

# THE IMPACT OF CORPORATE REPUTATION AND CSR ON THE MARKETING OF NON-MANDATORY ENVIRONMENTAL ANALYSES

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## ACRONYMS & ABBREVIATIONS

AFFF	Aqueous Film Forming Foam
ANZ	Australia and New-Zealand
B2B	Business to Business
B2C	Business to Consumer
BU	Business Unit
CSR	Corporate Social Responsibility
GC	Gas Chromatography
LC	Liquid Chromatography
MS	Mass Spectrometry
PFAS	Per- and polyfluoroalkyl substances
PPCPs	Pharmaceuticals and Personal Care Products
QToF	Quadrupole Time-of-Flight

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## INTRODUCTION

We live in a chemical world. There are more than 84,000 chemicals in everyday use, and the list is constantly growing. Most of these chemicals are untested with respect to their environmental impact and potential human toxicity. Many of these chemicals fall into the category of “emerging contaminants” or “chemicals of emerging concern”, which are routinely found in environmental compartments, but remain unregulated.

Emerging contaminants (ECs), or Chemicals of Emerging Concern (CECs), are compounds found in water bodies that may cause ecological or human health impacts, and that are not legally regulated under existing laws (Bothfeld, 2022). These emerging contaminants include pesticides and herbicides used in agriculture, pharmaceuticals and personal care products (PPCPs), flame retardants, nanoparticles, microplastics and more. They typically enter the environment via the water cycle after being discharged as waste. They may be contaminants that have appeared in the environment recently, or may have persisted in the environment but have slipped under the radar (Sauvé & Desrosiers, 2014). As concerns are raised about some chemicals over the time, studies are conducted on these compounds to evaluate their behavior in the environment and their toxic effects on human health. Though many are still unknown and their possible toxicity undiscovered, they are candidates for future regulation.

The idea of Emerging Contaminants was first introduced by Rachel Carson in her book “Silent Spring” in 1962 (Carson R., 1962). She showed that the widespread usage of dichlorodiphenyltrichloroethane (DDT) to eliminate mosquitoes and other pests led to the death and disappearance of many birds. She was strongly criticized for questioning the benefits of pesticides and especially DDT, but at the end she was right and DDT. In the end she was proven correct, and DDT was banned more than a hundred years after its first synthesis (United States Environmental Protection Agency, 2022). She showed that pesticides and chemicals can be dangerous to fauna and flora, and that there are consequences to widespread chemical use.

Contaminants have always existed, but not always our awareness of them. For example, during Roman times lead was a widely-used material believed to be safe. It was only in the 1970s that human health concerns were raised and lead became a contaminant of emerging concern. Over time, states and governments legislated for acceptable levels of pollutants in air, water and soil. This was the case for lead and a lot of other chemicals such as asbestos, pesticides, Per- and polyfluoroalkyl Substances (PFAS) and Aqueous Film Forming Foam (AFFF), pharmaceuticals and many others. Nevertheless, a lot of pollutants are of emerging concerns and therefore are not regulated. Some of the chemicals we use will become emerging contaminants as we will discover more about their toxicity.

Social pressure is driving demand for corporate transparency in this domain as more and more chemicals are detected in drinking water and the environment. People want to know what they are eating, what they are drinking, what they are breathing, and more generally they want to know to what they are exposed to. Consumers are especially worried about food safety and drinking water quality, worsened by scandals, such as the mad-cow disease (Beulens et al., 2005). There is increasing societal demand regarding transparency in this domain as concentrations of substances in drinking water are found. Consequently, this drives adjacent companies to invest in, and disclose information on their environmental impact, interest, and investment in emerging contaminants. This may improve corporate image and ensure client satisfaction, despite such testing remaining non-mandatory under existing legislation.

You may have heard of 'Corporate Social Responsibility' or CSR. This refers to strategies that a company may put into action as part of corporate governance, designed to ensure the company's operations are ethical and beneficial for society (Corporate Finance Institute, 2022). The underlying idea of CSR is to operate in an economically, socially, and environmentally sustainable manner. Therefore, testing for emerging contaminants is an action that can improve corporate reputation and participation in CSR.

This thesis will explore the following concepts: to what extent does corporate image and CSR impact the marketing and sale of environmental analyses not required by law? What is the interest for a consultancy company providing environmental expertise to purchase non-mandatory tests to be aware of the presence of emerging contaminants for their clients? What is the added value for a company to do so? What is the interest for an analytical laboratory such as Eurofins to go to this new market?

The first part of this thesis will be dedicated to define corporate image and reputation, what is the corporate social responsibility (CSR) and the aim of disclosing more information than needed by law. The second part will present the company that wants to offer tests to detect emerging contaminants to their clients, and will identify the purpose for potential customers to have access to such information. Lastly, the third part will be devoted to the research of a marketing strategy to sell tests not required by the legislation. A simple online questionnaire will be used to identify companies' motivations to improve their image and to be a leader in disclosing more information than required by law.

## I. LITERATURE REVIEW: CORPORATE IMAGE, REPUTATION, AND CSR WITH RESPECT TO EMERGING CONTAMINANTS

In the recent past, corporate image and reputation were not well defined nor considered as important for competitive success (Gray E. R. and Balmer J.M.T., 1998). Nowadays, image, reputation and transparency are seen as increasingly important. Companies must take care of their image and more particularly that related to their environmental impact because of the social pressure more and more focused on environmental and climate issues. One of the ways to respond to the societal demand for commitment to the environment is to engage in CSR. This allows companies to prove their commitment to social and environmental responsibility and to improve their image and reputation on this subject. This section is devoted to defining these concepts of image, reputation and CSR. The last sub-section presents the advantages of engaging in voluntary environmental actions.

