assessment

BOD – Board of Directors

CEO – Chief Executive Officer

COO - Chief Operating Officer

CSR – Corporate Social Responsibility

EBITDA - Earnings Before Interest, Taxes, Depreciation and Amortization

ESG – Environmental, Social and Corporate Governance

EU – European Union

KPIs – Key Performance Indicators

LED - Light-Emitting Diode

MDGs - Millennium Development Goals

MRFs – Material Recovery Facilities

PRFs – Plastic Recovery Facilities

RGB - Red Green Blue

SDGs – Sustainable Development Goals

SLO – Social License to Operate

UK – United Kingdom

UN – United Nations

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INTRODUCTION

There is a global increasing concern, especially in consumers' and investors' perspective, that has been prompting companies to be more sustainable and to be aware of their positive and negative impacts. This awareness, combined with global initiatives to protect the people and the planet has led companies to shift their behaviours, towards a more transparent and sustainable approach.

In this sphere, the present report comes up in the scope of curricular internship carried out in the company PolyPerception, in Belgium. This internship is a part of the curricular plan of the master's in Management Control from Instituto Superior de Contabilidade e Administração de Coimbra, ISCAC Coimbra Business School.

From the funding of the company, PolyPerception wanted to have an impact that goes beyond the normal activity of the company, putting in action their mission of creating a sustainable future for all. For this, the internship came has an opportunity to explore the B Corp Certification and Environmental, Social and Corporate Governance (ESGs) approach of the company. Hence, the report has two main goals, one being the understanding of what can be improved in PolyPerceptions' ESGs approach, and the second the analysis of viability of the B Corp Certification in PolyPerception context, by providing a roadmap of the process of application.

However, as a start-up with limited resources, it was crucial to first understand the importance of ESGs and certifications like the B Corporation for the company. Therefore, this report is focused on first understanding the pressure that companies have from the rising awareness coming from people, investors, and global initiatives. And secondly exploring how the new global approach affects companies' behaviours. This research was important to explain why PolyPerception should focus on ESG framework and on the B Corp Certification.

Is expected that this report helps other start-ups on improving their ESGs approach and provides a reference on how the process of application to B Corp Certification would look in a small company.

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The report is divided into six chapters. After this introduction, comes the second chapter with the literature review. The literature review is divided into two sections, one being dedicated to understanding the rising concern regarding environmental and social issues. This topic focused on the global pressure regarding sustainability and on the shift of perspective of consumers and investors. The second part of this section is dedicated to explaining what impact this awareness has on companies, starting by analysing the shift in companies' behaviour changing from shareholder capitalism to stakeholder governance, followed by an overview on initiatives that are aiming to protecting people and planet. After, there is a focus on the concept of ESGs and a more detailed understanding of corporate governance in the context of start-ups, since PolyPerception has a bigger focus on this topic. Lastly there is a review on the impact that this shift in the behaviours has in companies.

The third chapter, denominated by “The PolyPerception Company: Change the Perception About Waste”, has the focus of giving context around the recycling topic and information about PolyPerception. Like this, the chapter is divided into two sections, one being the European position regarding recycling and the other focusing on the characterization of PolyPerception.

The fourth chapter, named “Curricular Internship: Tasks Description” there are three main sections, starting by a description of the goals of the internship, followed by an overview of the main tasks and a description of them, organized by the following categories: financial information, inventory, administrative, customers, product development, marketing and governance. The last topic has a retrospective on the activities performed.

The fifth chapter, called “ESGs and B Corp Certification – PolyPerception Context”, is divided into four sections. The first provides the goals of the research, followed by an overview on the ESG approach of PolyPerception. The third section provides a plan to improve the ESGs framework of PolyPerception, and lastly covers the analysis to the B Corp Certification approach. The last section is divided into four points: introduction to the B Lab and B Corps, overview on the B Corporation Certification process, description

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of B Corp Certification applied to Small Enterprises and a roadmap of the application process to the B Corp Certification in the PolyPerception context.

Lastly, in the sixth chapter, there are the main conclusions of this report, including the limitations and possible future research.

1 LITERATURE REVIEW

This chapter has as its main purpose the study of the importance of ESGs in companies, to understand if governance is important for PolyPerception, and, if so, how can it be applied, being this the main focus of the internship. For this, the chapter is divided into two sections, one exploring the reasons for the rising concern of environmental and social issues, and the other investigating how this affects companies' behaviour.

1.1 The rising concern regarding environmental and social issues

This section has the focus of understanding why there is an increasing concern when it comes to environmental and social issues. This is divided into two perspectives, one being the global perspective and the other being the consumers and investors perspectives.

1.1.1 Global perspective on sustainability and regulation pressure

In 1973, the United Nations (UN), in the Stockholm Conference, stated that it is needed to change our actions to be more aware of environmental consequences (United Nations, 1973). Even though there are around 140 developing countries in the world trying to meet their development needs, the increasing threat of climate change increases challenges to sustainable development, demanding concrete efforts to ensure development today does not negatively affect future generations (United Nations, 2015, 2023b).

For this, in 2015, the 2030 Agenda for Sustainable Development, presented 17 Sustainable Development Goals (SDGs) divided in 169 targets that were adopted at the UN Sustainable Development Summit by all UN Member States, providing a shared blueprint for peace and prosperity for people and the planet (United Nations, 2023a). Unlike the Millennium Development Goals (MDGs), an agenda adopted in 2000, composed by eight goals which focused particularly on developing countries to reduce extreme poverty by 2015, the SDGs are aimed at all countries, including industrialized countries (Hummel & Szekely, 2022; United Nations, 2023a).

The 2030 Agenda for Sustainable Development recognizes that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education,

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reduce inequality, and spur economic growth while tackling climate change and working to preserve the oceans and forests, as can be seen on image 1.1 showcasing the 17 SDGs (United Nations, 2023a).



Image 1.1 – Sustainable Development Goals from United Nations

Source: United Nations (2023c).

To achieve the environmental goals citizens, communities, enterprises, and institutions at every level, need to work together, for this SDGs encourages multi-stakeholder and public-private partnerships, recognizing the importance of collaboration and the contribution that these parts can have in SDGs by providing financing, expertise and knowledge, while having a lower aversion to risks (Berrone et al., 2019; United Nations, 1973). Companies, especially large and transnational companies, are mainly being address in the Goals 17 and 12 for encouragement to adopt sustainable practices and to integrate sustainability information into their reporting cycle, which triggered an increasing number of firms to implement reporting on the SDGs (Berrone et al., 2019; Hummel & Szekely, 2022; United Nations, 2015).

Besides SDGs reporting, with raising pressure for companies to be more transparent

regarding their sustainability, reports of environmental, social and corporate responsibility gained popularity, being that European Union (EU) and UN have required large entities to issue non-financial reports since 2017, to demonstrate the social responsibility issues that have been integrated into companies' operations, and even though non-financial reporting is usually prepared on a voluntary basis, some countries have issued regulations to make non-financial disclosures mandatory (Arvidsson & Dumay, 2022; Noronha et al., 2013; United Nations, 2015).

Other authors defend that even before the EU Directive and the Green Deal, there was considerable pressure in specific EU member states to increase both the quantity and quality of non-financial information in the hopes of improving corporate responsibility performance, since this information is important to assess a company's long-term performance, furthermore companies must ensure that not only they provide more information but also that the information is relevant and of high quality (Arvidsson & Dumay, 2022).

1.1.2 The shift in consumers' behaviour and in the investors' perspective

With the companies' negative environmental impact, various regulations and reporting obligations were imposed and public policies raised awareness, leading to a growing consumers consciousness, which is affecting consumption choices, prompting movements calling for greater government and business action in tackling climate change (Carvajal, 2023; European Environment Agency, 2016; Zhou et al., 2021).

While getting increasingly concerned about environmental and social issues, consumers are shifting their behaviour, taking it into account in their daily decisions and adjusting demand-pull factors, with this EU companies feel forced innovate and pursue a new business approach where sustainability is taken in account throughout the entire life cycle of a product, while taking into consideration performance and competitiveness (Carvajal, 2023; D'Amato et al., 2019; European Investment Bank, 2022; Horbach et al., 2012; UNEP, 2023).

One of the main factors that is driving these changes in consumer behaviours are the

public policies and the access to information which is essential to expose the needed impacts on consumption and production patterns and is a catalysator for company's innovative activities and greener consumers' habits promoting pro-environmental individual choices (Costantini et al., 2017; D'Amato et al., 2019; European Environment Agency, 2016).

According to a survey from European Investment Bank (2022), 78% of Europeans feel like they are fighting the climate change in their best capacity on their daily lives, but at the same time think other people are not doing the same, also the majority of young Europeans take into account the climate change when voting and when looking for a job. A study from Am et al. (2023) concludes that consumers care about buying environmentally and ethically sustainable products and they would pay more for a product with sustainable packaging, linked to ESG related claims. The studies shows that products making ESG-related claims accounted for 18% more growth than would have been expected given their standing at the beginning of the five-year period, additionally products making these claims averaged 28% cumulative growth over the five-year period, versus 20% for products that made no such claims (Am et al., 2023).

Besides this shift in consumer behaviour, investors have also been changing their perspective regarding their investments, as organizations and investors are realizing that capital markets have the tools to provide solutions solve systemic challenges that the world is facing (Morgan Stanley, 2019).

According to Morgan Stanley (2019), sustainable investment is becoming popular among institutional asset owners, since they understand that investing in a company with attractive financial performance alongside positive impact on the planet or society has potential, with this, there is a bigger focus on assessing the impact of companies, while regulations are demanding greater disclosures on ESG factors. Furthermore, there is a investing base focused only on sustainability, that companies might benefit just from issuing green, social and sustainability bonds (Morgan Stanley, 2019). The study from Morgan Stanley (2019) states that more than 8 in 10 United States individual investors have interest in sustainable investing, and 50% has at least one sustainable investing

activity, 84% want an impact report of the company, 86% believe that ESG practices can potentially lead to higher profitability and may be better long-term investments, and 88% believe that it is possible to balance financial gains with a focus on social and environmental impact.

Concluding, with this shift of the consumer behaviour and with the change in the investors perspective, companies have to adapt to satisfy consumer preferences and keep up with changing societal expectations, for this, the ability to define, measure and track non-financial impact will be critical in the evolution of sustainable investing and its rapid growth (Morgan Stanley, 2019; Zhou et al., 2021). Moreover, the growing awareness of customers, government and communities, lead firms to encounter various external pressures, including consumer pressure and environmental regulation, resulting in implementing some environmentally friendly practices to achieve sustainable development (Lestari et al., 2021).

1.2 The impact of environmental and social awareness in companies

This topic has as main goal the understanding of how the increasing concerns of environmental and social issues affect companies' behaviour. Like this, is divided into five points, starting by exploring the shift in the companies' approach, changing from shareholder primacy to stakeholder governance, followed by an introduction to two initiatives that are focused on helping companies to change their approach to use business for good. This topic also leans over the concept of ESG framework, and focuses on corporate governance applied to start-ups, since out of the ESG framework this is the main concern of PolyPerception, at last, presents reasons why a company should be aware of ESG issues.

1.2.1 Changing from shareholder capitalism to stakeholder governance

There is now emerging an approach where corporations acknowledge corporate social and environmental responsibility, called the stakeholder approach; this approach calls for a sustainable performance which many companies have failed achieve in a practical way

(Clarke, 2020).

The mainstream system that companies have been relying on, called the shareholder capitalism, is focused only on creating value for the shareholders, with this the only responsibility of a company is to use its resources and engage in activities designed to increase its profits, making sure that operates in open and free competition without deception or fraud (B Lab, 2023e; Friedman, 1962, as cited in Friedman, 1970). The agency theory, which is core of shareholder primacy, defends that the role of the Board of Directors (BOD) is to monitor managers to ensure their interests do not diverge substantially from the shareholders, and to devote the company to maximising shareholder's return, being this the main goal of the corporation (Clarke, 2020).

Until more less 1950, public companies were retaining about 50% of their profits for reinvestment however over the past 30 years companies have started to retain much less, and to pay out much more in the form of dividends and shares; this ideology, has consequences on the economy and society, as companies by prioritizing profits are contributing for social and economic inequalities, environmental damage, contributing for a decline in individual wellbeing and loss of social cohesion (B Lab, 2023e, 2023f; Clarke, 2020). Furthermore, according to Clarke (2020), maximizing the shareholder value damages the interests of all stakeholders and may be ultimately especially harmful to the interests of long-term shareholding investors.

The climate change and the increasing awareness of its consequences on the economy and society got many initiatives around the world joining the UN SDGs, underlining the urge for action to be taken by governments, corporations and communities (Clarke, 2020). This behaviour prompted concepts like the Social License to Operate (SLO), which refers to the ongoing acceptance and trust, in a company's standard business practices, by stakeholders due to positive impact behaviours and transparency, demonstrating the importance of environmental, social and corporate responsibility, being an indication of a shift in businesses approach (Clarke, 2020).

In conclusion, this new rising approach – the stakeholders governance - is focused, not only on bringing value to the shareholders but also to all stakeholders, and this translates

into a more sustainable development and a more inclusive system of capitalism.

1.2.2 Stakeholder Governance – Initiatives protecting people and the planet

In accordance with the previous section, there is need for a change in the capitalistic system, that is driving how companies act, this change has been prompted by consumers, investors, and the government. Besides these actors, non-profit organizations and movements have arisen to induce companies to shift their behaviour into a more inclusive model. The current economic system is failing the promise to create positive impact, while being driven by business as one of its key actors, creating significant negative impacts for people, communities, and the planet (1% for the Planet, 2023; B Lab, 2023f).

With the need for a change, initiatives have arisen where it is proposed to shift from the shareholders capitalism, in the direction of stakeholder governance. Two of these initiatives are B Corporations, certified by B Lab and 1% for the Planet. In common, these two programs defend that companies have an important role when it comes to protect the people and the planet (1% for the Planet, 2023; B Lab, 2023f).

B Lab believes that the solution is the stakeholder governance approach, where the company is responsible, non-only for creating value to the shareholders, but for all the stakeholders (B Lab, 2023f). According to B Lab (2023f), there are three key aspects that reinforce the problematic role of business: the way that economic and legal systems are designed, business behaviour and operations, corporate culture and the dominant narratives around business and success, leading to structural social and economic inequality, environmental degradation, resource extraction and the decline of individual well-being (B Lab, 2023f). These factors are demanding the a need for a change, and requiring an economic system into a more inclusive, equitable, and regenerative global economy, which, according to B Global Network’s Theory of Change, is the stakeholder governance (B Lab, 2023f).

By working with other movements, coalitions, policymakers, activists, and organizations, and by catalysing the stakeholders — Certified B Corporations, benefit corporations, and

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businesses adopting B Lab’s standards can achieve B Lab’s vision of having stakeholder governance (B Lab, 2023f). With this movement, companies are aware of the environment, are aligned with the regulations, follow industry leaders (academics, media leaders, consumer advocates, civil society leaders, industry groups) and have a direct relationship with investors/ capital markets, workers, customers and suppliers (B Lab, 2023f). To achieve the stakeholders governance at a global level, B Lab will prompt the adoption of their standards to manage the impact of business, certify and engage businesses to improve their impact, amplify stories of business as an equitable force for good, catalyse policy change to enable business as a force for good and develop a network of local, regional, and global communities working towards the same goal (B Lab, 2023f).

With this change, the role of businesses will be refined, business decision-making takes into account all stakeholders, business are made accountable for their impact, the negative one is regulated and the positive promoted, moreover, the success in business is defined by performance across financial, social and environmental metrics, and the goal across actors in the economic system is the creation of stakeholders value, not shareholder primacy, while capital markets seek to invest high-impact business (B Lab, 2023f). Also according to B Lab’s theory, businesses and the economic system contribute to the regeneration instead of the degradation of natural eco-system, further more contribute to an equitable and inclusive society, individual health and wellbeing, and community bonds are improved by the economic system, lastly there is a rebalancing of power between shareholders and stakeholders increasing diversity and resilience of the economic system (B Lab, 2023f).

In the same direction, the initiative 1% for the Planet, believes that since companies profit from the resources they take from the earth, it’s in their responsibility to protect those resources, like this proposes that its members commit to donating at least 1% of annual sales directly to environmental organizations, while the organization certifies every donation to ensure businesses meet that commitment (1% for the Planet, 2023). 1% for the Planet, created by Yvon Chouinard and Craig Mathews, was founded on the idea that a company has a responsibility to give back for use of our planet’s resources, and in a

way for businesses to hold themselves accountable for their environmental impact (1% for the Planet, 2023).

At the bottom line, movements like this are important triggers for companies to shift their way of doing business, as it gives competitive advantage and highlights companies which are aware of their environmental and social impact and are using their power for good.

1.2.3 Environmental, Social and Corporate Governance – Concept overview

With the global initiatives and the rising concern on the negative impacts caused by companies, the ESG, a non-static framework, was created for the sustainable development of the global economy and in response to the increasing problems in the environment, society, and the financial market, prompting companies to develop ethical, moral, and sustainable behaviours beyond focusing only on financial ones (Krishnamoorthy, 2021; Li et al., 2021).