### 1. Corporate image and corporate reputation

#### 1. Corporate image

Corporate image can be defined as the general impression a company makes on the public (Barich & Kotler, 1991; Dichter, 1985). It is the perception that external observers have of a company, the immediate mental picture. We can relate it to the business name, the logo and colors, the products and services offered, and the tradition. Also, the corporate image is often linked with symbols and values. Nevertheless, a company does not have a single image but several that differ according to different groups of people, such as clients and shareholders. Indeed, each group has a different relation with the company (Dowling G.R., 1988; Gray J.G., 1986). Its construction is a long process that can be rapidly improved by unexpected achievements or technological breakthroughs. But, on the contrary, it can be damaged by neglecting the needs and expectations of the different groups that interact with the firm (Dichter E., 1985; Herbig *et al.*, 1994). According to MacInnis

and Price (1987), the corporate image is the result of a process, from feelings, ideas and previous experiences.

## 2. Corporate reputation

The corporate image is frequently associated with its reputation. According to the Cambridge dictionary, 'reputation' can be defined as "the opinion that people in general have about someone or something, or how much respect or admiration someone or something receives, based on past behavior or character". It is a value of judgement about the company's attributes (Gray E. R. and Balmer J.M.T., 1998). Some authors think that reputation is made up of perceptions (Fombrun, 1996), others that it is made up of affective or emotional reactions, whether good or bad, weak or strong, of consumers, investors, employees and public opinion (Davies et al., 2002).

Reputation can be the result of the sum of all the images people have of a company (Fombrun, 1996). Davies (2002) agrees with this, stating that reputation is a total evaluation of all stakeholders' estimates, and so the sum of all images. Therefore, this concept of reputation is crucial for corporations as it is formed in each stakeholders' mind. The reputation also corresponds to the values assigned to a company by people like honesty, authenticity, responsibility, and integrity (Dowling, 2002). These values are difficult to change, but it is possible to change the image someone has of a company.

A second approach to reputation is to see it as the result of past and future actions. It is the reflection of all accumulated perceptions and the set of footprints left by a corporation (Dowling, 2002). Therefore, reputation evolves over time. It could be associated with the public image. Reputation is also built on the experiences and interactions that each stakeholders has with the organization, and the perception of corporate reputation influences the one of others (Davies et al., 2002).

Either approach leads to the same conclusion: reputation is a key topic for strategy and marketing. To take care of its reputation, a company needs to take into

account the demands of stakeholders, and not only shareholders. Those stakeholders can be clients, employees, the community or shareholders (Husted, 1998). Some authors extend this list to include investors, governments, lobby groups, suppliers, professional associations and local communities (Donaldson and Preston, 1995) (Figure 1).

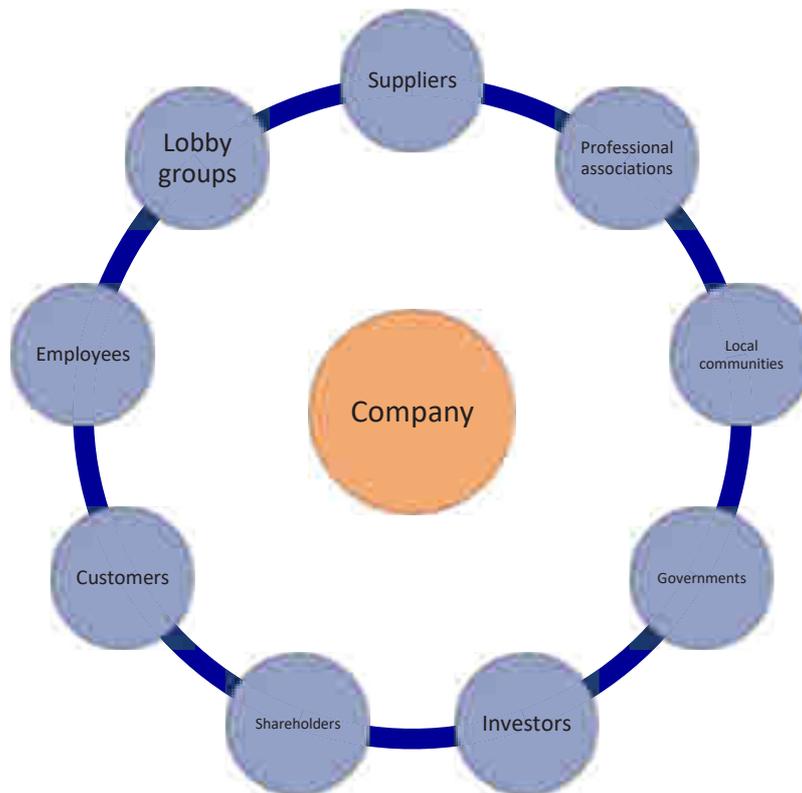
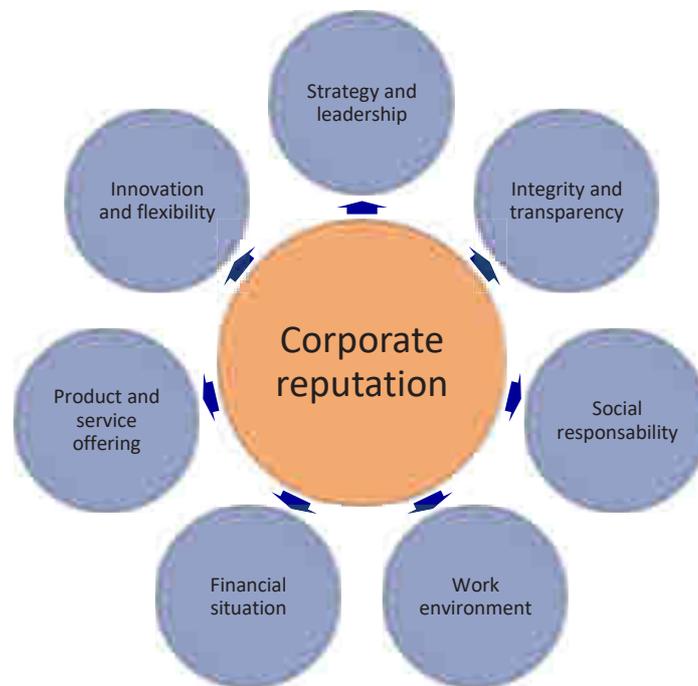


Figure 1: Corporate reputation actors

Companies have to satisfy their stakeholders because of a social agreement between them, otherwise consequences could be seen like boycott from consumers and reduced attractiveness of the company. Investors and shareholders are also a critical stakeholder group as they could no longer support the company. Governments are another important stakeholders as they are responsible for laws and legislation. A good corporate reputation could lead to a certain degree of friendliness by governments regarding legislation of the industry. Concerning employees, a positive reputation affects their productivity. Also, they represent the company to external stakeholders (Kennedy S., 1977).

Different variables and factors are acting on corporate reputation and are schematized below:



*Figure 2: Influence factors on corporate reputation*

Each factor influences different stakeholders. Product and service offering is linked with customers. Whereas the work environment is linked with employees and strategy and leadership with shareholders. Nevertheless, social responsibility, integrity and transparency can influence the corporate reputation with consumers, shareholders and employees.

Companies always want to show a positive and accurate image to their stakeholder, and covet a favorable reputation. It will influence the support they will give to corporates. Moreover, if clients form a negative reputation of a company, it will impact sales and profits. Therefore, firms have to disclose information, and communication is then crucial to show to stakeholders that they respect their values. To be effective, communication must be based on real achievements, otherwise its effects may be negative and opposite to the initial objective. It has to give to corporates a favorable reputation and image which are competitive advantages in

order to promote the purchase of products and services, recruitment and investments (Boistel, 2007).

## 2. Corporate Social Responsibility: definition and impact

### 1. Definition of CSR

The Corporate Social Responsibility, known as CSR, is a growing trend in public debate, investment decisions and in the development of corporate strategies. It also has emerged as a complement to societal marketing research. The term "CSR" generally refers to a company's contributions to protect and improve the welfare of society as a whole as well as the best interests of the company (Davis and Blomstrom, 1975). The underlying idea of CSR is to operate in an economically, socially, and environmentally sustainable manner. The European Commission defines CSR as *"the responsibility of enterprises for their impact on society and, therefore, it should be company led. Companies can become socially responsible by:*

- *integrating social, environmental, ethical, consumer, and Human Rights concerns into their business strategy and operations*
- *following the law"*

The International Organisation for Standardisation (ISO), in charge of defining the international standards that govern the trade of companies, has its own definition (ISO, 2016): *"Social Responsibility is the responsibility of an organization for the impacts of its decisions and activities on society and the environment through transparent and ethical behaviour that:*

- *contributes to sustainable development, including health and welfare of society*
- *takes into account the expectations of stakeholders*
- *is in compliance with applicable law and consistent with international norms of behaviour, and*

- *is integrated throughout the organisation and practised in its relationships.”*

In fact, all definitions are similar. CSR refers to the social, environmental and economic responsibility of companies. It can be evaluated through different variables as product quality, relation with employees and consumers and the respect of environment and diversity. Nowadays, environmental problems are a key aspect when talking about CSR. More and more firms are introducing this aspect into their CSR strategy in order to reduce their impact on the environment. In fact, ISO 14001 was especially developed to help companies to incorporate this environmental aspect within their CSR framework.

## 2. Carroll’s CSR pyramid

In 1991, Archie B. Carroll developed a pyramid and highlighted the four most important types of responsibilities according to him regarding CSR (Carroll, 2016; Toolshero, 2020)



*Figure 3: Carroll’s CSR pyramid*

The economic responsibilities are placed at the pyramid's foundation as it is essential for a company to survive. It is the responsibility to be profitable. It is about producing goods and services that society needs and to make profit on them. Companies have different shareholders who expect a reasonable return on investments, they have employees who want to work safely, and have customers who want quality services or products for a fair price. One example of economic responsibility could be adopting manufacturing processes to be able to recycle byproducts and lower material costs. It benefits society by increasing profitability and reducing ecological footprint.

The legal responsibility in CSR is about complying with regulations and laws that have been set by governments and national and local regulators. It also means not turning a blind eye when laws and regulations are not respected because it puts the business at risk and thereby employees and stakeholders.

The ethical responsibility of business goes beyond society's normative expectations, laws and regulations. It means that companies adopt standards and practices that are not mandatory but still expected. It includes recognizing and respecting new or evolving ethical and moral standards that have been adopted by society.

The philanthropic responsibilities include the voluntary activities and practices of businesses. It could be gifts, donations, volunteer work and community development. It is not a real responsibility, but companies are expected by the society to take part in those activities. The nature and quantity of these activities are voluntary and guided by companies' desire to take part in such activities. Good examples of philanthropic initiatives are the Bill and Melinda Gates foundation, or the Eurofins foundation.

Carroll's CSR model was the first one to underline the importance for businesses to take social responsibility beyond the maximization of profit. However, he emphasized the importance for companies to generate profit. This is a strong point compared to other CSR theories.

### 3. Advantages of CSR

Prior research have stated that CSR can have a positive impact on key stakeholders, including employees, customers, suppliers and investors (Bhattacharya & Sen, 2003, Lee et al., 2013, Sen et al., 2006, Song et al., 2014). Previous studies also showed that a company's CRS strategy can improve customers' perceptions of the company, for example by improving the company's image and reputation, and thereby increasing customers' behavioral intentions such as loyalty (Anisimova, 2007, Salmones et al., 2005). For example, CSR initiatives affect customers' satisfaction levels and their behavioral intentions in the hospitality domain according to Martinez and Bosque (2013). This trend is especially visible in Business-to-Business (B2C) rather in Business-to-Consumer (B2B).