The ESG principle was developed by international organizations and countries worldwide following its formal proposal in 2004, called “Who Cares Wins”, and since then countries around the world continue to promote the development of the environment, society, and governance in accordance with the ESG principles (Li et al., 2021). The UN report “Who Cares Wins” refers that awareness regarding ESG factors will ultimately contribute to stronger and more resilient investment markets, as well as contribute to the sustainable development of societies (United Nations - The Global Compact, 2004). The “Who Cares Wins” report focusses on the role that different parts can take, in order to better implement ESG framework, being companies prompted to take a leadership role by implementing ESG principles and provide consistent and standardised ESG reports (United Nations - The Global Compact, 2004, p. 3). While investors, were requested to reward research that includes environmental, social and governance aspects and well-managed companies (United Nations - The Global Compact, 2004).

The ESG framework, by showcasing environmental, social or governance matters that may have a positive or negative impact on the financial performance, promotes stronger

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financial markets, being important to measure a resilient organization, contributes to a sustainable development, promotes awareness and mutual understanding of involved stakeholders, and improves trust in financial institutions (European Banking Authority, 2021a; Krishnamoorthy, 2021; United Nations - The Global Compact, 2004).

Like this, the ESG factors help measuring the sustainable development and societal impact of businesses activities that are financed by banks, being a standard and strategy used by investors to evaluate corporate behaviour and future financial performance; since the three basic factors of ESG, as described in the table 1.1, are the key points to be considered in the process of investment analysis and decision making (European Banking Authority, 2021b; Li et al., 2021).

Table 1.1 – Environmental governance, social governance, and corporate governance – Areas of influence

	Areas of influence
Environmental Governance	Any intervention in environment-related topics which can influence environmental actions and outcomes. Covers climate change, carbon and greenhouse gas emissions, ethical management of scarce natural resources, toxic waste releases. Also considers actions like the new regulations on environmental liability about products and services, emerging markets for environmental services and environment-friendly products.
Social Governance	Actions related to workplace health and safety, community relations, human rights issues at company and suppliers/contractors' premises, Government and community relations in the context of operations in developing countries, and all processes of social organisation including decision-making processes among the actors involved in solving a collective problem, like combating child work, human trafficking, health and safety issues, diversity, inclusion, racial and social equity, data privacy, livelihood, and general employee and human welfare.
Corporate Governance	Covers the board structure and accountability, accounting and disclosure practices, audit committee structure and independence of auditors, executive compensation and management of corruption and bribery issues.

Source: Adapted from Krishnamoorthy (2021); Lemos and Agrawal (2006); Milotay (2020); United Nations - The Global Compact (2004).

Covering three large areas of influence, the ESG framework is an investment for long-term value growth, being a comprehensive, concrete, and down-to-earth governance method, having the power to reshape business organizations and elevate humankind (Krishnamoorthy, 2021; Li et al., 2021). As we shift from a approach where what was good for business, was good for society to a place where what is good for society is good for business, the ESGs represent the main points to consider and act (Krishnamoorthy, 2021).

Besides the ESG framework, were designed other tools to promote the development of environmental, social, and governance factors, such as the ESG evaluation system, the ESG disclosure standards, and the ESG index system.

1.2.4 Corporate Governance – Start-ups context

Corporate governance proposes balance between leadership, entrepreneurship, and performance on the one hand, and control as well as compliance with regulations on the other hand, making sure legal obligations are respected while strategy and objectives are set and pursued (Corporate Governance Committee, 2009; Sterckx, 2020). Companies' behaviours are determined by managing and controlling, for this corporate governance has the goal of monitoring the actions and their impact and can substantially contribute to the company's success (Corporate Governance Committee, 2009; Sterckx, 2020). A good corporate governance should be embedded in the company's values and helps building an environment of trust, transparency and accountability in the decision-making process, which is necessary for long-term investment, financial stability and business integrity, thereby supporting stronger growth and more inclusive societies (Corporate Governance Committee, 2009; OECD, 2023; Sterckx, 2020).

Corporate governance also requires control, i.e. the evaluation of performance, management of potential risks, and supervision of conformity through agreed procedures and processes, having as a bigger goal to monitor the effective operation of control systems, managing potential conflicts of interest and implementing sufficient checks to prevent any abuse of power, however it takes time to be properly and adequately

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developed in a company (Corporate Governance Committee, 2009; Sterckx, 2020).

Corporate governance should be applied from the beginning of start-ups, i. e. companies that are in the initial stage of its operations, being important because it provides vision and focus, by being managed, controlled and by setting rules for making decisions, avoiding conflicts of interests between shareholders, founders and management (Sterckx, 2020).

The differences between a start-up and a more mature company, in the perspective of governance, are: the size, the lack of experience, the absence of data or reference points and the dynamics (Sterckx, 2020).

Table 1.2 – Differences of corporate governance in a mature company and a start-up

Corporate governance	Mature company	Start-up
Size	More dependencies and bigger impact on stakeholders.	Less stakeholders and people impacted.
Experience	More experience and skills in making business.	Absence of skills and experience by young founders.
Reference points	More reference points, competitors, and market well explored.	Developing business in new areas/fields that haven't been explored before.
Dynamics	Mostly have more time to make decisions considering all the risks attached to them.	Rapid evolution, urge for speedy decision and frequent risk taking.

Source: Adapted from Sterckx (2020).

Besides these differences in corporate governance between mature companies and start-ups, there are also similarities in the governance scope, them being: the legal aspects, the duties of the BOD and the general responsibility regarding operations and the values and culture of companies (Sterckx, 2020).

Governance of a start-up covers all the essential elements and basic responsibilities of a more mature company, but in addition to those, a start-up BOD has to cope with several supplementary challenges and opportunities, especially because a start-up usually only has a very limited capacity to absorb strategy mistakes (Sterckx, 2020).

For the long-term success of a company, and a strong governance base, a start-up, besides

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having the values, culture, vision and mission well defined, should focus on creating a BOD, as it supports on maintaining the strategy, regularly monitor the actual and future cashflow, advocates the interests of customers and helps to build a strong staff (Sterckx, 2020).

When it comes to the legal structure, in Belgium, a start-up is usually a BV / SRL (Besloten Vennootschap/Société à Responsabilité Limitée), and, in a later stage, when there is an increase of capital the company changes to NV/SA (Naamloze Vennootschap/Société Anonyme), however this can change with the new Belgium legislation post-May 1st 2019, where a BV / SRL can adopt a board structure while holding on to their initial structure having more flexibility, the down side is the increased accountability of the Director of such BV/SRL (Sterckx, 2020).

According to Sterckx (2020), the need for balance between responsibilities and power distribution required in Corporate Governance, makes mandatory the presence of a real functioning BOD, making sure that there is sufficient independence, assuring that the real responsibility of the board is followed through. Besides this it is crucial to support the nomination of a competent and preferable independent chair of the board, making sure the entrepreneurs/founders and investors are fully aligned on the longer term future of the company (Sterckx, 2020). Furthermore, it is important to get a director with experience in start-ups' governance or hands-on experience in being on a start-up board themselves, considering the dynamics of the company (Sterckx, 2020). The extensive lack of experience and resources implies a much more hands-on approach from board members maintaining the independence of the board in terms of control is a challenge in these circumstances and as so competence, integrity and commitment should go together (Sterckx, 2020).

In the table 1.3. the role that the BOD has is divided in five categories: strategy, monitor cash flow, customers, team, compliance, and operations.

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Table 1.3 – Role of the Board of Directors

	Importance/Definition	Board's role
Strategy	The strategy takes into account the vision and goals, and once is defined, it should only be change with a good cause. Without strategy companies are more likely to get lost.	The strategy should be approved by the BOD, and so they have the final word. Furthermore, the BOD must verify the track of the progress in executing the annual plan, keeping in mind the strategy, by making sure to agree on a set of Key Performance Indicators (KPIs) which are regularly reported by management.
Monitor Cash Flow	Monitor the cash flow provides a view on performance of the company and keeps on track of financing is needed. The companies must have someone accountable for the financial reporting, additionally companies should have an annual plan, even though often the reality doesn't match it. This is important since investors are attracted to transparency specially in the financial performance, meaning that the willingness to support the start-up depends on trust built on high-quality information.	The BOD makes sure that the actual and future cash position is monitored to avoid working capital needs. Is often that start-ups face lack of budgets and timing, from one day to the other, so the board needs to monitor such shift, in order to avoid crises.
Customers	Companies have long-term goals of having supported all the cost from revenue, like this, customers are an important factor in companies' growth and stability.	The BOD should advocate the interests and importance of the customers, since it can be difficult, for the entrepreneurs, to understand the difficulties of introducing a new product or service in the market.
Team	The human resources of a company are the most valuable assets. A strong team can be the company's advantage to the competitors.	The BOD has an important role in guidance and in involving a recruitment company when needed, since a unique value proposition will not become a success without the appropriate contribution, efforts, commitments, and skills of dedicated staff.
Compliance	It's mandatory for companies to comply with all applicable rules, regulations, and legislation, for this, a good legal firm and an explicit and strong commitment from the top of the company is important.	The BOD should equally monitor the compliance of the company and intervene appropriately if necessary.
Operations	It's considered operations all everyday activities, that are a part of the core-business of the company and other activities that contribute for the normal activity of the company	The BOD should guarantee an adequate operation of the company, by assessing if the right people are doing the right things, evaluating the availability of resources and making sure that the processes, procedures, standards and other practices established are being respected.

Source: Adapted from Sterckx (2020).

Even outstanding Corporate Governance cannot fully guarantee the success of a start-up but it will make sure the start-up does not fail because of failed governance which is unfortunately still frequently the case (Sterckx, 2020).

1.2.5 The impact of the rising awareness in companies

The increasing pressure from governments, societies and consumer preferences, and additionally being in a competitive market, where competitors also increase their green activities and adapt the company's processes to match the increasing green standards, companies seek legitimacy, resulting in seeing companies putting more effort into becoming more environmental and socially responsible making claims about it on their product labels in order to maximise their profits (Am et al., 2023; Carvajal, 2023; Zhang et al., 2021; Zhou et al., 2021). But besides the labels and claims is important to know the actual contribution of such business practices to achieving goals such as: reducing carbon emissions across value chains, offering fair wages and working practices to employees, and supporting diversity and inclusion (Am et al., 2023).

Even though some companies are using ESG claims to increase profits; according to Am et al. (2023), Consumer Product Goods companies are still apprehensive to join the movement, since in many companies' with ESG claims in the products are unable to generate sufficient consumer demand and fail in sales expectations, due to the cost associated with manufacturing and certifying products with good ESG-related claims, particularly in an inflationary context.

When it comes to corporate social responsibility (CSR), several companies in Europe have been promoting their strategies as a result of social, environmental and economic pressures, which ultimately indicates that the company is improving compliance with regulations, accountability and shows company's long-term focus as opposed to short-term, with the final goal of increasing profits by being transparent on the matter (Cheng et al., 2014; Commission of the European Communities, 2001). The CSR report is a way that stakeholders can monitor the behaviour of the company, and will promote a relationship of trust, with this, companies are required to make long-term commitment,

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promoting stakeholder engagement, leading to lower capital constraints, while also allowing new partnerships, the enrichment of existing ones with customers, business partners and employees, and contributes to the economic reinforcement, social cohesion and health protection (Cheng et al., 2014; Commission of the European Communities, 2001; Eccles et al., 2012).

In conclusion, with the pressure from governments, societies and consumers to be more sustainable, and by using non-financial reports to show transparency, companies are using the shift from the linear traditional model to a circular approach, as an opportunity to promote the transition towards cleaner and more sustainable growth, adopting sustainable environmental, social, and governmental practices as a way to increase profits (Carvajal, 2023; D'Amato et al., 2019).

2 THE POLYPERCEPTION COMPANY: CHANGE THE PERCEPTION ABOUT WASTE

The goal of this chapter is to present the company where the internship took place. To give context around the company, the chapter starts by introducing the European position on recycling, since this was a catalysator for the PolyPerception founding, followed a characterization of the company.

2.1 European position regarding recycling

The generation of waste, besides contributing for the lost valuable resources, has consequences on the human health and in the environment, for example incinerating waste creates air pollution and landfill can contaminate the water and land (European Environment Agency, 2023). To reduce waste's burden on health and the environment, and to keep valuable resources in the economy, the EU is prompting the circular economy, by preventing waste production and improving waste management (European Environment Agency, 2023).

While in 1950 only 1.5 million tonnes of plastic were produced in the world per year, in 2018, it was estimated that around 359 million tonnes was produced in the world (European Parliament, 2023a). Furthermore, according to the European Parliament (2023a), in countries from the EU, 39.9% of plastic production was for packaging purposes. Moreover, according to the European Environment Agency (2022b), municipal waste accounts for 27% of total waste generated in the EU (excluding mineral waste). In 2020, about 48% of municipal waste in the EU was recycled and composted, and in 2021, 49% (European Environment Agency, 2022a; Eurostat, 2023). Furthermore, in 2020, EU countries, landfilled on average 18% of waste, excluding mineral waste (European Parliament, 2023b).

With the goal of increasing recycling rates, in 2018 there was a press release from the European Parliament which revealed a new recycling target, and legislation to improve waste management, taking part of a shift in EU policy towards a circular economy, where

the goal was to have products, materials and resources maintained in the economy for as long as possible (European Parliament, 2018).

The press release refers that by 2025, at least 55% of municipal waste (from households and businesses) should be recycled, this target will rise in 5% by 2030 and 5 years later the target will be 65% (European Parliament, 2018). Moreover, 65% of packaging materials will have to be recycled by 2025, and 70% by 2030, with separate targets for different packaging materials, such as paper and cardboard, plastics, glass, metal and wood (European Parliament, 2018). Furthermore, since, according to the European Parliament, “landfilling is considered to be the worst option for managing waste, in both environmental and economic terms”, the draft law also limits the share of municipal waste being landfilled to a maximum of 10% by 2035 (European Parliament, 2018). Also by 2030, residual (non-recycled) municipal waste should be reduced by half being this a non-binding commitment that should be achieved at EU level, according to the Circular Economy Action Plan and Zero Pollution Action Plan (European Environment Agency, 2022b).

However, in 2022, the European Environment Agency after the briefing “Reaching 2030’s residual municipal waste target — why recycling is not enough”, concluded that the targets for 2023 will not be possible to achieve, defending that in order to achieve the set goals will be needed both, reducing waste generation and considerably increasing recycling (European Environment Agency, 2022b). In fact, despite the efforts and better recycling rates, the amount of waste generated also increased, resulting in the same amount of the residual municipal waste generated as the previous 5 years (113 million tonnes), meaning that even if all EU Member States reach their binding 60% recycling target by 2030, current trends indicate that the amount of residual municipal waste might exceed 80 million tonnes in that year, leading to missing the target by more than 23 million tonnes (European Environment Agency, 2022a, 2022b).

And even though there is a shift from recycling driven by profit, where only profitable plastics were being recycled, to recycling driven by legislation, where it is demanded that all the waste is recycled resulting in better recycling rates, there is waste being generated

at a higher passe. If municipal waste generation continues growing, in order to comply with the halving the amount of residual municipal waste by 2030, it would be needed to recycle at least 72% of waste generated, which is a significantly higher rate of recycling than at present, the alternatives pass by reducing the amount of waste generated by around one-third and increasing recycling rates (European Environment Agency, 2022b).

This results in an increasing need of higher recycling rates and lowering waste generated, creating a demand for collection, sorting and recycling facilities to be more efficient and transparent, since they play a big role on achieving the goals imposed. To reach this, waste authorities have put more effort on structuring sorting guidelines and tracing the sortability of waste, as sorting is a crucial step to achieve better recycling rates.

2.2 Characterization of PolyPerception

In this topic the goal is to characterize the host entity of the internship - the PolyPerception company. Hence, there is an introduction to explain the birth of PolyPerception, followed by a description of the company's products and roadmap. Hereafter, there is an overview on PolyPerception market segmentation and a description of PolyPerception partnership with TOMRA Recycling, an optical sorting machinery supplier for waste recycling.

2.2.1 Recycling and the birth of PolyPerception

Given the pressure to have a circular system, away from the dependency of raw materials and minimizing the environmental impact of disposing single-use packaging, a circular system for household waste is crucial reduce the negative impacts of waste on human health and the environment.

For this, waste sorting facilities and recyclers play a critical role in the value chain of processing packaging waste back into new packaging, but to keep up with the rapidly increase in generated waste and by having the responsibility of increasing sorting and recycling rates, waste sorting and recycling facilities need to be more efficient. So far, the majority of sorting and recycling facilities rely on manual sampling to improve the processes and identify problems. This is a concern because while these facilities process

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50,000 kilos per day, they only have resources to manual sample 20 kilos of the waste stream, which is around 0.04%. Today, the focus of sorting and recycling facilities is to maximize throughput, recovery rates and purity rates, so there is a rising need to trace and gather data from the waste stream, in order to understand what is failing in the sorting process and what can be improved.

By seeing the potential of Artificial Intelligence (AI) and realising the necessity of having a circular system, Rafael Hautekiet, Nicolas Braem, and Parshva Mehta came together two years ago to use AI for the greater good and positively impact the waste management industry. With this, they founded PolyPerception, a tech start-up based in Antwerp, Belgium, focused on software development. The start-up was founded in 2021, with the bigger goal of reducing plastic packaging waste that goes to incineration, and radically boosting the sorting efficiencies of household waste in sorting and recycling facilities. Nicolas Braem, the Chief Executive Officer (CEO) of PolyPerception believes that “bringing change to the way we deal with waste can take years, but by using AI we have the potential to help decision-makers and operators to reach new levels of transparency, efficiency and automation that haven’t been previously possible.” (PolyPerception BV, 2023b). The AI-based solution passes by installing cameras with RGB sensors in key points of waste sorting and recycling facilities, proving KPIs of the sorting process with the use of data generated by the AI model.