CSR could be a strategic investment for companies. Indeed, it is a way to differentiate its products and services from competitors by establishing a favorable reputation and developing a competitive advantage (McWilliams and Siegel, 2001). Also, some studies showed that investors are looking to reliable information regarding social responsibility and performances to decide to invest or not (i.e. Cohen et al., 2011). According to the European Commission, it makes company more sustainable and innovative, and that contributes to a more sustainable economy.

### 3. Voluntary disclosure of CSR report and voluntary environmental actions as a key to improve corporate reputation and become a leader

In recent years, companies have changed their environmental strategies. They went from a passive and defensive response to environmental regulation, to a more cooperative and proactive one. Environmental protection was seen as a constrain to comply. Today, it is an opportunity to improve their environmental and economic performances (Porter and Van der Linde, 1995). A lot of companies have voluntarily allocated financial and other resources to undertake environmental initiatives to go beyond regulation (Fischer and Schot, 1993). We can ask ourselves

why firms volunteer. There are different arguments that could give us answers to this question.

Companies can show voluntarism to respond to environmentally conscious investors and consumers (Arora & Cason, 1996; Rivera, 2002; Welch, Mazur, & Bretschneider, 2000), and to build a “green” reputation. In that way, they have a competitive advantage in the market. This will indeed attract the most attention from the public and environmentally conscious consumers. It differentiates the business in the market and could put barriers to entry.

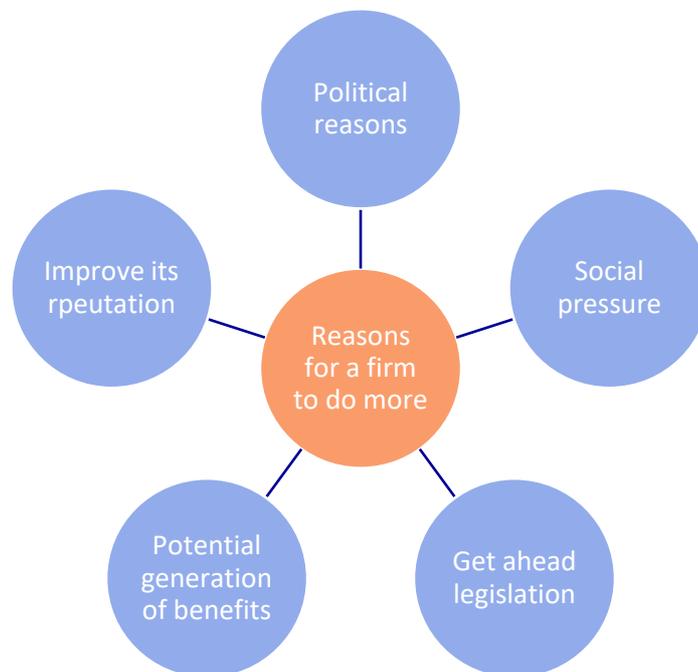
Also, companies can take voluntary actions to prove its environmental engagement and thus acquire institutional legitimacy. This could have the effect of reducing the intensity of regulatory oversight and reducing the incentive of interest groups to set higher environmental pollution standards (King and Lenox, 2000; Welch et al., 2000).

Political motivations could also be reasons to take environmental initiatives. Companies could undertake actions to reduce the likelihood of adverse political or societal actions and its costs (Watts and Zimmermann, 1978). One of these action is to disclose more information through CSR reports. It allows the company to generate moral capital that can temper sanctions in case of a negative event (Blacconiere and Patten 1994; Godfrey 2005).

Furthermore, a firm is assumed to engage in CSR if it anticipates that the benefits will outweigh the costs (Siegel and Vitaliano, 2007), and any decision to voluntarily disclose information about CSR issues is a result of these trade-offs between expected costs and benefits (Dye 1985; Verrecchia 1983).

As we know, emerging contaminants may be regulated in the future as evidence of adverse environmental or toxicological impact is uncovered. By testing for the presence or absence of these compounds, companies could get ahead the possible legislation. For example, asbestos was a contaminant of emerging concern before its regulation. The first asbestos death dates from 1899. Throughout the 20th century, studies were carried out and it was only in 1997 that asbestos was banned from production in France (INRS). The legislation is often forced to wait for evidence

of toxicity. It could be the case with emerging contaminants that we know exist today. More and more concerns are raised about microplastics lately. Some micro particles of plastic were found in lungs (Carrington in The Guardian, 2022) and in blood (Leslie et al., 2022). Studies are ongoing and if there is any health hazard linked with the presence of microplastics, governments will have to legislate as plastics release microparticles in the food we eat and the beverages we drink. So it could be a public health problem if there is a proven link between health issue and microparticles of plastics. This is the reason why some companies are already testing for the presence of these microparticles in food and drinks, and thus anticipate the potential legislation. By testing already for that, they could have a competitive advantage over their competitors because they would be ahead of them.



*Figure 4: Advantages of voluntary CSR disclosures and voluntary environmental actions*

## II. STUDY CASE, METHODOLOGY AND RESULTS

Today, research is being conducted to determine the health and environmental effects of the use of emerging contaminants and companies are developing effective analytical methods to detect a wide range of these chemicals. Eurofins Environment Testing Australia and New-Zealand (ANZ) is one such company. It has recently developed a screening service for emerging contaminants using Gas Chromatography/Liquid Chromatography-Quadrupole Time of Flight-Mass Spectrometry (GC/LC-QToF-MS) in its Brisbane laboratory. The purpose of this study is to determine the reasons why clients of laboratories such as Eurofins use these tests even though there is no legal obligation to do so. These clients are mainly environmental consulting companies that perform environmental audits of polluted land. They act as intermediaries between the laboratory and the final client. For this purpose, online questionnaires were sent to potential clients and the results were discussed with the laboratory team to confront the original idea behind this analytical development with the needs and opinions of customers.