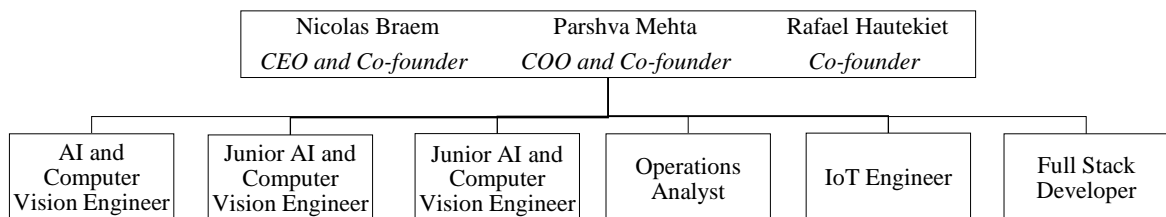
PolyPerception target market are household waste sorting and recycling facilities, waste authorities and plant builders. At the moment, the company is focused on the European market of waste management, and it already has systems installed in Belgium, Netherlands, Switzerland and France, by the end of the year is expected also to be in Italy and the United Kingdom (UK). While the primary focus is to reduce the waste going to incineration and improve the recycling rates in Europe, PolyPerception also has the ambition of expanding to worldwide locations.

When it comes to the total turnover, in the year that it was founded PolyPerception had 7,500€ in sales, in 2022 was around 56,780€ and in 2023 is expected that the total turnover will reach 250,000€, that evidence the rapid and relevant growth of the company.

As a short-term goal, PolyPerception is focused on filling the data gaps across the sorting and recycling processes, empowering decision-makers with valuable insights to make data-driven decisions as we transition towards a circular economy. The long-term goal is the automation of the sorting process. PolyPerception believes in a fully automated waste sorting and recycling plant, where sorting machines are able to receive signals from sensors and automatically adjust the sorting process.

In 2021, the company was formed by the three co-founders, and in 2022, two more engineers joined. By now, PolyPerception counts with nine people in total, five engineers, two people working on administrative/operational tasks, one person responsible for deploying the hardware and installations, and one full stack developer.

PolyPerception has a horizontal or flat organization structure, which allows ideas to be implemented quickly, due to more open communication and gives employees more responsibility. Also, this type of structure allows less supervision and more involvement from all employees.



Graphic 2.1- Organizational structure of PolyPerception

Source: Own Elaboration.

2.2.2 The PolyPerception system

PolyPerception is developing an innovative AI model to classify waste in an industrial environment. The real-time data provided allows waste sorting and recycling facilities to boost their efficiency, stay compliant, while aiming for a sustainable closed-loop system.

The start-up does this by installing a camera system at key points of the waste sorting

process. This system has a camera with Red Green Blue (RGB) sensors and Light-Emitting Diode (LED) lights which are connected to an electrical cabinet where computers using AI models, analyse the waste stream and visualize the data in a dashboard, as can be seen in attachment number 1.

The AI models can identify the waste, just like humans do with vision, but at a much faster rate, using similar vision-based technology used in self-driving. With RGB sensors, the PolyPerception system can identify objects and classifies them by shape, material, colour, brand, transparency, food-grade vs non-food-grade.

Like this, the start-up can give a full picture of the waste flow, provide real-time analytics during each stage of the sorting process, show the recovery and purity rates thanks to sorting accuracy insights across the full sorting line and alert when there is any problem with the sorting process. This will lead data-driven decisions, resulting in higher sorting and recycling rates and promotes transparency with customers, by sharing accurate and continuous data to build trust and confidence with external stakeholders and waste authorities.

2.2.3 PolyPerception roadmap

In 2020, after Rafael Hautekiet had the idea of using AI for good environmental impact, Nicolas Braem, Rafael Hautekiet and Parshva Mehta came together to create PolyPerception, as mentioned before. In the first year, the company got financing from the City of Antwerp, when applied for a Project Subsidy and from Nicolas Braem, the CEO of PolyPerception. In the end of same year, PolyPerception signed the first contract with a Plastic Recovery Facility.

Later this year, the co-founders were able to collect data from two Plastic Recovery Facilities (PRFs) in Belgium, which was a great input since data collection is very important to develop and validate de AI system. In July of 2021, PolyPerception was accepted to the accelerator Imec.istart, where got financing and access consulting coming from expertise in the industry.

Four months after the company was created, the first AI model was ready, and not long

after was installed the first industrial installation at PRF in Belgium. In 2021, the inference on edge devices and the cloud backend were ready and in November of 2021, PolyPerception attended the first conference as a company, the Plastics Recycling Show of Europe (PRSE). The free conference with key industry figures addresses the latest opportunities and challenges that face the plastic recycling industry in Europe (PRS - Plastics Recycling Show Europe, 2023). At this conference, PolyPerception made contact with their first customers and TOMRA Recycling, which is the world leader in automated sorting systems, now being an important partner for PolyPerception.

At the beginning of 2022, PolyPerception installed one system in a recycling facility in Switzerland, two cameras in a plastic recycling facility in Belgium, a second system in Switzerland, installing later a multi-camera system in France, and a system in the Netherlands.

In this year, PolyPerception was visiting TOMRA for testing the system. By the end of 2022, PolyPerception signed the partnership with TOMRA, released MVP 1.0 with their dashboard and images, and had already hired three more full-time employees to complete the team, two AI engineers and one operation person.

At the beginning of the 2023, the company had already two contracts to install systems in a recycling facility in Italy and entered a project of research called “Perfect Sorting Consortium”, a project conducted by NTCP focused on using AI-based packaging waste classification to conduct sorting (NTCP, 2023). Besides this partnership, PolyPerception also started a development project with a plant builder.

The company has also promising leads to install the system in the UK and expand in current customers. For this year the goals are to increase the accuracy of the AI model, expand the focus to other plastic streams, like HD-PE and LD-PE, release the new version of the dashboard and integrate with TOMRA Insights.

2.2.4 Market segmentation

PolyPerception target customers are waste management players like waste authorities, plant builders, Material Recovery Facilities (MRFs), PRFs and recyclers.

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Starting with the waste authorities, they are present in every country and have a major role in designing guidelines for the waste sorting for public and private entities and spreading information about waste collection and sorting systems of household waste. The waste authorities are normally responsible for the household waste collecting system and usually partner up with MRFs or PRFs, to sort the waste coming from this collection, depending on the collecting system. From the perspective of waste authorities PolyPerception can provide valuable information regarding the sorting efficiencies of the MRFs and PRFs, analyse waste trends and provide insightful information when it comes to recyclability and sortability of packaging, being able to create complete guidelines on packaging.

MRFs are designed to handle materials collected from municipal/household collection systems (Health and Safety Executive, 2023). They play an important role in reducing the amount of waste sent to landfill sites since are specialised plants that receive, separate, and prepare recyclable materials.

The difference between MRFs and PRFs is the type of materials which are sorted. In MRFs are sorted all recyclable categories of the household waste (paper, glass, aluminium and steel cans, cardboard, plastic bottles and packaging), whereas in PRFs, the sorting system is focused on sorting types of plastic. In both sorting processes, as can be seen in the image 2.1, the recyclables go through a variety of mainly mechanical, where there is separation by size, ferrous or non-ferrous and by flexibles and rigids, afterwards the packaging goes through the optical sorting process, where objects are sorted by material and colour, and most of times, there is manual sorting step, where humans make the last sorting process before the waste is compacted into bales and taken to recycling facilities processes. (Health and Safety Executive, 2023)

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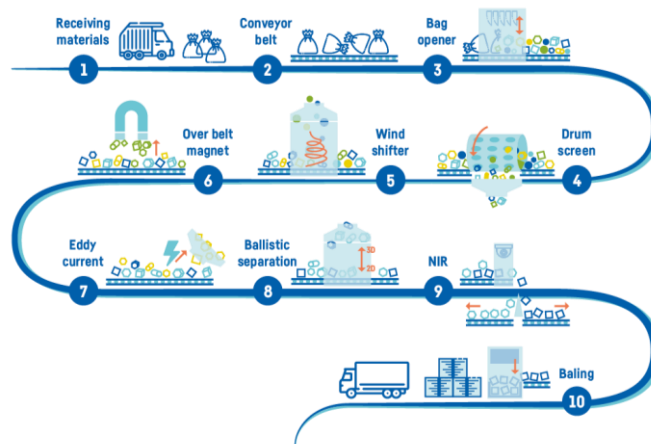


Image 2.1 – Sorting Process

Source: CEFLEX (2023b).

Recycling facilities usually focus on one type of polymer, so here the sorting process is less intensive, as can be seen in the image 2.2. After the sorting process in recycling facilities, which is similar as MRFs or PRFs, there is the gridding, washing and drying process, followed by extrusion process, where flakes are turned into pellets and some facilities even turn the pellets into bottles.

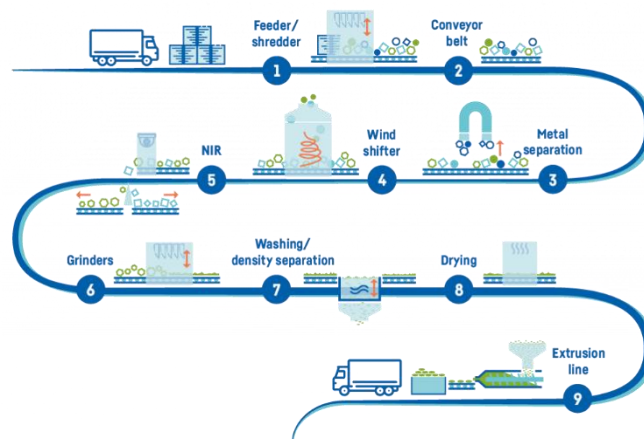


Image 2.2 – Recycling Process

Source: CEFLEX (2023a).

PolyPerception system can be placed in the beginning of the sorting process in MRFS,

PRFS, and Recyclers, where it can provide an overview of the quality of the input waste and analyse the efficiencies of the mechanical sorting. And it can be placed towards the end of the sorting process where provides an analysis on the efficiencies of optical sorting processes, manual pickers and analyses the quality of the final product. Furthermore, having a system at the beginning and the end of the sorting process, these facilities can assess KPIs like recovery rate and purity rate.

Another target customer for PolyPerception are plant builders. This player is not directly involved in the plastic life cycle but is responsible for the construction of PRFs, MRFs, recycling facilities and mechanical sorting processes. Here, PolyPerception plays a role in the commissioning process. The “commissioning is a vital step near the end of a plant’s construction, its purpose is to hand over a safe, efficient, and operation-ready facility to the owner. It is the planned coordination and execution of the final stages of construction and the beginning of production.” (Somerville, 2020). In this stage, PolyPerception can provide valuable information regarding the efficiency of the sorting steps, recovery and purity rate, that can be used in the decision-making process.

All these five players in the industry of waste management are important to achieve higher recycling rates and thereafter achieving a circular economy.

2.2.5 Partnership with TOMRA Recycling

Since the beginning, PolyPerception has as a main goal of increasing recycling rates and propelling the circular economy. To have such an impact, in an industry where all the parties work together to have the best output material, PolyPerception quickly realised that a partnership would be necessary and valuable.

In a start-up, a partnership has several benefits like sharing knowledge and experience, validation and credibility, and faster networking within the industry.

In the first year of activity, PolyPerception signed a non-exclusive partnership with TOMRA. Since 1972, TOMRA has been finding solutions to achieve the circular economy, starting with reverse vending machines (TOMRA, 2023). Nowadays, TOMRA recycling used sensor-based sorting technology to reduce the dependency on primary raw

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materials and mitigate the environmental impact caused by landfills and incineration (TOMRA, 2023). To date, more than 9,000 systems have been installed in 100 countries worldwide (TOMRA, 2023).

With the use of Near-Infrared sensors, TOMRA machines can sort objects by material and colour. Like this, TOMRA optical sorting machines, normally are installed in the middle of the sorting process, after the mechanical sorting machines and before the manual sorting.

The partnership with TOMRA allows the start-up to focus more on the engineering and product development part. TOMRA supports accelerating the commercialization of AI technology and expands the capabilities of the start-up to more waste streams.

With the partnership, PolyPerception is still a stand-alone technology and an independent source of truth in waste sorting and recycling facilities.

This partnership shows value since the waste management facility managers often don't know what the input material is, and don't know the quality of the output material, only with sampling processes, which usually is about 0.1% to 1% of the amount sorted. In this process, TOMRA can show what is going through the sorting process but plant managers don't know what is coming out of these machines, and this is where it comes the utility of PolyPerception.

The goals of this partnership are to reduce the data gaps in the sorting process, create one seamless platform for all critical data, from analysis to sorting and accelerate the development of Deep Learning Technologies.

3 CURRICULAR INTERNSHIP: TASKS DESCRIPTION

The purpose of this chapter is to present the activities developed on the internship at PolyPerception, giving an overview of the internship and a critical perspective on the skills developed.

For this, the chapter is divided by three main sections, one presents the goals of the internship, the second gives an overview on the tasks performed and the latter describes, in detail, the activities of the internship, being completed with a critical perspective on the internship.

3.1 Goals of the internship in PolyPerception

The six months internship in PolyPerception, started on the third of January and ended on the third of July of 2023, lasting a total of 984 hours, had four main goals. Firstly, the internship had the goal of analysing the ESG framework of the company and propose changes, in order to have a stronger governance, in the three areas: environment, social and corporate, having, the latter, a bigger focus. Secondly, a big focus of internship was to assess the viability of the B Corporation certification in PolyPerception. Since the beginning of the internship, it was clear to PolyPerception that there should be some development in the Governance aspect of the company. Therefore, the certification was a clear step to take to enhance governance in the start-up. These two topics are addressed in detail in the chapter 4.

Besides researching on the ESG framework and developing the B Corporation project, there was a big effort in supporting operations with the Chief Operating Officer (COO) of the company, Parshva Mehta. As “Operations Analyst Intern” my focus was to assist the COO, while taking ownership of projects related to my field of study, being able to make the connection between the academic knowledge and the tasks developed.

Lastly, this internship had the goal of integration into the labour market in Belgium. Being in PolyPerception, the focus was to get to know the labour market, mainly in the waste industry and develop skills in a professional environment.

3.2 Main tasks of the internship

The company operates in two teams, the engineering team, and the operations team (Parshva Mehta and Margarida Gonçalves). By paying support to the operations side of the company, I got ownership of a wide range of projects, however, the activities had a thorough review and discussion with Parshva Mehta, which allow space for improving and learning. Having responsibility in different fields allowed the application of knowledge gather in the master's and was an opportunity to apply it in a professional environment while gaining a broad experience. During the internship, different tasks were performed, and since acting in different areas, the activities can be divided into seven categories:

1. Financial information:

- a. Organization and preparation of documents relevant for accounting and financial analysis;
- b. Preparation of the financial information;
- c. Quarterly financial analysis and forecast;

2. Inventory:

- a. Creation of an inventory system;
- b. Fortnight update of the inventory;

3. Administrative:

- a. Applying for the Amazon Sustainability Accelerator;
- b. Complete Validation Report with Impact Forecast, in Amazon Sustainability Accelerator (ASA) context;
- c. Arrange cyber insurance for PolyPerception;

4. Customers:

- a. Follow to process of converting a lead into a client;
- b. Update and organize the database with info from clients, leads, and potential customers;
- c. Reaching out to potential customers;

5. Product development:

- a. Managing the labelling process;
- b. Review labelled images;
- c. Participate in the upgrade of the PolyPerception dashboard;

6. Marketing:

- a. Managing the LinkedIn page of PolyPerception;
- b. Prepare LinkedIn posts;
- c. Prepare marketing materials for Plastics Recycling Show Europe;
- d. Participate in the upgrade of PolyPerception website;

7. Governance

- a. The importance of ESGs in PolyPerception;
- b. What needs to change in terms of ESGs in PolyPerception;
- c. The viability of B Corp Certification in PolyPerception.

3.3 Description of the activities

The internship was composed with a broad variety of tasks, however in this section only the main tasks are described, being organized into seven categories: finances, inventory, administrative, customer, product development, marketing, and governance. The description of the tasks is followed by a retrospective view on the activities performed.

3.3.1 Financial information

Before the internship, the tasks regarding financial information were carried by Parshva Mehta, but once I joined the company, the finance-related tasks became my responsibility. In spite having ownership of most of the tasks in the financial scope, Parshva Mehta was providing guidance and reviewing my work.

The tasks related to financial information were divided in three groups:

1. Organization and preparation of documents relevant for accounting and financial analysis;
2. Preparation of the financial information with the documents previously organized;
3. Quarterly financial analysis and forecast based on the financial information prepared before.

The first activity had the main goal of sending the relevant documents to the accounting company, by the end of every month and quarter, depending on the document. The activity had the following steps:

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1. Collection of all the documents regarding the expenses of the month in question, invoices from customers, and freelancers, bank statements, pay checks, and sales;
2. Upload documents the into a shared drive folder;
3. Organize the documents by date and renaming them with the format required;
4. Send documents requested by the company at monthly and quarterly basis, depending on the document.

At this point, there was frequent communication with accounting company to clarify some expenses and make sure that there are no missing documents.

The second task, “Preparation of the financial information” had as main goal of monthly preparing and inserting the information in different spreadsheets, which were used for two purposes: Profits and Loss statement, one using the invoices data, and Cashflow analysis, using information from bank extracts, with the end goal of providing a financial analysis at the end of the quarter.

Regarding the Profits and Loss pivot table, the information was taken out of the “All Invoices”, spreadsheet that has information regarding the date, the amount paid, with and without taxes, payer or payee, description of the invoice, type of flow (inflow or outflow), category, and type of invoice (sales, operating cost or cost of sales). In order to make the process of inserting the data from the documents faster into to the spreadsheet “All invoices”, I created an additional spreadsheet as shown in image 3.1.

Type	Invoice Date	Amount without BTW	BTW amount	Total Amount	Payer/Payee	Notes	Category	P/L
Outflow	29/07/2023	€1.000.00	€210.00	€1.210.00	Alkalabel	Cabelos	Purchases (COG)	Cost of sales
					Arcos Vinci Autoroute			
					Argutec			
					Arnout Eric			
					Asana			
					Attiks			
					Auto 5			
					Autogrill Belgie nv			
					Autostrada dei Fiori			
					Autostrade			
					Auvidea			
					AVA			
					AVIA			
					Avia Eckartswiller			
					Avis			

Image 3.1 – Spreadsheet created to insert data

Source: PolyPerception – Private content (2023).

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This spreadsheet optimises the process since there is only a need to fill in the first five columns and the rest is automatic. This was done by:

1. In column “Payer/Payee” showcasing a list, with the suppliers from the data base (spreadsheet created with all the data from documents previously inserted) by using the option “Drop-down”;
2. Columns “Notes” and “Category” using the “Drop-down” feature and displaying the results of the following formulas: “=FILTER(B:B,'Insert Data'!F2=A:A)” and “=FILTER(C:C,'Insert Data'!G2=B:B)” respectively;
3. “P&L” column with following formula: “=IF(H2="", "", VLOOKUP(H2,'Data Base'!\$C:\$D,2,False))”, showcasing automatically the right category based on historical data.

With this, it was possible to mitigate typing mistakes and by providing results based on historical data avoided doubts and inconsistencies in the financial information. Furthermore, to assure an automatic process, were used macros connect with the buttons “Insert data” and “Add to Dataset”. In the first, the macro will add the first row with data to spreadsheet with all the invoices. The second, is used when there is a new supplier, it will add the new supplier to the database but also to add it to the spreadsheet with all the invoices.

When it comes to the Cashflow pivot table, the main task was to insert information coming from the spreadsheet with the transactions of all cards, having details like the name of the bank, date, amount, payer or payee and description of the transactions.

Lastly, in the third task, “quarterly financial analysis and forecast” the goal was to provide an analysis and forecast to Parshva Mehta for decision making purposes. This analysis is especially important for the start-up during the internship since PolyPerception was in a funding process, so indicators like the burn-rate were crucial to analyse.

Furthermore, indicators like the gross margin, total of operating costs, cost of sales, Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA), net profit, cash balance were presented. The report had detailed information on outstanding values, and on trends, furthermore, it was supported by graphics as seen in image 3.2, also to give

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context around the indicators, it was provided a quarterly comparison, and provided an estimation for the next quarter, considering the strategic decisions taken.

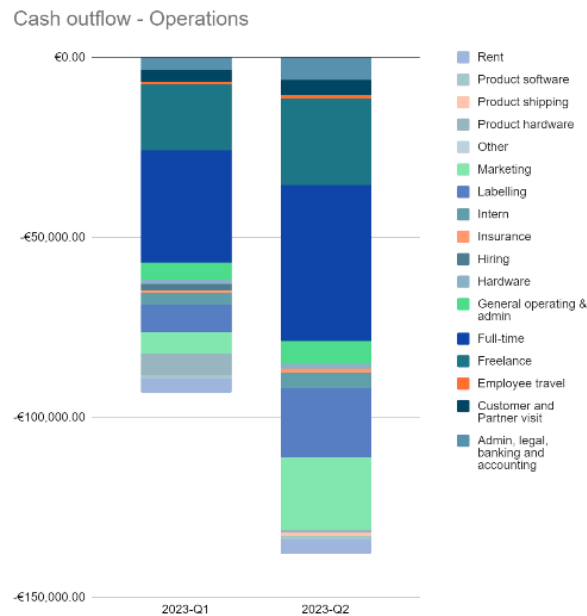


Image 3.2 – Cash Outflow regarding operations - Cash Flow analysis

Source: PolyPerception – Private content (2023).

The activities developed in the field “Financial information” were discussed and had the support of the COO of the company. In this field, knowledge learned in the master was useful being able to provide a base for a better understanding of this process in the company. Furthermore, by making the process more efficient, resulted into have more time for the analysis on the financial information, that was being used for keeping track of the company performance.

3.3.2 Inventory

In the inventory category there were two main tasks:

1. Creation of an inventory system;

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2. Fortnight update of the inventory.

The goal of the first activity was to create an inventory system which provided relevant information for two teams: engineering team, since it's needed to keep track of what's needed to buy in terms of hardware components, and operations team to know which components of the inventory are part of cost of goods, what is used in the office and to calculate depreciation costs.

For this, the new inventory system was built, as seen in image 3.3, in a way that both teams could take relevant information according to their needs, like this, the spreadsheet contains information on: name of item, supplier, category of inventory, information if it is in stock, leased, sold or borrowed, information on the location, ownership, date of invoice, price of stock without taxes, information if it is cost of goods or not, moreover, it has a control column, called "validation" to indicate when there is an error, since a piece of hardware cannot be in stock, leased, sold and borrowed at the same time.

Item	Supplier	Category	Stock	Leased	Sold	Borrowed	Validation	Facility	Ownership	Date Invoice	Total Amount (ex BTW)	Amount per Item (ex BTW)
VIM0420MP5	Alexpress ZLKC	Lens	0	1	0	0	TRUE	Piscotapak	PP	23/03/2022	€250.80	€51.60
VIM0514MP5	Alexpress ZLKC	Lens	1	0	1	0	TRUE	Sitel	PP	23/03/2022	€122.68	€122.68
VIM0420MP5	Alexpress ZLKC	Lens	0	0	1	0	TRUE	Weiman	PP	23/03/2022	€250.80	€51.60
VIM0420MP5	Alexpress ZLKC	Lens	0	0	1	0	TRUE	RC-Plast	PP	14/12/2021	€141.79	€70.90
VIM0420MP5	Alexpress ZLKC	Lens	1	0	1	0	TRUE	Sitel	PP	14/12/2021	€141.79	€70.90
VIM0420MP5	Alexpress ZLKC	Lens	0	0	1	0	TRUE	Reslan	PP	06/10/2021	€71.42	€71.42
Amaran AL-MX Bi-color LED Mini Ligh	Amaran	Lights	1	0	0	0	TRUE	Ratael	PP	25/04/2021	€123.14	€123.14
Amaran AL-MX Bi-color LED Mini Ligh	Amaran	Lights	1	0	0	0	TRUE	Office	PP	26/11/2021	€90.08	€90.08
Amazon USB Ethernet adapter	Amazon	Network Adapter	1	1	0	1	ERROR		Unknown		€0.00	€0.00
Amazon USB Ethernet adapter	Amazon	Network Adapter	0	0	0	1	TRUE	Eggersmann	PP	24/12/2021	€11.34	€11.34
Amazon USB Ethernet adapter	Amazon	Network Adapter	0	1	0	0	TRUE		PP	24/5/2021	€63.96	€10.66
Amazon USB Ethernet adapter	Amazon	Network Adapter	0	1	0	0	TRUE	Dentis	PP	24/5/2021	€63.96	€10.66
Amazon USB Ethernet adapter	Amazon	Network Adapter	0	1	0	0	TRUE	AMP	PP	24/5/2021	€63.96	€10.66
Amazon USB Ethernet adapter	Amazon	Network Adapter	1	1	0	0	TRUE	AMP	PP	24/5/2021	€63.96	€10.66
Amazon USB Ethernet adapter	Amazon	Network Adapter	0	1	0	0	TRUE	Cledo	PP	24/5/2021	€63.96	€10.66
Amazon USB Ethernet adapter	Amazon	Network Adapter	0	1	0	0	TRUE	Indaver	PP	06/09/2021	€13.88	€13.88
Amazon USB Ethernet adapter	Amazon	Network Adapter	0	1	0	0	TRUE	Indaver	PP	24/5/2021	€63.96	€10.66
Netgear GS305P	Amazon	Switch	0	0	1	0	TRUE	?	PP	31/2/2021	€198.22	€198.22
Netgear GS305P	Amazon	Switch	0	0	0	0	ERROR	?	Ratael	27/10/2020	€52.99	€52.99
MoketLink 5 Port	Amazon.de	Switch	0	1	0	0	TRUE	Indaver	PP	23/02/2023	€68.56	€22.85
MoketLink 5 Port	Amazon.de	Switch	0	1	0	0	TRUE	Indaver	PP	23/02/2023	€68.56	€22.85
MoketLink 5 Port	Amazon.de	Switch	0	1	0	0	TRUE	AMP	PP	23/02/2023	€68.56	€22.85
Nvidia Xavier NX 16GB	Antratek	Edge Device	0	0	1	0	TRUE	Indaver	PP	28/02/2022	€1.497.00	€499.00
Nvidia Xavier NX 16GB	Antratek	Edge Device	0	1	0	0	TRUE	Indaver	PP	28/02/2022	€1.497.00	€499.00
Nvidia Xavier NX 16GB	Antratek	Edge Device	0	1	0	0	TRUE	Indaver	PP	28/02/2022	€1.497.00	€499.00
Argutec CH50	Argutec	Camera Enclosure	0	1	0	0	TRUE	AMP	PP	13/02/2023	€1.077.31	€215.46
Argutec CH50	Argutec	Camera Enclosure	0	1	0	0	TRUE	AMP	PP	13/02/2023	€1.077.31	€215.46
Argutec CH50	Argutec	Camera Enclosure	0	1	0	0	TRUE	Dentis	PP	13/02/2023	€1.077.31	€215.46
Argutec CH50	Argutec	Camera Enclosure	0	1	0	0	TRUE	Dentis	PP	13/02/2023	€1.077.31	€215.46
Argutec CH50	Argutec	Camera Enclosure	0	0	0	1	TRUE	Eggersmann	PP	13/02/2023	€1.077.31	€215.46

Image 3.3 – Updated Inventory system

Source: PolyPerception – Private content (2023).

After concluding the new inventory system there was an update from fifteen-to-fifteen days, where stock bought was added and other changes were registered, making sure that it provides a real image of what has been sold and what is in the office. In the middle of the internship a person was hired to be responsible for the hardware/installation and so

took ownership of the inventory. With the new hiring, there was a process of explaining and transferring the responsibility to the new employee.

This activity was interesting to apply Google sheets knowledge and critical thinking, both skills that developed in the academic education. The inventory system was still being used after the internship, however, the information is not often updated, compromising the true representation of what is in stock. For this reason, the solution passes to create an easier user interface on the inventory system or adopting an inventory management software.

3.3.3 Administrative

In the administrative scope of the tasks, are considered the responsibilities that which are not directly connected with the product or customers. These tasks have a broad range and largely were not related to each other. For this field the following activities were highlighted:

1. Applying for the ASA;
2. Complete Validation Report with Impact Forecast, in ASA context;
3. Arrange cyber insurance for PolyPerception.

Throughout the internship, it was developed several administrative tasks, one of them being the successful application to ASA. The ASA is a three-month, equity-free programme that supports early-stage start-ups which are focused on building consumer products or recycling technologies that have a positive impact on the environment (Amazon, 2023). The application for the ASA was a process where Parshva Mehta was involved in giving guidance. Once entering the program, I participated in a few sessions that the program offered, which covered governance, sustainability, and financial reporting.

When attending to the ASA we were asked to make a validation report through the tool Impact Forecast, see report in attachment number 2. Being responsible for the making of the report, with the help of Parshva Mehta, the first step was to write the assumptions of the impact that we have when we reach a user and when our system is used and changed processes. This report has three independent outcomes which classify the Climate Impact

Forecast as valid, when the data is representative and well justified by assumptions, positive, when the project has lower climate impact than business as usual, and significant, when the project has a climate impact (positive or negative) bigger than 5 tonnes of CO₂eq per year, as can be seen attachment number 2.

It is a complex process to assess all the positive and negative impacts that a company has. However, with Climate Impact Forecast, PolyPerception was able to consider the impact when it reaches a user, covering the laptops used, customer travelling and electricity in the office. In the report, it was also considered the impact when a user changes its processes, this covers the impact of lower production of different virgin polymers, and impact of producing more recycled plastic. The conclusions of the Climate Forecast Impact were that PolyPerception was the potential to enable a climate impact reduction of 1.7 Mt CO₂eq per every five years. Being the report classified as valid, positive and significant.

Besides this, I was also responsible to take care of cyber insurance for the company, where I had to do research on the market and take a decision on what was the best option.

Through the internship there was a focus on other smaller tasks, like review contracts, arrange product shipments and be a part of hiring processes. With the support of Parshva Mehta, I was able to get familiarised with recurring processes the companies need to go through and understand the challenges in a professional environment.

3.3.4 Customers

Throughout the internship, Parshva Mehta always connected me with the customers and partnerships side of the company. It was an enriching experience to learn about the waste industry, and it was a training period to prepare me to take ownership of some of the partnerships in my current role in the company. Some of the main activities were:

1. Follow to process of converting a lead into a client;
2. Update and organize the database with info from clients, leads, and potential customers;
3. Reaching out to potential customers.

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When it comes to the first activity, the internship provided the opportunity of follow the process of leads turning into customers. The process started with having the virtual meeting with possible customers where were defined goals, challenges, and benefits of the project for both sides, after this a meeting was scheduled to visit the waste sorting or recycling facilities. In the field meeting the goal is to present the parties involved and arrange logistic aspects of the project. After the meeting, there was a plant tour, where there was a chance to see the plant running, the sorting/recycling process of the waste and see the possible placement for our product. This step is crucial to take measurements and photos to design and build aluminium profiles on which the camera is installed.

The internship provided the opportunity to attend meetings in several waste sorting and recycling facilities in Belgium and Netherlands and to link with people in the industry from Belgium, Netherlands, Germany, France, UK, Italy, Switzerland, Sweden, and United States of America.

After the meetings, there was the proposal-making part, where the responsibility was to review the proposals and send them to the client. After signing the contract, there were two tasks: map the taxonomy, which is to correlate the facility's method of classifying waste to the classification taxonomy of our AI model, and creating a document with information about the company, meeting notes, and hardware installation details.

When it comes to the second activity in the “customers” field, the goal was to create a database for current customers, leads and potential customers, as seen in image 3.4.

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The screenshot shows a CRM interface with a table of companies. The table has columns for Type, Name, Group, Country, Goal, and Status. The data is as follows:

Type	Name	Group	Country	Goal	Status
PET Recycler	Paprec - France Plastics Recycling	Paprec	FR	Revenue Driven	In convers
Waste Authority	Fost Plus		BE	Strategy Driven	In convers
Plant Builder	Stadler		DE	Development Driven	In convers
Plastic Recovery	Veolia - Germany	Veolia		Development Driven	In convers
Chemical	Borealis		AT	Revenue Driven	In convers
PET Recycler	PET Recycling Team GmbH	Alpla Group	AT	Revenue Driven	In convers
Chemical	LyondellBasell			Revenue Driven	In convers
PET Recycler	Ecoibéria - Recicladors Ibéricos, S.A.		PT	Revenue Driven	In convers
Plastic Recovery	PreZero	Prezero - Schwarz Group		Development Driven	In convers

Image 3.4 – Customer Relationship Management table

Source: PolyPerception – Private content (2023).

The database for current customers is meant to organize and keep track of the relation with our current partners, which meant having the contact person, emails, and notes of the last meetings.

The database for possible customers is meant to separate the facilities by country and chain value (collectors, sorters, recyclers, waste authorities, plant builders, bottle manufacturers and hardware suppliers). With this database, we keep track of the contact we are proactively making to reach out to new customers, their responses, and the following steps to take. In the scope of reaching out to possible partners, the dataset is divided into three main groups:

1. Revenue-driven: When the company in question is a potential customer, i.e. plastic sorters and PET recyclers. The goal here is to turn the leads into paying customers;
2. Strategy-driven: When the company or identity is not a direct customer but can play a big role in the company’s growth, bringing knowledge and experience, like waste authorities, producer responsibility organisations or plant builders;
3. Development-driven: When a company or identity can be a potential partner to apply the AI model in a new application or context. These organizations play a

big role in the development of the product and therefore don't have as main goal revenue.

Besides creating the database table, searching information on possible partners, and their respective contact person, there was other activity developed in sales, which was researching out to possible partners for PolyPerception. Here the big focus was to reach out to facilities in the revenue-driven group. The contact was made by connecting on LinkedIn and by cold emailing, which is the process of send emails without previous contact.

These activities were a great opportunity to get to know the waste industry and connect with experienced people in the same environment. Here the master courses provide a base in terms of negotiation, communication, and strategy. This knowledge was valuable to understand the approach of the company to the market and to be better prepared in terms of communication with the customers and partners of the company.

3.3.5 Product development

PolyPerception business model is a yearly fee, which covers to the hardware cost and software giving access to the analysis system. In this area of the internship, the focus was related to the software. When it comes to the PolyPerception software, there were three main responsibilities that were grouped in the “product development” category, which were:

1. Managing the labelling process;
2. Review labelled images;
3. Participate in the upgrade of the PolyPerception dashboard.