### 1. Presentation of the company

#### 1. Eurofins group

Eurofins Scientific is a French group of laboratories providing testing and support services to the pharmaceutical, food, environmental, agriscience and consumer products industries, and to governments. The company was founded in 1987 by Dr. Gilles Martin with four employees to market SNIF-NMR® technology, a patented analytical method to verify the origin and purity of several types of food and beverages and identify sophisticated fraud not detectable by other methods. With 58,000 staff across a network of more than 900 laboratories in over 54 countries around the world, Eurofins offers over 200,000 analytical methods and is the world leader in its domain. More than 450 million tests are performed each year within their laboratories. The Group objective is to provide its customers with high-quality

services, accurate results on time, and expert advice by its highly qualified staff. Through research and development and acquisitions, the Group draws on the latest developments in the field of biotechnology and analytical chemistry to offer its clients unique analytical solutions and the most comprehensive range of testing methods.

Eurofins is not a typical centralized group, but is structured as a decentralized network of independent companies. It is by design a hub of entrepreneurship. Each laboratory is an independent company. This allows laboratory leaders to make their own decisions in their own company and optimize their own services. Thanks to its global network of laboratories, Eurofins offers to its clients testing services all around the world. In that way, clients can have access to the latest testing technologies and an unrivalled expertise wherever they are in the world and still have access to a local point of contact.

Eurofins Scientific recently joined the CAC 40 index and has been for over two decades one of the fastest growing listed European companies. Since its listing on the Paris stock exchange in 1997, Eurofins' revenues have increased by 33% each year (in average) to over €6.7 billion in 2021 and the share price has multiplied by 595x, from 0.183€ in 1997 to 108.8€ in December 2021.

Thanks to the Eurofins Foundation, the company makes donations to non-governmental organizations (NGOs) and supports initiatives aimed at protecting the environment; improving nutrition and health; helping social, not-for-profit businesses working in the fields of environment or health protection; promoting inclusion, diversity and equality; supporting students who study or carry out research in fields aiming at contributing to safer and healthier lives but who lack sufficient financial resources, and helping nonprofit organizations active in the local communities where Eurofins' laboratories operate and their staff live and work. The foundation also encourages, supports and develops a network of Doctorate and Post-Doctorate researchers, students and experts in these fields to develop innovative projects.



*Figure 5: Eurofins organisation*

## 2. Presentation of Eurofins Environment Testing Australia & New Zealand

With 14 sites across Australia and New-Zealand including 8 laboratories, Eurofins Environment Testing ANZ Pty Ltd is part of Eurofins Environment Testing.



*Figure 6: Presence of Eurofins Environment Testing in Australia and New-Zealand*

The presence of the Eurofins Group in the Pacific area is recent. The first acquisition in this area was 10 years ago, in 2012 in New-Zealand. It is the last developed market by Eurofins. Despite this, Eurofins is ranked second in the environmental testing market in this region, behind its main competitor named ALS (Australian Laboratory Services).

Their areas of expertise include asbestos testing, PFAS, metals, volatiles/semi-volatiles, dioxins and water testing, but also mould and microplastics

analysis. There is also a microbiology laboratory. Eurofins Environment Testing is organized in business units (BU) as below:

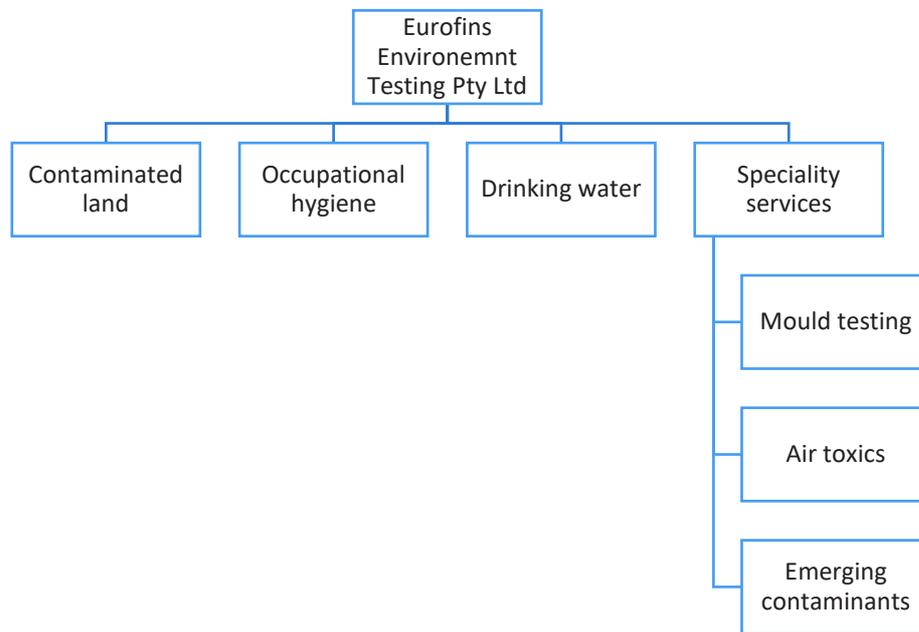


Figure 7: Organisation of Eurofins Environment Testing in different Bus

### 3. Presentation of the Emerging Contaminants Business Unit (BU)

As part of Eurofins’ strategy of innovation and continuous improvement, in 2017 a new business unit was created called “Emerging Contaminants”. The aim of this new business unit is to provide analytical services to test for emerging contaminants in water and soil samples to clients. This includes microplastics analyses and tests using GC/LC-MS-QToF to target unknowns.

Microplastics analysis consists of counting and identifying the number of microplastics particles in the range 20 to 500 µm within a sample using a laser direct infrared (LDIR) imaging system. The identification is based on the comparison of the infrared spectrum of each particle with a database of reference spectra.