The labelling process is a big part of training and testing the AI model, since it is crucial to have a good database. These label videos are a part of the training set, that teach our AI model how to classify objects when deployed in waste facilities, as represented in the image 3.5. In an AI company's initial phase, like PolyPerception, what makes it stand out is how robust is the database, like this a good training set will allow a company to scale up and will provide the model with more accuracy in its assumptions. Therefore, in

PolyPerception has a big focus on improving the training set to its best form.

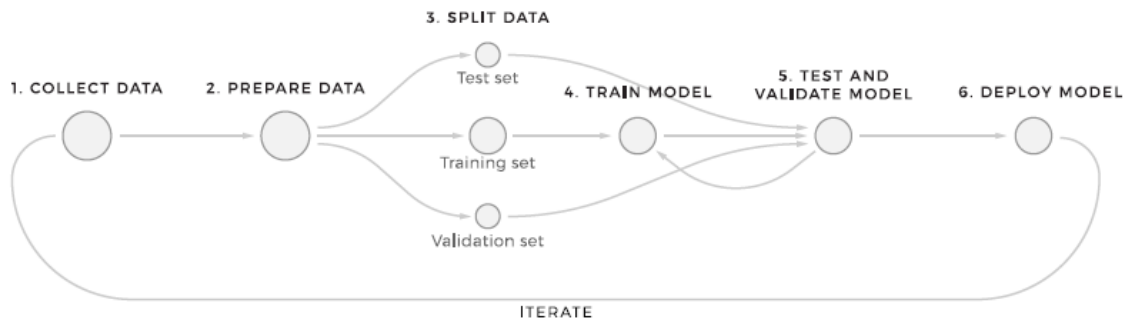


Image 3.5 – Machine learning preparation flow

Source: AltexSoft (2020).

The internship provided the opportunity to manage the labelling process, here the responsibility was to arrange the logistic and priorities with the outsourced labelling company, SAMA, considering the priorities of PolyPerception and the engineers availability. When it comes to the second task, it took place when SAMA delivered the labelled videos, here the goal was to make sure the SAMA labels were correct and the responsibility was to allocate the reviewing of labels to the PolyPerception team according to the availability of the members including myself, this task consisted in approving or rejecting the labels proposed by SAMA, as can be seen in image 3.6, furthermore the responsibility was also to set deadlines and making sure it was aligned with the customers’ expectations and with the engineering team.

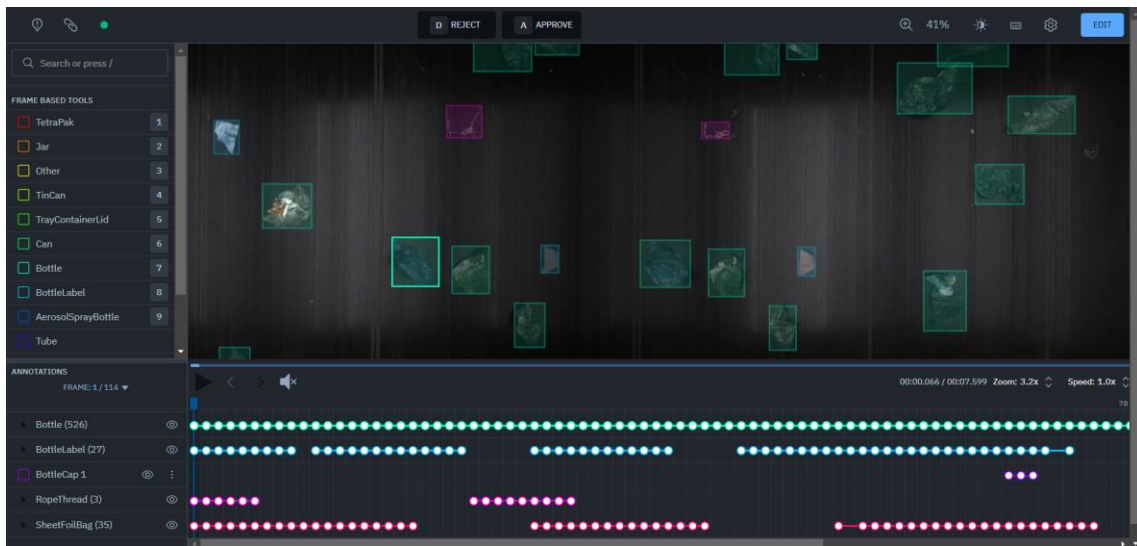


Image 3.6 – Reviewing of labelled videos.

Source: PolyPerception – Private content (2023).

When it comes to the third activity, “participate in the upgrade of the PolyPerception dashboard” the goal was to improve the user experience by providing feedback to the existing dashboard, collecting feedback from our clients, and participate in meetings for the dashboard update, being a part of the decision-making of the new features implemented. In the image 3.7, we can see a new feature that was realised during the internship due to customers feedback on the dashboard.

It was an enriching experience to be able to follow the full process of product development. From the moment where the customers express the need for a specific feature, to the communication internally, planning and delivering the feature to the customers.

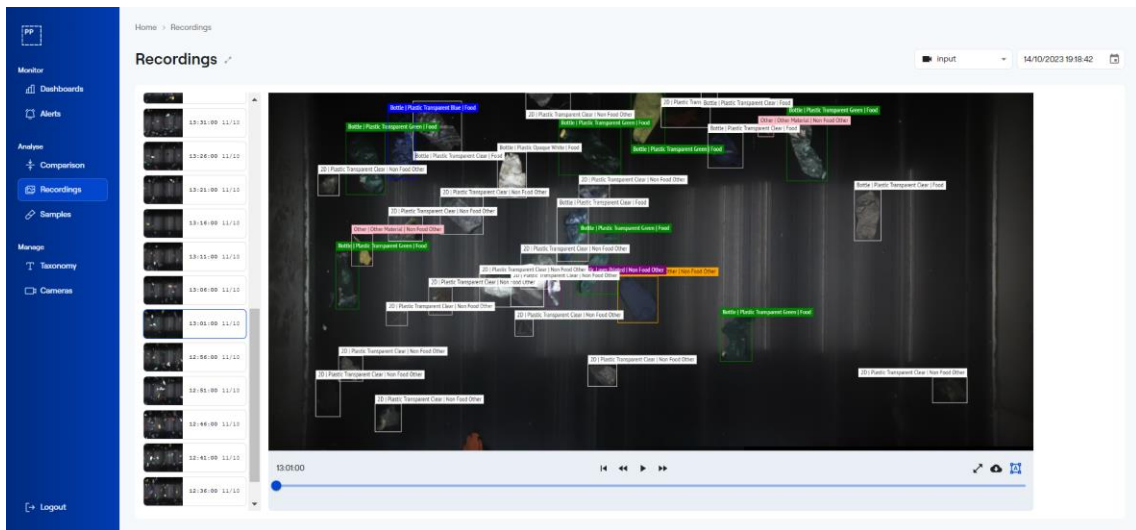


Image 3.7 – Recording feature – showing model predictions.

Source: PolyPerception – Private content (2023).

3.3.6 Marketing

With the main goal of having new leads, marketing started to be a focus of the company. However, with few resources, and higher priorities, the marketing plan was not fully accomplished, the tasks passed by:

1. Managing the LinkedIn page of PolyPerception;
2. Prepare LinkedIn posts;
3. Prepare marketing materials for Plastics Recycling Show Europe;
4. Participate in the upgrade of PolyPerception website.

In PolyPerception, the main way to achieve leads is with direct reach, as described in the “Customers” category with cold emailing and through word of mouth. Like this the main investment in marketing was related to events, like job fairs and the waste/recycling industry events. Other than this the marketing was also done through LinkedIn.

When it comes to the first task, the responsibility was to reply to comments on LinkedIn and repost publications where PolyPerception was mentioned. Together with Parshva Mehta, it was developed a marketing strategy, and even though the company doesn’t have the resources that can focus only on marketing, a simpler marketing strategy can be

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applied with the input of the team.

The three main reasons why PolyPerception wanted to have a marketing strategy are the following: boost the hiring process, inform stakeholders/partners about milestones and product development, and help to convert new leads and partners. For this, the strategy was to have more presence on LinkedIn. In this social media, the goal was to posts weekly, in the image 3.8 it is possible to see one example of what was posted on LinkedIn.

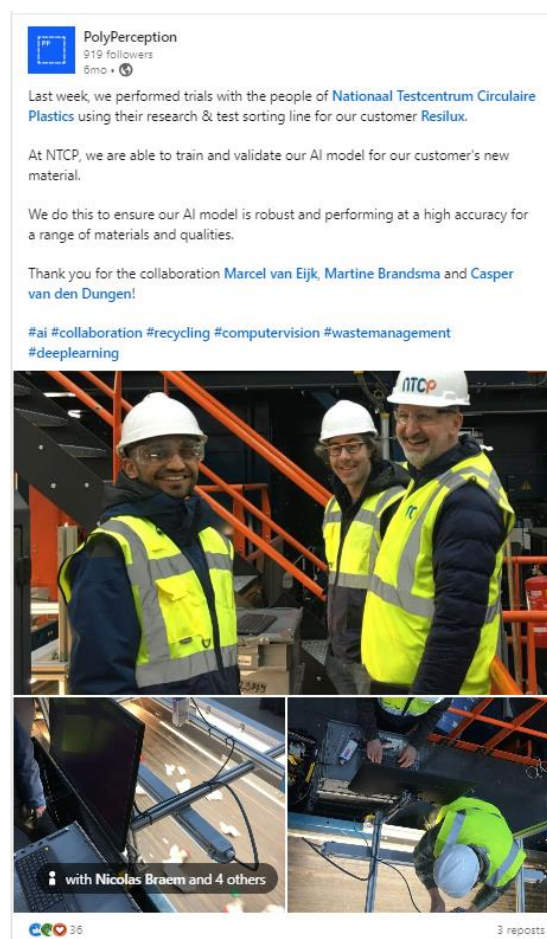


Image 3.8 – NTCP project update LinkedIn post

Source: PolyPerception (2023).

Even though the LinkedIn posts were being noticed, and it was reaching people in the industry, other priorities arise and so the posts were not as frequent as expected. The solution here passes by contracting a freelancer to be responsible for PolyPerception

presence on LinkedIn.

When it comes to the third task “prepare marketing materials for Plastics Recycling Show Europe”, the responsibility was to organize the project materials with the outsourced graphic designing company. This covered the planning of the structure and design of the booklet, business cards and stand design. In the job fairs, my task was to present the company and clarify existing doubts about the company to people that approach the stand.

The last activity in the category “marketing”, was the participation in the development of the new website of the company, which can be seen in the image 3.9. The role here was to help with building the structure of the website, take care of more aesthetical aspects and come up with the copywriting alongside Parshva Mehta. During the building of the website, copywriting was the most extensive task. Besides this, we had to reach out to partners to have their logos on our website. At last, before launching the website, the goal was to review all the pages making sure that there were no mistakes and that the content appears in the same structure on different devices.

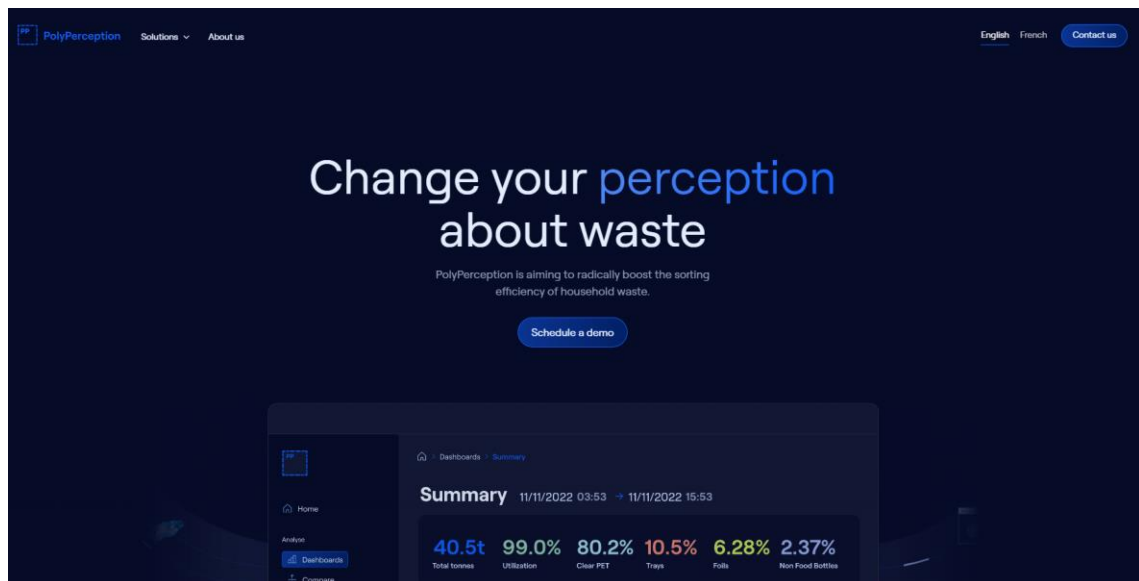


Image 3.9 – PolyPerception website – landing page

Source: PolyPerception BV (2023a).

3.3.7 Governance

Governance is a topic that PolyPerception was interested in from the beginning of the company. This topic has gain importance in the company since there was a need for funding, and additionally, because the founders feel that they have a responsibility that goes beyond generating profit, as they want to transform PolyPerception mission, of creating a sustainable future for all, into action. Therefore, the internship came as an opportunity to understand the subject of ESGs more deeply applied to PolyPerception context, exploring the following topics:

1. The importance of ESGs in PolyPerception;
2. What needs to change in terms of ESGs in PolyPerception;
3. The viability of B Corp Certification in PolyPerception.

To first understand the importance of ESGs framework in PolyPerception, there was a need to explore why is important for companies in general. In order to propose a change in PolyPerception ESGs framework it was needed research on why companies are now focusing on non-financial issues. With this research, which is largely on the literature review of this report, it was quickly realized that there has been a shift in consumers, investors and global behaviour which is pressuring the companies to adopt this framework, as well as more sustainable and transparent behaviours.

This research was the base for the second task which was to conclude about what needs to change in terms of ESGs in PolyPerception, here the focus was to understand what kind of ESGs is now done by PolyPerception and what areas can be improved, for this, the concept of ESGs, and, in particular, the concept of corporate governance was explored in order to understand what can be change to make the ESG framework of PolyPerception more attractive for investors. Furthermore, it was explored the B Corp certification and its viability in PolyPerception, as a tool to indicate that PolyPerception is focused on long-term sustainability.

During this process, I attend seminars where the focus was the B Corporation and the Governance in Start-ups, like “B Impact Assessment: The Journey towards B Corp Certification | March” organized by B Lab Benelux which took place on 30 March 2023,

“Lunch&Learn | Expert edition | Corporate Governance in Startups” organized by Imec.istart, 31 August 2023, where the speaker was the author of “Corporate Governance in Startups”, Luc Sterckx, which was an important input for my research, and other sessions related to the topic hosted by the ASA 2023.

The presence of ESGs in PolyPerception and the B Corporation was often discussed and explored with Parshva Mehta. Even though the company did not put in practice the plan created in this report, mainly because does not have the resources to implement it, it was still important to discuss the ideas with Parshva and the potential of application of it in PolyPerception.

3.3.8 Retrospective on the activities performed

The main goal with the curricular internship is to apply the knowledge acquired in the courses from the master's degree and gain professional experience.

In the 6-month long curricular internship, that took place in Belgium at PolyPerception, there was broad range of responsibilities which resulted in an enriching experience and a great opportunity to develop skills in the professional scope, with a focus on the waste industry.

Being PolyPerception a start-up, the dynamics of the workflow is different from a company where the processes are already well defined. Hence, the activities that were development in the internship were in constant improvement, with the main goal of achieving maximum efficiency possible. Furthermore, due to the start-up dynamics, and as an intern I got ownership of projects in a short time.

Throughout the internship at PolyPerception there was always guidance from Parshva Mehta, in the activities developed. From a critical point of view, some activities, developed in the internship, had to be adapted and or were not implemented fully due to lack of resources, those being mainly time and people. Starting with the marketing plan, which the responsibility will pass to a freelance, since there is not availability in the PolyPerception team to focus on social media presence. When it comes to the financial information related activities, there is a bottleneck in collecting invoices from expenses

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of all team members, this is still an ongoing process that will need improvement. In the inventory activities, there will be a need to have a software for inventory management, due to complexity of the task. Lastly, in terms of governance, even though PolyPerception wants to improve the impact in terms of ESGs and was interested in becoming a B Corporation, after the research made, and presenting the roadmap of the B Corp Certification process, it was clear that, at the moment, the company does not have the resources necessary for the application process.

The internship offered the opportunity to get to know the waste industry by travelling, visiting material and plastic recovery facilities, as well as developing skills in the role of product manager role, sales and in applying knowledge of financial analysis. Moreover, in terms of soft skills it allowed me to improve my communication, decision-making and organizational skills.

Lastly, the internship at PolyPerception also came as a good opportunity to acquire knowledge of how the waste industry works and provided a base to adapt to the company's processes, which resulted in a solid preparation for my active role in the company as Operations Analyst.

4 ESGs AND B CORP CERTIFICATION – POLYPERCEPTION CONTEXT

This chapter has the goal of exploring the ESGs in PolyPerception and the assessment of the viability of the application for B Corp Certification in the company. For this, starts by explaining the goal of the research, then focusses on understanding in what ways PolyPerception practices ESGs and what can it be implemented to improve the approach, and lastly leans over the topic of B Corp Certification.

4.1 Goals of the research

Two of the main goals of this report is presenting an improved version of the ESG framework in PolyPerception context and the analysis of the viability of the B Corp certification.

For this, the first step was to analyse the importance of ESGs in companies, which was explored in the literature review of the report. Hence, after concluding that ESGs are crucial for companies to have a sustainable growth and to nourish the relationships with stakeholders by being transparent, the next steps pass by analysis of ESGs framework in PolyPerception. When analysing the ESGs in PolyPerception, the focus was corporate governance, since it is crucial for start-ups, from the beginning, to control and monitor their activities. For the ESGs assessment the approach was to first have an overview of what is being practiced in the company, and after considering the resources available and the strategy, propose an improved framework of ESGs.

Regarding the B Corp Certification, the approach started by exploring the B Lab and the concept of B Corporations. After this, there is an overview on the whole B Corp Certification process, followed by an analysis of the process in the context of small companies. Lastly, there is an analysis on how would the process of application to the B Corp be implement in PolyPerception, with the visualisation of the process in a Gantt chart.

4.2 Current ESG Framework in PolyPerception

This topic is meant to describe the ESG framework in PolyPerception. Thus, it is divided into four points, starting by providing context of the ESG framework in PolyPerception, followed by a description of the approach of PolyPerception into each of areas of the ESG framework.

4.2.1 ESGs in the context of PolyPerception

PolyPerception goal is to use AI to give decision-makers, in waste sorting and recycling facility, data-driven data allowing them to improving recycling rates. However, the co-founders feel that they also have an obligation that goes beyond the core business. In fact, governance in PolyPerception is a concept that the company is aware of and wants to implement further in the mission and actions.

From PolyPerception point of view, having an overall view and awareness on the ESG factors is important, especially when the company is exposed to external investors but most of all the co-founders believe on making a difference that goes beyond the financial activities of the company. As a start-up there is only a certain range of non-financial factors that PolyPerception has an impact on, nevertheless there is focus on growing in a sustainable and stable way that goes hand to hand with the roadmap of the company.

4.2.2 Environmental Governance

When it comes to the environmental impact, working on the waste industry, PolyPerception already has a positive impact with the normal operations. While providing a product composed by hardware and software to the waste sorting and recycling facilities in Europe, PolyPerception grants a tool to improve sorting efficiencies, leading to more waste being recycled, since the facilities in question can operate to full capacity, resulting in less waste being landfilled or incinerated. As non-direct impact PolyPerception reduces the production of virgin plastic and increases the production of recycling plastic.

When it comes to the impact of the hardware of the company. With few clients the start-up does not have a big inventory, as it orders the frames and hardware custom for a

specific client. Also, PolyPerception uses a leasing model, so the hardware is often repurposed to other customers.

The biggest negative direct impact of PolyPerception is the customer travelling. For the biggest part, the customer travel in Europe, is done by car. The company rarely goes by public transportation since it would take longer, and it is not possible to carry the hardware needed. For longer trips, as it is from Belgium to Italy, the company usually takes the plane, but on these trips is norm to organize meetings with different customers in one trip, in order to maximize resources. According to the Climate Forecast Impact, PolyPerception has the potential to enable a climate impact reduction of 1.7 Mt CO₂eq per every five years. Being the report classified as valid, positive and significant, see attachment number 2.

4.2.3 Social Governance

From a social governance perspective, PolyPerception has impact in the employees and in the community. The company has English as main language and promotes the diversity. When hiring, PolyPerception is open to recruit people from around the Europe, with the minimum requirement of speaking English. PolyPerception is also committed to the employees and making sure of their wellbeing. The company realizes the importance of salary and does not relate to non-paid internships, ensuring that interns are able cover the costs of living freely. When hiring someone from outside of Belgium, there is a process of integration in the country, where PolyPerception provides help on find housing, taking care of bureaucracy paperwork and making sure that after arriving, the employee is adapting well to the country.

When it comes to the community, PolyPerception often applies to development projects, related to the core-business of the company, where is able to work with waste authorities, and with sorting and recycling facilities in Belgium. Besides this, attends to career fairs, in the universities of Belgium to give the opportunity for young people to join the company, giving the opportunity to paid internships or full-time jobs. Furthermore, receives master's and PhD students to develop their thesis project in the company,

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providing guidance, workplace and the technology needed, in the capacity of supervisor of the project.

When it comes to relations in the context of operations in developing countries, PolyPerception works closely with SAMA for the labelling process. SAMA is “committed to minimizing barriers to formal employment for historically marginalized groups, especially women and youth living below the international poverty line in East Africa.” (SAMA, 2023).

Finally, when it comes to data protection, privacy, and cybersecurity, PolyPerception has a cyber insurance covering cyber security incidents that can lead to legal liability, reputational damages, and effect operation and finances.

4.2.4 Corporate Governance

Lastly, the scope of corporate governance, is where PolyPerception has the most to improve and simultaneously the most important from the risk management, business ethics and compliance perspective. Regarding compliance, PolyPerception outsources the accounting for the company and relies on a legal firm to comply with legislation. The process of accounting, annual financial reporting, and taxes is made through working closely with an accounting company that follows PolyPerception since the beginning. The company, also advises PolyPerception regarding business model and equity.

Besides this, Parshva Mehta also reviews the financial statements monthly, making an evaluation at a month, quarter and year level, providing an internal report for the team and reflecting on the prospects for the future, in time span of month, quarter and year. Furthermore, when it comes to legal contracts like hiring contracts, non-disclosure agreements, sales contracts, freelance contracts, and other partnership contracts, PolyPerception works closely with a law firm to ensure that every liability is covered. At a quarterly and yearly level, PolyPerception managers review and reevaluate the strategy for the future, considering what was already achieved and what are the main goals for the company.

Lastly, with the partnerships, PolyPerception has the chance of having bi-weekly

meetings for updates and knowledge sharing. These meetings are an opportunity for the company to reevaluate the strategy, considering the opinion of the industry leaders. Also, in these meetings, the partners advise on the industry and customers related topics, having an update on all the customers and prospects of the start-up, guiding the start-up to follow the strategy proposed in the beginning of the year. The bi-weekly meetings translate into sessions to rethink next steps allowing to start-up to review possible risks.

4.3 Improving ESG Framework in PolyPerception

This topic intends to provide a new approach on the ESG framework in PolyPerception, considering the strategy of the company. Hence, it is divided into the three areas of the ESG, where there is a description of what can be improved in the respective ESG area.

4.3.1. Environmental Governance

From the environmental perspective, what is leaving a bigger negative impact is PolyPerception carbon footprint, this is connected to customer travelling. Nowadays, introductory meetings are hold online, however usually, after the first meeting PolyPerception goes to the facilities two times, one to discuss, in details, the challenges of the facility and take measurements of the belt for the installation and the second to install the frame. When something goes wrong, it is needed to go back to the facility to fix the problem.

One approach could be to make the hardware more robust and scalable. This will allow to install the frame and will not require any more maintenance in the field. Furthermore, providing guidelines to customers on how to act when recurring problems happens, will also reduce the travelling to customers' site.

These two approaches can reduce travelling to customers which is the biggest negative impact that the company has directly in the environment.

4.3.2. Social Governance

In the scope of social governance, the goal is to provide employees more support. Firstly, it is on the roadmap for this year to provide a list with resources for mental health that the

employees can resort when needed. Furthermore, by the end of the year, PolyPerception will provide to the employees with hospitalization insurance.

4.3.3. Corporate Governance

On the corporate governance point of view, the plan is to be more transparent, accountable and manage the risk better, in order to grow in a sustainable way. As it is common for most start-ups, PolyPerception is a BV/ SRL meaning a Limited Liability Company. This is no longer a barrier to have a BOD, since the new Belgian Code on Companies and Associations enter into force.

The plan for PolyPerception is to extend the current BOD, which is now composed by Nicolas Braem (CEO), Parshva Mehta (COO) and imec.istart. The latter has an observer seat and no voting rights. The updated BOD will have all the members with voting rights, and will be composed by Nicolas Braem, Parshva Mehta and one person as an investor board member.

Even though PolyPerception already has an accounting company and a legal firm that advise on legal and statutory obligations, the BOD will have an important role verifying if PolyPerception is compliant, performing satisfactorily in all the fields of operation and if it is reporting all the financial information which is relevant. Besides guaranteeing that the company is reporting financial information, the BOD will also make sure that PolyPerception is regularly monitoring the actual and future cashflow. Nowadays, PolyPerception strategy is defined yearly, and is presented and considered feedback from important partners, but it is also part of the duties of the BOD to ensure that KPIs are well defined, and review and approve the strategy, making sure it is achieved. Besides the advises from important partners, the BOD has a role of advisory when it comes to customers, advocating the genuine interests of the company and supporting in recruitment of staff, making sure that PolyPerception has the right people doing the right things.

Lastly, PolyPerception will focus on defining the values and culture of the company, which nowadays are not well stipulated. This will be a task performed by the company, since it is critical to the long-term success of a company and will be addressed in the

context of the BOD.

Besides the BOD, there is a plan, for later in the years, to form an Independent Technical Committee and an Advisory Partner Committee. The first will be to advice the company on the technology side. The Independent Technical Committee should be formed by an experience AI professional, and a person experienced with scaling a SaaS product. At last, the Advisory Partner Committee should be formed by experience people who come from different players of the industry like: waste authorities, PET Recyclers, HDPE recyclers, PP Recyclers, PRFs, MRFs and plant builders.

Besides wanting to build a strong corporate governance and being aware of environmental impact as well as social ones, PolyPerception wants to go beyond. In order to be accountable and transparent of its actions, taking into consideration all stakeholders, the B Corp Certification comes as an opportunity to measure, manage and improve ESG performance.

4.4 B Corp Certification - Make Business a Force for Good

This objective of this topic is to explore the viability of the B Corp Certification in PolyPerception. In consequence, starts by introducing B Lab and B Corporations. Followed by a presentation to the B Corp Certification and a description of its application in small enterprises. The last part leans on the B Corp Certification application process in PolyPerception context, providing a roadmap for the application considering the resources available.

4.4.1 B Lab and B Corporations description

B Lab is the nonprofit international network of organizations that are aiming to transform the global economy in a way that benefits all people, communities, and the planet, leading economic systems change to support an inclusive, equitable, and regenerative economy, this because B Lab believes that the current global economic system is not working, and its driving large-scale negative impact, putting profit over people and planet (B Lab, 2023b).

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The movement of B Corporations, or just B Corps, started in 2006, believing that a different kind of economy is not only possible, but necessary, and that business can lead the way towards a new, stakeholder-driven model, changing the economic system, for that B Lab is creating standards, policies, tools, and programs that shift the behaviour, culture, and structure of capitalism (B Lab, 2023b). B Lab certifies B Corporations, which are companies that are legally committed to bringing benefit not just to shareholders, but all business stakeholders, signed the Declaration of Interdependence as part of their certification, making a commitment to embody the values of the B Corp community, work towards the collective vision of business as a force for good, and comply with high standards of social and environmental performance, public transparency, and legal accountability (B Lab, 2023b).

4.4.2 B Corporation Certification process

The B Corp Certification process leads companies to developed stronger relationships with community members, vendors, suppliers, and helps companies to attract and engage talent since now, more than ever, workers are choosing to work for companies that reflect their values, furthermore, the B Corp Certification can also be used as an ongoing methodology and tool for continuous innovation and improvement, and some companies rely on it annually to closely monitor their goals (B Lab - United States & Canada, 2023; B Lab, 2021).

For a company to be eligible for the B Corp Certification, it must be a for-profit entity and have at least one year of operations, and in order to maintain the B Corp status the company needs re-certify every three years and pay the annual Certification fee (B Lab - United States & Canada, 2023). In the certification for B Corp, B Lab measures both, positive impact and negative risks of a company's operations across five key impact areas: Workers, Customers, Environment, Community, and Governance and includes a review of the business' performance, customized to different types of companies (B Lab - United States & Canada, 2023).

According to B Lab - United States & Canada (2023) the certification includes three main

components:

1. Achieve a Score of at Least 80 points on the B Impact Assessment (BIA) – this is validated by B Lab considering the documents provided, and will risk-review the company involvement in controversial industries and practices;
2. Meet the B Corp Legal requirement - the company should have the governing documents committing to consider all stakeholders in the company's decision-making, not just shareholders;
3. Meet the B Corp Transparency requirements - the company must create a public profile and post the score on the B Corp directory.

4.4.3 B Corp Certification for small enterprises

The application for the certification B Corporation differs depending on the size of the company, being divided into Small, Small-Medium, Medium and Large Enterprises. When it comes to PolyPerception, the company falls into the Small Enterprises category, being the steps of the application as described in the table 4.1.

The B Corp Certification project timelines vary depending on resources dedicated to the project, operational complexity, target deadlines and marketing considerations, ranging from three to twelve months, also some companies choose to delay certification in order to maximize their BIA score, while others apply and begin the certification process as soon as they reach the 80-point threshold that is the minimum for certification (B Lab, 2021, p. 7).

In the BIA, every answer will need to be supported by documentation so it is important to keep detailed records of the documentation, and keep track of the methodology and back-up information (B Lab, 2021).

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Table 4.1 – Steps of the B Corp Certification

Nº	Title	Description
1	Complete BIA	The BIA is a free digital tool that measures the impact of the company. To complete it the company has to score at least 80 points.
2	Review BIA	B Lab will review the BIA making sure that the performance-based standards are applied, by review documentation, calls, onsite visits.
3	Public BIA	B Corps are required to make the BIA score reports public through the B Corp Directory on the B Lab Global website.
4	Have stakeholder governance	B Corps must have corporate governing documents where is required the considerations of all stakeholders, not just shareholders, in the decision-making, allowing companies to protect their mission and ensuring that the company will continue to practice stakeholder governance even after capital raises and leadership changes.
5	Complete Disclosure Questionnaire	This is group of Yes/No questions that allows a company to confidentially disclose any sensitive industries, practices, fines, or sanctions related to its business or partnerships and is used with background checks. This process can change the score of the BIA. The goal here is to review the baseline score with the B Team and prioritize improvement areas. The company is ready to submit BIA once is over the 80-point benchmark, even though is 85 points is recommended.
6	Enter Evaluation Queue	Here a B Lab Evaluation Team analyst will review the BIA and determine the company’s eligibility for B Corp Certification, in this stage the B Corp Statement is signed, this statement is a quality assurance measure that ensures all responses were provided honestly and accurately. In this process it will be analyse ownership and the structure of all entities and brands associated with the company, assessing the company’s involvement in any of the industries B Lab has determined are controversial, and it will be reviewed the selected BIA track, the Impact Business Model selected, and will be done the final check to make sure that the company is on the appropriate path for certification before entering the verification queue.
7	Enter Verification Queue	In the phase the score of the BIA can change, and there will be asked questions regarding the Operational Highlights section related to the impact areas. After the Operational Highlights are completed, the B Lab analyst will begin to customize the verification report, schedule a review call to clarify information, make edits to the BIA, request documentation to verify the Impact Business Model, and the information presented in the BIA, and offer at least one opportunity to provide follow-up documentation and comments after the review call. At this point, if the score is below 80 points, the analyst will provide instructions on how to improve the BIA score and the Legal Requirements need to be fulfilled in order to move on to post-verification and certification.
8	Sign B Corp Agreement	This agreement states the terms of the B Corporation Certification, including the certification fee, here in order to comply with the transparency requirement of B Corp Certification, the company must create a public profile that includes the company’s score and impact report in the B Corp Directory.

Source: Adapted from B Lab (2019, 2021, 2023d).

Even though the B Lab team offers a help throughout the certification process it's recommended to establish a B Team composed by internal stakeholders and partners, for this, B Lab proposes a B Team of eight people providing guidelines for the composition of the team, considering the information that will be required throughout the process (B Lab, 2021).

According to B Lab (2021), the roles proposed are:

1. Finance: to provide information regarding revenue and expenditure;
2. Human resources: to give input in employee benefits and demographic questions;
3. Legal/ General Counsel: to answer questions relating to transparency and to be responsible for other legal requirements;
4. Marketing and communications: to give information about education and communication;
5. Procurement: to answer supply chain questions;
6. Project manager: leader of the B Team, most important role, responsible for gathering the information necessary to complete the BIA;
7. Senior leadership: person from senior leadership to support the process;
8. Sustainability: to provide information on environmental and social impact questions.

According B Lab (2021, p. 24), "There's no question that the process is rigorous — and, at times, even onerous — but they agree that the rigor is what makes the process worthwhile and paves the way for more collaborative and inspired work".

4.4.4 B Corp Certification in the PolyPerception context

This topic intends to propose a roadmap for the B Corp Certification application in PolyPerception, considering the resources available in the company, in order to analyse the viability of the certification in the context of PolyPerception. Therefore, it is split into four categories, the first intends to analyse if the best choice for PolyPerception is the Pending B Corp status or the B Corp Certification. Secondly, there is an overview on the requirements to become a Certified B Corporation, followed by a description of the B

Team and preparation tasks. Lastly, it is presented the roadmap where there is a timeline with the description of activities in the context of PolyPerception for the application process to the B Corp Certification, followed by a critical analysis of the viability of this certification in PolyPerception context.

4.4.4.1 Pending B Corp status or B Corp Certification

In PolyPerception context, as it is a small company, it was explored two options of application in the B Corporation context. The status the B Lab proposes for small companies are the “Pending B Corp” status and the “B Corp Certification” applied in the context of small companies.