GC/LC-MS-QToF technology is relatively new and not common in the commercial laboratories. This new technology facilitates the identification of unknown molecules by screening the acquired data against reference spectral libraries.

The business unit is composed of two small teams of less than 5 people each. The first one is the microplastics team and the second one is the emerging contaminants team. As the market is growing, new people will be recruited in the future. For now, it is just a start-up business and the aim of this thesis is to understand if clients can be interested in those tests, what it can bring them and how to promote and sell it.

#### 4. Presentation of potential clients

Eurofins does not work directly with the people who need the tests. Their clients are mainly consulting companies that provide environmental audits to their clients, and to do so, they engage Eurofins' services in environmental testing. They are intermediates between Eurofins and the final consumers. This the reason why it is a bit complicated to survey Eurofins' clients to evaluate the need of purchasing non-compulsory tests. Consulting companies can purchase non-compulsory tests but it is essentially if their own clients ask them. Nevertheless, they could suggest this service and it could be an added-value to what they propose to them, and thus give them an advantage over their competitors.

## 2. Study methodology

To understand clients' needs and any added value from the purchase of non-mandatory tests, a questionnaire was sent to select Eurofins clients. Moreover, interviews were conducted with members of the Emerging Contaminants team to record their point of view of the potential of this market.

### 1. Study objectives

This study has three main objectives. First, it will allow us to better understand the opinions of the clients and to survey them. We will see what interests them and what they consider as advantages and barriers in purchasing non-mandatory testing.

Secondly, the study will confirm or disconfirm the findings from the literature by getting their feedbacks.

Lastly, the questionnaire will give us some leverage points to develop the marketing strategy and sell the new tests by knowing customers' needs and interests.

## 2. First step: initiate contact with customers

To be able to collect data, potential clients were first approached during Australia's most prominent international water conference and exhibition called Ozwater'22. It is considered the high-light of the water sector's calendar of events, and is the most extensive water exhibition in the Southern Hemisphere. It was a good opportunity to meet the clients in person. This is more effective and relevant than a simple email. During this event, more than 15 clients or delegates were met at their respective booths. I first introduced myself, then I presented to them the aim of my study and the project as a first step. Email addresses were exchanged to keep contact and to send them the questionnaire. Some of them asked me to give them my email address or to fill in a form to express my request making it more difficult to reach them. Despite all, it was a good opportunity to meet clients in person and to discuss with them.

## 3. Second step: the use of the questionnaire

In a second time, an online questionnaire was set up to be sent to the people met at the exhibition Ozwater'22 but also to some of our clients introduced to me by Dr. Amy Heffernan or Alana Wadsworth. It allows us to collect clients' points of view. The questionnaire was sent by email. The objective is twofold: confirm or disconfirm the findings from the literature review, and highlight areas of improvement. The responses will be really useful to understand how clients perceive corporate reputation and CSR, their needs and thus adapt the marketing strategy.

There are several notable advantages to conduct a questionnaire. It is a simple way to collect data from potential clients while taking them up less time (Gingras et Belleau, 2015). That way, people can fill the questionnaire in whenever they want and it is less restrictive than planning interviews. It is also a more convenient way to collect data than interviews.

#### 4. Third step: discussions with members of the Emerging Contaminants team

Lastly, members of the Emerging Contaminants team were interviewed to compare their point of view with the ones from clients. The objective was also to discuss about the advantages for Eurofins to offer this service and how the company initially want to market those tests. It was a way to compare Eurofins' point of view and the one from clients that might be different. These discussions raised levers for actions to better define the marketing strategy to pursue with. Both technical people and marketing people were asked to give their opinions about the questionnaire results because they might not have the same vision of the market and the same experience as well. Each person was met separately so that they did not influence each other.

### 3. Data collection through an online questionnaire

#### 1. Set up of the questionnaire

The study is based on an online questionnaire which is available in appendix. The survey was sent to 11 potential clients that might be interested in those screening tests of emerging contaminants. All questions require an answer and are anonymous.

The questionnaire is composed of 17 questions, including 4 open questions to give them the possibility to express themselves and give more content that might have been forgotten. The last question gives them the possibility to give me their contact if they want to discuss about their answers.

The first part of the survey is about the respondent. The aim of this part is to know the role and how familiar with the domain is the person responding. The second part is dedicated to advantages and disadvantages of CSR. The last part is about emerging contaminants tests.

## 2. Limits of the study

Even if the use of an online questionnaire is efficient and convenient, there are still drawbacks (Gingras et Belleau, 2015). First, responses are not always in-depth and well thought out. The survey is sent to really busy people, they do not always have time to respond properly or they do not want to respond. To work around this problem, open questions were also asked, and as all questions required an answer, they have to make an effort to think deeper. The questions and affirmations in the survey are short and precise to avoid misunderstanding and get the most accurate answers possible (Gingras et Belleau, 2015).

Also, one the main drawbacks of surveys is the incapacity to capture respondents' reactions. To overcome this problem, a Likert scale is used as much as possible. This method is often used in opinion polls (Demeuse, 2018). The scale goes from "strongly disagree" to "strongly agree" to try to better define responses.

Lastly, this survey being for clients that are businesses, it is difficult to get a big representative sample. As the transactions will be in B2B and not in B2C, respondents are not the same. It is easier to get responses to a survey from consumers than from businesses.

## 4. Results

### 1. Results of the questionnaire

#### a. Description of clients

The questionnaire was sent to 11 clients, but only 5 of them respond to the online survey. It is much more complicated to reach clients that are businesses.

Two of the respondents are senior environmental scientist, one is senior health safety & environmental consultant one is principal human health risk assessor and one is sales manager. All of them have knowledge of this industry, with at least 5 years of experience. Two of the respondent have 20 years spent in the industry. Three of the respondents have a Bachelor, one has a Master and one a Certificate IV in tertiary preparation.

#### b. Corporate image and corporate reputation

Interviewees had first to give actions a company could take to ensure a good corporate image and corporate reputation. Different actions have been suggested:

- Do not 'greenwash' without actually having the credentials trust
- Become ISO accredited for environmental management
- Develop a framework for managing emerging contaminants
- Stay up to date on emerging contaminants of concern to provide the best possible advice to clients and build trust
- Prioritise diversity (gender, cultural, etc.) and inclusion within the organisation
- Make the corporate environmental responsibility visible
- Become a B Corp company: B Corporation is a private certification of for-profit companies of their "social and environmental performance" (Wikipedia, 2022)
- Support social projects
- Operate in an environmentally friendly manner (reduced water and energy consumption, reduced carbon footprint, etc.)

Furthermore, one person argued that "as [their] clients develop trust in [their] expertise, they also develop a sense of responsibility (e.g., in relation to Health and Safety obligations), and a willingness to go above and beyond current legislative requirements to ensure the best outcome for the situation."

Some respondents mentioned emerging contaminants in their answers. They may have been influenced by the description of the questionnaire's topic.

c. CSR

The first thing to know about the respondents is to know if they previously heard about CSR. It is really important because a big part of the questionnaire is related to this notion of Corporate Social Responsibility. To this question, all the respondents gave the same answer: they all previously heard about CSR.

4. Have you previously heard of CSR?



Figure 8: Result on awareness of CSR

One of the most important question to ask is if potential clients see advantages to disclose more information through CSR and what could these advantages be. Several suggestions were proposed and the respondent had the choice to tick the option “other” if they had another advantage in mind. To this question, respondents more or less agree. 80% of them think that improving corporate image and corporate reputation is an advantage provided by the non-mandatory disclosure of information to customers, employees and shareholders. The second most important argument mentioned to do so is “improve performance”. It is cited by 40% of the respondents. The other arguments proposed in the survey were “clients’ trust”, “anticipation of stricter regulation”, “competitive advantage” and “differentiate your business on the market”. Each argument was chosen by 1 respondent respectively in combination with one or more other arguments, except for the argument “anticipation of stricter regulation”. Only one respondent gave a new argument in favour of disclosing more information when thinking about CSR. This argument is “fulfilment of a duty of care”.

6. When thinking about CSR, what do you see as the advantage(s) for a company to disclose more information than needed to clients, employees and shareholders?

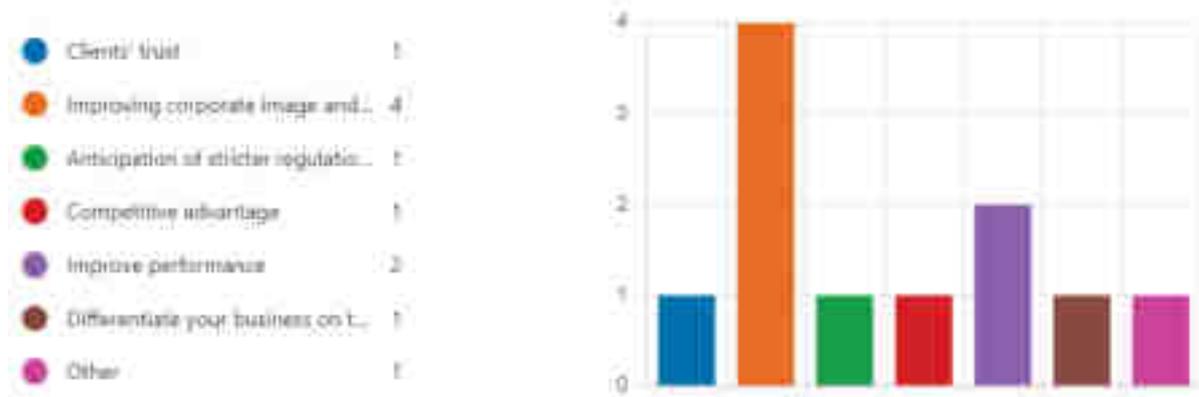


Figure 9: Arguments seen by the respondents regarding the voluntary disclosure of information through CSR

After exposing the advantages, respondents were asked to give the barriers for their company to disclose more information than needed through voluntary CSR report. For this question, no propositions were given. Respondents had to develop their answer. They all gave different answer to this question. The first respondent thinks that time and effort are the main barriers, and that there is no real pay-off of quality of clients or jobs nor profit, explaining that it could be because of the small size of the company. The second respondent answer that the key issue is clients' confidentiality. The third one thinks that the main barriers are the corporate structure, the risk of having something to do if something "bad" is discovered and financial results. The people with whom consulting firms interact are not the ones who make the final decisions, particularly if it represents additional costs or fees. Also, the respondent mentioned that the industry tends to be heavily focused on financial results and do just the minimum required. The fourth respondent mentioned as barriers the inability to benchmark information against standards and the inability to collect information. Finally, the last respondent answered that its company provide a comprehensive report but gathering the required data over the global operations is the most challenging area.

The people surveyed were asked to give their opinion on CSR and to say if they think that CSR is important from their point of view. To this question, they all

agree stating that it is and it is becoming more and more important. One mentioned that it is important that companies are held socially accountable. Some of them developed their remarks by nuancing them. A person said that CSR is becoming more important but it should benefit a company in some way, in terms of tangible public perception or money, otherwise there is no reason to undertake CSR initiatives according to them. Another said that it is becoming more important for companies to show they take it seriously and not just green-wash, but also that it is increasingly important for employers to demonstrate CSR to attract quality employees.

#### d. Emerging contaminants

The third and last part of the questionnaire is related to voluntary actions like testing for emerging contaminants. This is the most important part of the questionnaire as it will help us to define our marketing strategy by understanding the needs and knowing their opinions on the issue.

Most of the respondents (80%) think that their clients are sensitive to voluntary actions like testing for non-regulated compounds. Only one person thinks that it is not important.