The Pending B Corp status is designed to give start-ups and smaller companies time to prepare for the rigorous process of full B Corp Certification, additionally Pending B Corp status is a way to signal current and future investors of the intent to measure and manage the social and environmental performance, and shows a strong governance as the company must adopt a legal framework to protect mission and brand equity (B Lab, 2023c).

However, becoming a Pending B Corp is not the same as becoming a Certified B Corp, since the Pending B Corp status is finite and, according to B Lab Europe after being in operation for at least twelve months a company must go through the full verification process with B Lab (B Lab, 2023c; B Lab Europe, 2023).

A company can define the time in operation by to indicators: have at least one individual contributing greater than 35 hours per week to the company (including working owners) or being formally engaged with a supplier or client (B Impact Assessment, 2021).

In the case of PolyPerception, it has people working more than 35 hours per week since 2021 and, additionally had the first client in 2021, so must go through the B Corp Certification if wishes to proceed with the certification.

4.4.4.2 Requirements of becoming a Certified B Corporation

To become a Certified B Corporation, PolyPerception must fulfil certain requirements, the first step being to complete and earn a score of at least 80 points on the BIA, followed by making it public through the B Corp Directory on the B Lab Global website.

The BIA is adapted depending on the context of the company, there for when creating an account, the following details where added:

Table 4.2 – Register for the B Impact Assessment

Question	Answer	Explanation
Country	Belgium	The country of operations that selected will determine if the market displayed is in “Developed,” “Developed - Global,” or “Emerging”.
Region	Antwerp	
Company Size	1-9	
Sector	Service with Minor Environmental Footprint	“A company that earns revenue through the provision of non-physical services. Company does not sell a physical product or does not own/operate a retail, wholesale, or manufacturing facility. (e.g. law firms, marketing/communications agencies, software company).” (B Impact Assessment, 2023)
Industry Category	Industry, communication & technology	
Industry	Software publishing and SaaS platforms	Even though PolyPerception, in addition to the software, provides companies with hardware, the component doesn’t reflect the bigger part of PolyPerception nor brings profit to the company.
Market	Developed - Global	

Source: Adapted from B Lab (2023a) and B Impact Assessment (2023).

This resulted in a BIA with 158 questions divided by the following impact areas:

1. Governance – 18 questions – “Learn what your company can do to enhance policies and practices pertaining to its mission, ethics, accountability and transparency” (B Lab, 2023a).
2. Workers – 29 questions – “Learn what your company can do to contribute to your employees’ financial, physical, professional, and social well-being” (B Lab, 2023a).

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3. Community – 26 questions – “Learn what your company can do to contribute to the economic and social well-being of the communities in which it operates” (B Lab, 2023a).
4. Environment – 31 questions – “Learn what your company can do to improve its overall environmental stewardship” (B Lab, 2023a).
5. Customers – 3 questions – “Learn what your company can do to improve the value that you create for your direct customers and the consumers of your products or services” (B Lab, 2023a).
6. Disclosure Questionnaire – 51 questions – “Identify any potentially sensitive industries, practices, outcomes or fines/sanctions of your company that are not explicitly called out in the rest of the assessment” (B Lab, 2023a).

Besides the BIA, PolyPerception must adopt the “stakeholder governance” corporate form, which implies the consideration of all the stakeholders, not just shareholders in the decision making. As a small company, this is mandatory to comply before finalizing the certification.

As PolyPerception is based in Belgium and in terms of legal structure is a *besloten vennootschappen* (BV) or *société à responsabilité limitée* (SRL) similar to a private limited company, it has to add specific language to their governing documents, and add the clauses, present in the attachment number 3 to the Article of Association to meet the legal requirement for B Corp Certification, these changes only can be done if all the shareholders agree, Parshva Mehta, Nicolas Braem, Rafael, imec.istart (B Lab, 2023d).

Besides the legal requirements, PolyPerception also must complete the Disclosure Questionnaire. This questionnaire is composed by “Yes/No questions that allows a company to confidentially disclose any sensitive industries, practices, fines, or sanctions related to its business or partnerships”, in order to identify the material negative impacts (B Lab, 2021, p. 5). The Disclosure Questionnaire, in PolyPerception case is composed by 51 questions divided in four categories: industries, practices, outcomes and penalties, and supply chain.

4.4.4.3 B Team and preparation

During the certification process is recommended that the company creates a B Team, being composed by internal stakeholders and partners, having different roles each person. In the guidelines for the certification process in a small company, B Lab exposes eight different roles, however in PolyPerception, Parshva Mehta and me will be the core team. Parshva will be the project manager and I will pay support in all the categories, furthermore we will reach out to our employees, our accounting company, our legal company and a couple of customers and suppliers to reply in the most complete way throughout the certification process.

In order to finish the certification process in one year, the following measures will be taken:

- Inform and involve all the team in the B Corp Certification, sharing details on how their contribution matters to the process, and how BIA can help them to achieve their goals and support their work.
- Request support from B Lab for legal and transparency requirements.
- Divide the work between me and Parshva, each having individual responsibilities and goals and set bi-weekly meetings to exchange information on achievements and barriers.
- Keep the team and the co-founders informed on the progress made, and obstacles that we are facing.
- Research and get in contact with other companies in the same industry, and context which are going through the same process.

4.4.4.4 Roadmap of the B Corporation application process

The table 4.3 represents the map of main activities in the process of the certification for the B Corporation. The roadmap presented provided an estimation of the length of the activities, with the ultimate goal of successful being an B Corporation in 12 months.

The activities are separated in six phases: initiation phase, development phase, review phase, legal phase, verification phase and finishing phase. The initiation phase is composed by seven tasks and one milestone, which is “Build the B Team”. This phase is

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designed to for all the preparation tasks needed before starting with the actual certification process. In the initiation phase, the focus is on involving the team, and the shareholders on the process and on planning the next steps of the process.

The development phase is composed by four milestones and six tasks. This phase represents the tasks that cover the steps from register for BIA, to submitting it with a score of at least 80 points. The milestones defined are: “Complete the majority of the BIA online”, “Complete the Disclosure Questionnaire”, “Score more than 80 points in the BIA online” and “Submit the BIA”.

The review phase is designed for sign the B Corp statement, which is considered a milestone and for the waiting period during the evaluation assessment. The legal phase is composed by three task and one milestone, “Comply with Legal Requirements”. This represents all the task associated with goal of changing the corporate form to “stakeholder governance”, as B Lab requires. The verification phase has five tasks and one milestone, “Verified BIA over the 80-point threshold”. In this phase, the tasks are related to verification and review process of the certification. Lastly the finishing phase represents the task of finalising and process and communicate it with the stakeholders. This phase is composed by three tasks and two milestones, “Create a public profile with company’s score and impact report in the B Corp Directory” and “Communicate the B Corp Certification to all stakeholders”.

Besides presenting the activities, the table 4.3 provides information on the length of the task, designed person responsible for the task and antecedent tasks. This information is needed to create the Gantt chart. In the Map of Activities, the length is presented in monthly intervals, like this, when a task as a duration of “<1 month” is means that is estimated that it will last less than 30 days. This is also applied in tasks where the duration is “< 3months”, here is expected that a task will not last 90 workings days. When it comes to the responsible person, “P” stands Parshva and “M” stands for Margarida. These are the only two responsible people mentioned in the table, as this plan proposes the two people to form the B Team. Even though, only two people are mentioned, it’s likely that throughout the certification process the B Team will reach out to other stakeholders.

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Table 4.3 - Map of Activities – part 1

Phase	Tasks	Duration	Responsible Person	Antecedent	
1. Initiation phase	A	Present and agree with shareholder on the B Corp Certification	<1 month	P	-
	B	Inform employees about the B Corp Certification	<1 month	P	A
	C	Assess resources available and needed	<1 month	M	A
	M1	Build the B Team	0 months	P	B, C
	D	Delegate roles and responsibilities	<1 month	P	M1
	E	Define target date for completing the certification	<1 month	P and M	D
	F	Plan team meetings for updates	<1 month	P and M	M1
	G	Reach out to other companies, in the same context, for support	2 months	M	E
2. Development phase	H	Register for the BIA	<1 month	M	D, F
	I	Gather data and collect documentation	7 months	P and M	H
	J	Take the BIA	<3 months	P and M	H
	M2	Complete the majority of the BIA online	0 months	P and M	G, J
	K	Establish a Company Profile	<1 month	P	M2
	L	Begin the Disclosure Questionnaire	2 months	P	M2
	M3	Complete the Disclosure Questionnaire	0 months	P	L
	N	Review Improvement Report and Goals functionality to improve score in the BIA	2 months	P and M	M2
	M4	Score more than 80 points in the BIA online	0 months	P and M	N
	M5	Submit the BIA	0 months	M	K, L, M3, M4

Source: Own Elaboration.

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Table 4.3 - Map of Activities – part 2

Phase	Tasks	Duration	Responsible Person	Antecedent	
3. Review phase	M6	Sign the B Corp Statement	0 months	P	M5
	O	Wait for the Evaluation	2 months	P and M	M5, M6
4. Legal phase	P	Meeting with shareholders	<1 month	P	M5
	Q	Reach out to B Lab for support in legal and transparency requirements	3 months	M	P
	R	Add clauses to the governing documents	<3 months	P	P
	M7	Comply with Legal Requirements	0 months	P	Q, R
5. Verification phase	S	Make changes proposed and cooperate with the analyst from B Lab	2 months	M	O
	T	Complete the Operational Highlights section	1 month	P	O
	U	Collaborate with analyst for review and improvement process	3 months	M	T
	V	Participate in the review call	<1 month	P and M	T
	W	Provide documentation needed	2 months	P and M	I, T
	M8	Verified BIA over the 80-point threshold	0 months	P and M	S, U, V, W
6. Finishing phase	X	Sign the B Corp Agreement	<1 month	P	M7, M8
	Y	Pay the certification fee	<1 month	P	X
	M9	Create a public profile with company's score and impact report in the B Corp Directory	0 months	M	Y
	M10	Communicate the B Corp Certification to all stakeholders	0 months	P and M	Y
	Z	Continuous Improvement and preparing for Recertification	undefined	P and M	M10

Source: Own Elaboration.

The Gantt chart below, in the image 4.1, was created with the information from the map of activities. With the Gantt chart it's possible to analyse the certification process with the length of 12 months. Since the Gantt chart has the timeline organized by months, tasks

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which last less than a month and it was estimated that can be done in the same month, were organized in the same column. Taking for example the tasks from phase 1, are all displayed in the first column, but if analysed at a granular level, the order of the tasks would be maintained as dictate on the map of activities. However, for organization purposes, the Gantt chart is presented at a month level.

Furthermore, the milestones are represented by diamond shape, and have a duration of 0 months. Depending on the length of the antecedent task, the milestone can be placed in the same month as the antecedent task, if is estimated that the antecedent task will not take the full month, or alternatively the milestone is placed on the month after the antecedent task, if is estimated that the antecedent task will take the full month to be completed.

The total estimated length of every phase is displayed in grey, considering the total amount of months that the tasks take. Furthermore, in black are displayed, in months, how much can a task be delayed without compromising the full length of the certification process.

Lastly, is estimated that the last task will be continued even after the 12-month plan, as the B Corporation Certification needs to be maintained and it is a work in progress.

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Tasks	Antecedent tasks	Duration (months)	Earliest starting month	Float	Months												
					1	2	3	4	5	6	7	8	9	10	11	12	
Phase 1																	
A	-	< 1	1		█												
B	A	< 1	1		█												
C	A	< 1	1		█												
M1	B, C	0	1		◆												
D	M1	< 1	1		█												
E	D	< 1	1		█												
F	M1	< 1	1		█												
G	E	2	1	1	█	█	█										
Phase 2																	
H	D, F	< 1	2			█											
I	H	7	2			█	█	█	█	█	█						
J	H	< 3	2			█	█	█									
M2	G, J	0	4					◆									
K	M2	< 1	4	2				█	█	█							
L	M2	2	4					█	█								
M3	L	0	6							◆							
N	M2	2	4					█	█								
M4	N	0	6							◆							
M5	K, L, M3, M4	0	6							◆							
Phase 3																	
M6	M5	0	6							◆							
O	M5, M6	2	6							█	█	█					
Phase 4																	
P	M5	< 1	6							█							
Q	P	3	6							█	█	█					
R	P	< 3	6							█	█	█					
M7	Q, R	0	8										◆				
Phase 5																	
S	O	2	8	2									█	█	█	█	
T	O	1	8										█	█	█	█	
U	T	3	9										█	█	█	█	
V	T	< 1	9	3									█	█	█	█	
W	I, T	2	9	1									█	█	█	█	
M8	S, U, V, W	0	12														◆
Phase 6																	
X	M7, M8	< 1	12														█
Y	X	< 1	12														█
M9	Y	0	12														◆
M10	Y	0	12														◆
Z	M10	undefined	12														█

Image 4.1 – Gantt Chart

Source: Own Elaboration.

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Throughout the internship it was not possible to put this plan in practice, due to other tasks that had priority, like financial information preparation and analysis, sales, customer service and product management. Even so, it was a good exercise to discuss the implementation of the B Corporation with Parshva and align the process of application with the resources available in the company. Nevertheless, this roadmap serves as a complete guideline for when PolyPerception will have the resources and availability to apply for the B Corp Certification.

One of the main goals of the internship in PolyPerception was to analyse the viability of the B Corp Certification. After this analysis, it becomes clear that the B Corporation Certification is a great tool to differentiate PolyPerception from the competition, showing that PolyPerception, besides the core mission of wanting to create a sustainable future by using AI, it is actually using business for good and creates benefit for all the stakeholders, being this, the key to show that the mission of PolyPerception goes beyond words.

Nevertheless, considering the current resources of the team, the application for the B Corp Certification would rely mostly on the two people, on the operations side, as described in the B Team. This would increase the workflow and in order to fulfil the roadmap presented, other activities would have to be postponed. Which makes it not viable for PolyPerception at the moment, since the bigger part of the workflow, in the operations team, is divided into three parts that can't be ignored or pushed back.

One being customer services, since after an installation PolyPerception maintains close relationship with the customer to improve the product and make changes that increase the usability of the platform. Second being the product development, this area is now a big focus for PolyPerception and goes hand-in-hand with the previous topic, since the bigger part of upgrading the platform comes from feedback given by customers. And the third focus, is on reaching out to leads, to introduce our product, this requires a lot of resources allocated into searching for possible customers and travelling.

In my perspective the B Corporation Certification is a tool that is worth for companies to have to be differentiated, when concerned about their social and environmental impact, while also having a strong government approach. However, being the process of

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application extensive, it is suggested for PolyPerception to start the process of application when at least one more person joins the operations team, allowing the allocation of more resources, availability and focus on the application.

CONCLUSION

This report had the main goal of understanding of what can be improved in PolyPerception ESGs approach, with the end focus of proposing improvements in this context and analyse the viability of the B Corp Certification in PolyPerception, while providing a roadmap of the process of application.

For this, there was the need of understanding the importance of ESG to companies and what is causing this shift in company's behaviour when it comes to ESG, transparency and sustainable approaches.

Firstly, it was concluded that the ESG framework comes as an important tool that allows companies to be more transparent and accountable for their impacts. Moreover, it is crucial to keep companies compliant, and with a focus on sustainable growth. It is visible that nowadays companies are being more aware and transparent about their environmental, social, and corporate impact, this change is noticeable, for example, in the supermarkets, where now products have ESG claims. This behaviour translates into a shift in companies' approach, where there is a change from the shareholder approach, where the goal of the company is to provide revenue to its shareholders, to an approach where all stakeholders matter.

This new approach is supported by initiatives like B Corporation and 1% for the Planet where the goal is to help these companies to be differentiated by the fact that they care about their impact. But to answer the question "why the change" it was needed to have a wider perspective that went beyond companies.

The research gathers that with the rising social inequalities and the noticeable climate change, a global pressure was installed pushing companies to be more sustainable. Already in 1973, the UN were calling awareness regarding the environmental consequences, in 2015 that was presented a new action plan aiming for peace and prosperity for people and the planet, the SDGs. Besides the SDGs, there was also other initiatives and regulations, coming from EU, pressuring for a more sustainable activities and transparent reports.

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These global movements, combined with information spreading, lead to a growing consumers consciousness, affecting consumption choices and investors behaviours. Now, the buyer is more concerned about the impacts that products and companies have. This is also applied to investors, leading to a growing popularity among sustainable investment. Concluding that investors believe that companies with ESGs practices are connected to a sustainable way of growing and to a long-term investing, mainly due to bigger transparency and stakeholder engagement, causing lower capital constraints to a company with a ESGs claims.

Like this, we can conclude that companies are adopting this new approach due to legislation and pressure from the consumers and investors, which ultimately means that companies shift in behaviour is caused by a bigger focus on having positive impact on people and the planet, but also due to following trends, leading to profits.

With this, it became clear that PolyPerception benefits from having a strong environmental, social and corporate governance. The main focus was in corporate governance since it is considered crucial in a company, and due to the fact that PolyPerception has little influence on the environment and in social aspects. Nevertheless, the plan proposed in terms of environmental governance is the product development in a way that minimizes the traveling needed, in the social governance the goal is to provide more support to the employees, in terms of mental health help and hospitalization insurance. Lastly in terms of governance, the main focus is to have a BOD composed by the founders and other investor board member, which will allow more controlling over the company's operations.

Besides improving the ESG framework, it was explored the B Corp Certification. This Certification comes as a tool to highlight companies which are aiming to use their business to transform the global economy in a way that benefits all people, communities, and the planet. Even though, the B Corp Certification is something that PolyPerception wants to apply for, the plan provided was not put in action due to lack of resources, mainly time and people.

This report fails to apply the proposed ESG framework and the B Corp Certification

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application process throughout the internship, being this an important limitation of the work. As PolyPerception is a start-up, the internship was very intensive in terms of operational tasks, therefore there was only the possibility of discussing these plans with the host entity' supervisor, but unfortunately, not the space to implement them. However, this report serves as a guideline that can be used when applying for the B Corp Certification and serves as a reference of what to implement in terms of ESGs in the future.

It is suggested for future research the implementation of B Corp Certification application process plan adapted to the company in question, or to other start-up, ideally in the same context, and the discussion of the resources actually needed.

Additionally, is also suggested the creation of guidelines regarding the ESG framework applied to start-ups in a specific industry. This is useful since start-ups are always overwhelmed with operational tasks that leads to the push back of non-priority tasks. Therefore, guidelines could help on the implementation of the ESG framework.

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ATTACHMENTS

ATTACHMENT 1

POLYPERCEPTION – HARDWARE AND SOFTWARE



Image 1 – PolyPerception system installed in a plastic recycler.

Source: PolyPerception – Private content (2023).

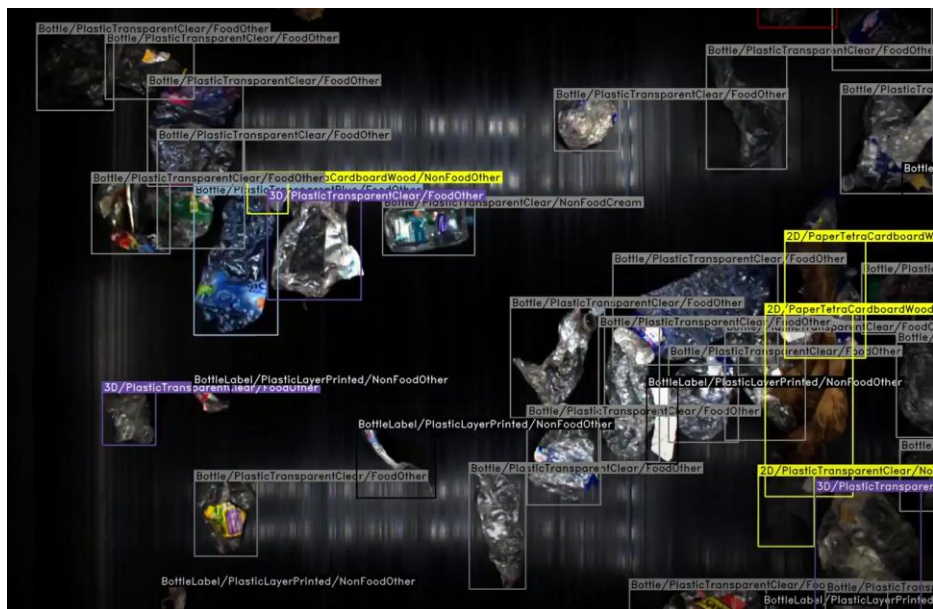


Image 2 – PolyPerception AI model predictions

Source: PolyPerception – Private content (2023).

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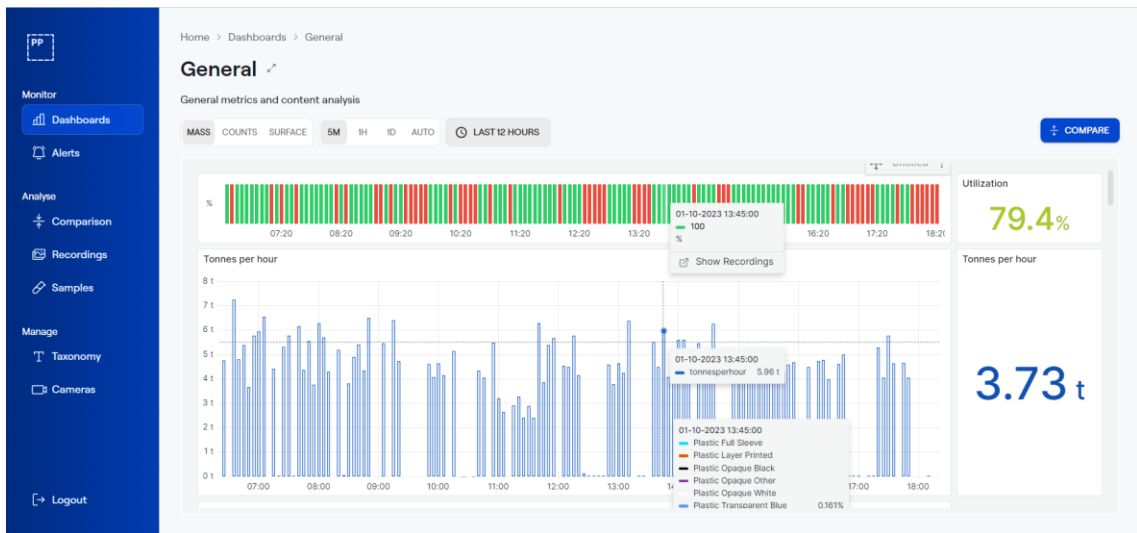


Image 3 – PolyPerception dashboard in a context of a plastic recycler

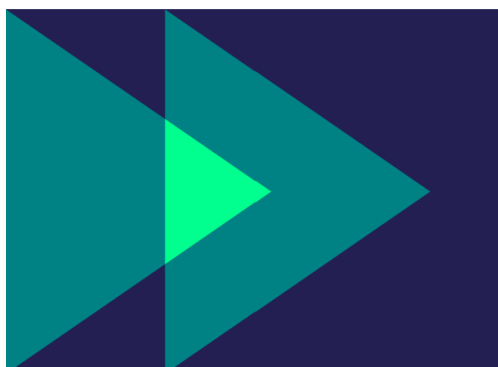
Source: PolyPerception – Private content (2023).

ATTACHMENT 2

VALIDATION REPORT – IMPACT FORECAST WITH AMAZON SUSTAINABILITY ACCELERATOR

VALIDATION REPORT

PolyPerception
2023 MBU2306



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Details of the validation process

	Validation request	First review	Feedback call	Hand-in revisions	Final review	Wrap-up call
Date	06/06/23 10h30	07/06/23 10h00	20/06/23 18h00	21/06/23 11h30	22/06/23 10h00	26/06/23 18h00
Result	Invalid, positive and significant			Valid, positive and significant		

Colofon

Author/ validator: Maarten Buysse
Project name: PolyPerception
Project CIF lead: Parshva Mehra
Validation ID: MB2306
Published by: Impact Forecast
Date: 8 June 2023
More information: [Impact-forecast.com](https://www.impact-forecast.com)

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Introduction and definitions

This Validation report documents the Validation of a Climate Impact Forecast:

Validation is a review process performed by an impartial impact expert to determine if a CIF is Valid, Positive and Significant.

The Validation process usually takes two weeks and includes a first review, a first feedback call between the team and validator, time for revisions if needed, a final review and a final results call. For a detailed description see www.impact-forecast.com/cif-validations

The review comprises a structured check using our CIF Validation tool, a sensitivity analysis and the writing of an impact story. CIF trainers with LCA expertise are trained to perform this process in a uniform and objective way.

CIF Validations are made on the request of the project team, and possibly commissioned by an impact organisation. The results are used by teams and organisations to compare and communicate the climate impact of projects.

A Climate Impact Forecast or CIF is an LCA based calculation of the GHG reduction or climate adaptation potential of a project. Using our CIF tool, the project team found the net climate impact of the key differences between business as usual and their innovative solution. The impact data in this report, and in CIF in general, is calculated with information from the project team and from the CIF tool. Technical details, amounts and assumptions in the calculation are provided by the project team. Impact factors (LCI data), impact equivalents and the calculation itself are provided by the CIF tool.

The CIF tool is used by teams to improve their impact and support design and business decisions with impact data.

CIF results are the projects potential or actual avoided emissions in tCO₂eq.

Every CIF Validation result consists of three independent outcomes:

Valid

A CIF is valid if it is representative of the project, using appropriate data and well justified assumptions. Therefore, the CIF and its results are representative of the potential for the project to mitigate, enable or adapt to climate change.

Detailed requirements for validity are specified on www.impact-forecast.com/cif-validations. A CIF can be Valid, Plausible, Improbable and Invalid.

Positive

A CIF is positive when it shows that the project has a lower climate impact than business as usual, or improved climate resilience in the case of adaptation. A positive mitigation or enabler CIF shows the avoided GHG emissions in tCO₂eq.

This outcome depends on a sensitivity assessment. CIF results can be Positive, Positive within limits, Unclear, Sensitive and Negative.

Significant

A CIF is significant when the project has a climate impact (positive or negative) greater than 5 tonnes of CO₂eq per year. This is roughly the global average annual CO₂ emissions per person, and the mass of a male African Elephant.

The threshold for significant impact can be set to a higher amount for a particular organisation or occasion. The result can be Significant or Marginal.

Impact story

Innovative AI models classifying waste to improve the efficiency of the sorting process

PolyPerception provides technology to waste management companies that monitors and classifies in real time their waste flow. Based on analysis of this data, these facilities can increase their sorting efficiency and therefore reduce the amount of recyclable materials ending up in landfill or incineration but instead being recycled. Compared to the current state of the art that is not equipped with a detailed real time monitoring and classifying system, PolyPerception's technology and software captures and processes all the data in real time. The analysis of this data allows optimising machinery and processes to increase sorting efficiency and therefore reducing the amount of non-sorted recyclable plastics ending up incinerated. Instead, this innovation enables these materials to be recycled and used again. The emissions and negative impact avoided coming from the incineration is the main cause for the positive impact of PolyPerception together with the virgin plastics that are replaced by the recycled ones.

How does PolyPerception make a positive climate impact? Compared to which baseline?

The technology provided by PolyPerception to material recovery facilities and recycling facilities uses sensing technology and innovative AI models to monitor in real time the waste stream entering these facilities. This data is then analysed to classify the waste and make this information easily accessible to the facilities. In this way, the facilities can optimise the parameters of the machines for e.g. the dominant plastic waste in the waste stream and optimise the entire process to be as efficient as possible in sorting the waste. The current state

of the art makes less use of sensing technology and does not have an extensive data capturing system. As a consequence, the current systems cannot avoid that certain types of recyclable plastics are not correctly sorted and end up in the non-recyclable category that goes to incineration. PolyPerception is convinced that their solution can improve the sorting of these recyclable plastics by at least 5%, mainly looking at PP, PET and PE, the most common plastic consumer waste. For an average material recovery facility, the positive impact will be made by sorting this extra 5% of recyclable plastics out of all the plastic waste that comes in yearly and sorting it into the respective recyclable category. By allowing the sorting of more of those plastics to be recycled, a positive climate impact is made in two ways. First of all will be the avoided incineration of the unsorted but recyclable plastics result in the avoided emissions of those processes. Secondly will be the recycling of those materials result in a reduced need for virgin PP, PET and PE and therefore reducing the emissions during the extraction of those virgin materials.

How much impact, and what does it depend on?

Looking first at one changed user, in this case an average sized material recovery facility or recycler that adopts and uses the monitoring and classification technology to improve their sorting, the difference in climate impact is forecasted to be 20 868t CO₂eq per 5 years. For a total of 100 facilities that PolyPerception hopes to supply their solution to, taking into account that PolyPerception only expects them to improve on average 80% of their process, this adds up to 1.7 Mt CO₂eq per 5 years. The biggest part of this difference in climate impact depends on the difference between on the one hand the incineration of the recyclable plastics in the baseline solution and on the other hand

B Corporation: the importance of Environmental, Social and Corporate Governance

the recycling processes and reduction of the need for new material to be sourced. This impact will be influenced by the expected improvements to be made in sorting efficiency between these two processes. If finally these improvements are lower than the expected 5%, the positive climate impact will be smaller. However, according to PolyPerception, the 5% is still a conservative number so they are quite convinced to reach this number. Even at lower numbers than the 5%, the impact will stay positive. At the same time, the efficiency and energy use of both the incineration process and the recycling process influence the amount of positive climate impact as well. The more the incineration process becomes efficient and the more energy can be recaptured, the lower the positive climate impact. On the other hand, the more efficient the recycling process becomes

and the more green energy is used, the more positive the climate impact. Finally, the efficiency of the recycling rate plays a role in the amount of newly sourced material that is avoided. Currently, a 20% loss is assumed between the waste stream and recycled material. If this loss becomes smaller, the impact can become bigger.

Validity

The current forecast is valid, positive and significant. Positive as the forecast is expected to stay positive, even if certain assumptions might in reality turn out less positive. Significant as the current yearly climate impact is expected to be more than 5t CO₂eq.

Climate Impact Forecast and Validation result

PolyPerception enables waste sorting and recycling facilities to sort waste more efficiently by accurate classification of waste in real-time and process optimisation based on this data. The difference in impact of PolyPerception over five years is calculated assuming that 100 waste sorting and recycling facilities are reached, of whom 100% are expected to change on average 80% of their current processing waste with little or no data. This is equivalent to 80 fully changed users.

per reached user Assumptions: Our hardware uses a multi-core Intel® processor, so we will define a factor as a comparable. In this case we assume that we install on average 5 systems per facility where each requires one edge device. We've added Intel i7 to each customer (for both sales and installation). We added the two cars used in the company, considering that one car can be used for both purposes, sales and installations. Estimating sales is a customer business a year on average based on 10000 travel packages as CO₂eq in the 5 years of analysis. Assuming that the trips are equally divided by the two cars. We also added the energy used by our camera system and light-on-site, assuming that we spend 6000€ per day, with continuous analysis, which give 2400h per day, 43800 hours - almost 5 years.

per changed user Assumptions: assumed input amount of mixed packaging waste of PE (LD and HD), PP and PET (excluding other fractions). These are the main polymers in packaging waste - average throughput per recycling and sorting facility -> 40kT per year, when mean 200kT of material being processed - assumed 40kT distributed evenly between LDPE, HDPE, PET and PP - timeframe 5 years - percentage improvement per polymer (PP: HDPE: LDPE: PET) = 10: 5: 20: 20kT -> more 20kT of material is going to be recycled -> 10kT / 4 = 2.5kT per year -> reduction of virgin material at 20% - therefore a 20% loss in the recycling process, so when more 10kT of plastic is recycled efficiently there is less 5kT of virgin plastic used in packaging.

our overhead Assumption: no additional overheads because energy use at our office is comparable to other offices.

Validation by Martin Spaniol, Berlin, Thu Jun 22 2023 14:04:02 GMT, Completed: Thu Jun 22 2023 15:28:38 GMT
Strong points Clear scope, correct accounting and monitoring of positive and if negative impacts, clear assumptions and explanations for each line and number in the forecast. Easy to follow way of thinking and understanding the forecast in general.
Weak points Risk of bias: if these improvements in the sorting process lower recycling rates (lower than 80%) in other existing facilities, the impact is expected to stay positive. Only in very extreme and unlikely cases, the impact could get close to 0.



More information

We help companies to know, show and grow their climate impact. More information about the validation process you can find on our website: www.impact-forecast.com

ATTACHMENT 3

BELGIUM LEGAL REQUIREMENT FOR B CORP CERTIFICATION

“1.1 Amendment to the Company Purpose

One of the Company's aims is to have a significant positive impact on society and the environment through its operational and commercial activities.

1.2 Amendment to the Articles of Association regarding the Directors

(1.2.1) Directors in a collegial body

§1. The Company and its shareholders shall ensure that the Directors take into account, in their decision the achievement, in the short and (medium) long term, of a significant positive impact through the Company's through the Company's commercial and operational activities, having regard to the (interests of) third parties, such as:

- (I) the Company's employees, subsidiaries and suppliers;
- (ii) customers of the Company and its subsidiaries;
- (iii) the communities (associations, organisations, etc.) and society in which the Company, its subsidiaries and suppliers develop their activities;
- (iv) local and global environmental issues;
- (v) other stakeholders in the activities of the Company and its subsidiaries.

None of the above parties may claim priority over the others. The directors independently and at their own discretion, weigh up the various interests likely to contribute to positive impact as an integral part of the Company's purpose.

§2 In no case shall the provision of paragraph §1 expressly or tacitly confer a right on stakeholders or other third parties. Nor is the purpose of the provision of paragraph 1 derive such a right or that a right or means of action against the administrative body the BOD, the individual directors or the Company.

(1.2.2) Directors with individual decision-making authority

B Corporation: the importance of Environmental, Social and Corporate Governance

§1 The Company and its shareholders shall ensure that each Director takes into account, in their decision-making, the achievement of a significant positive impact in the short and (medium) long term through the Company's commercial and operational activities, having regard to the (interests of) third parties, such as:

- (i) the Company's employees, subsidiaries and suppliers;
- (ii) customers of the Company and its subsidiaries;
- (iii) the communities (associations, organisations, etc.) and society in which the Company, its subsidiaries and suppliers develop their activities;
- (iv) local and global environmental issues;
- (v) other stakeholders in the activities of the Company and its subsidiaries.

None of the above parties may claim priority over the others. The directors independently and at their own discretion, weigh up the various interests likely to contribute to positive impact as an integral part of the Company's purpose.

§2 In no case does the provision of paragraph §1 expressly or impliedly confer a right on stakeholders or other third parties. to stakeholders or other third parties. Nor is the purpose of the provision of paragraph1 derive such a right or that a right or means of action against the administrative body the BOD, the individual directors or the Company.”

Source: B Lab (2019) – Own translation.