*8. Are clients sensitive to voluntary actions like testing for non-regulated compounds?*



Figure 10: Results to question 8

Respondents are much more divided about the statement “Testing for emerging contaminants could improve the corporate image and reputation”. Two of them disagree with this statement, one is neutral, one agrees and one strongly

agrees. It is a bit of a contradiction as one of the people who disagrees with this statement thinks that one of the advantage of disclosing more than needed through CSR report is “improve corporate image and corporate reputation”. Even if it is not really the same question, it is linked making this contradictory.

*9. Testing for Emerging contaminants could improve the corporate reputation*



*Figure 11: Responses to statement 9*

The answers about the statement “Testing for emerging contaminants or non-regulated compounds could be an added value to your service” followed almost the same trend. One respondent disagrees with this statement, two of them are neutral one agrees and one strongly agrees.

*10. Testing for emerging contaminants or non-regulated compounds could be an added value to your service*



*Figure 12: Responses to statement 10*

80% of the people who answered the questionnaire think that testing for emerging contaminants could give them a competitive advantage. All respondents seem to be aligned on this statement as no one disagrees. There was only one person (20%) who was neutral about this statement.

11. Testing for Emerging contaminants could give you a competitive advantage



Figure 13: Responses to statement 11

As said before, 80% of the respondents think that one advantage of disclosing more information through CSR report is to anticipate stricter regulation. Nevertheless, only 40% agree on the statement “testing for emerging contaminants would allow you to get ahead of the legislation”. 40% of them are neutral and 20% disagrees. This is a bit contradictory as that same person gave the argument “anticipate stricter regulation” as an argument of disclosing more information through CSR report.

12. Testing for Emerging contaminants would allow you to get ahead of the legislation



Figure 14: Responses to statement 12

The next statement is also related to legislation. People were asked to give their level of agreement about the statement “Testing for emerging contaminants could be an incentive to legislate and thus be in a leadership position”. 80% of the respondents either agree or strongly agree on this one. There is only one person who disagrees and it is the same as the one who disagrees about the previous one. It is not really surprising as the two statement are related.

13. Testing for Emerging contaminants could be an incentive to legislate and thus be in a leadership position



Figure 15: Responses to statement 13

Our clients are a bit more sceptical about the argument that testing for emerging contaminants is a way to put barriers to entry. 80% of the respondents do not have an opinion on this statement, they are neutral. Only one person (20%) agrees on this one. This could be because the notion of barriers to entry is not necessarily understood by everyone. The person who agrees with this is a sales person that might have more knowledge on this notion.

14. Testing for Emerging Contaminants is a way to put barriers to entry



Figure 16: Responses to statement 14

One of the biggest barriers to purchase non-compulsory tests in our case is that it could show new pollutants to take care of. 80% of our respondents either agree or strongly agree on this statement. The only person who disagrees is the sales person mentioned above who sees emerging contaminants tests as a way to put barriers to entry.

15. Testing for Emerging Contaminants could be a disadvantage as it could show new pollutants to take care of



Figure 17: Responses to statement 15

Finally, people were asked through an open question if they would perceive any other advantages or barriers to test for emerging contaminants. Responses to this question are really crucial because it gives respondents the opportunity to express themselves and give new perspectives to this topic. Two respondents emphasized that companies do not necessarily want to pay for testing if they do not need to for current regulatory needs. “There needs to be a real reason to make a company test for emerging contaminants”. There is also the risk to highlight that they are causing contamination when they do not need to admit it. Moreover, 40% of surveyed people mentioned that emerging contaminants are not regulated nor well understood from an environmental and human health risks. Therefore, there would be a risk of incurring social, legal, and financial repercussions if found, with no clear solution to resolve any potential issue due to lack of regulation and understanding of risk. There is a risk of harm to people or the environment. It can cause undue alarm for things that do not end up being a concern. One respondent also mentioned that it could be hard for consulting companies to find clients willing to undertake testing like those ones. However, there are not only disadvantages to conducting analyses to test for emerging contaminants. One of the surveyed people thinks that advantages can be purely financial, for example an additional revenue stream, and guarantee of ongoing work security, while another mentions that “it is an advantage to test for emerging contaminants such that a company can assess their risk and liability”. Furthermore, one person suggested that people could be interested in testing for emerging contaminants if “the emerging contaminant is 'about' to be

legislated and they want to understand their position first to be ready for upcoming requirements to save their public image”.

## 2. Interviews with the Emerging Contaminants team

After collecting answers from clients, it was good to discuss those with the Emerging Contaminants team and have points of view from the marketing people, but also the technical people. It was relevant to do so to confront the real needs and opinions from clients to what marketing and technical people expected. Thus, the company selling those non-compulsory tests can adapt its marketing strategy. It was also crucial to discuss those results with marketing people and technical people as they do not have the same background and maybe not the same vision of this market.

### a. Interview with the technical team

The first person that has been interviewed was Dr. Bob Symons, a regional technical manager. He has a deep knowledge in analytical chemistry and in PFAS and Emerging Contaminants testing.

We first discussed about CSR, its advantages and barriers. Dr. Bob Symons agrees with the advantage “improve corporate image and corporate reputation” seen by clients. He thinks that it is really important to take care of the corporate image and reputation by going to conferences and talking to people. By participating in conferences and being present at exhibition, clients will remember it and it gives less space to competitors. It is about visibility and it is a first point of contact. He also emphasised the importance of social medias, especially LinkedIn for professional purposes. It is becoming more and more crucial to be present on social media and to use it in a proper way to promote the company’s services and products. The new generations are really active on social medias. This is why it should be used to do the promotion of new services and products, but also to show what the company do to improve its image and reputation. Also, Dr. Symons thinks that if a company has

a good technology and a good technique but not a good corporate reputation or no image at all, it is hard for the company to exist in the market and sell its innovative technology. So, it is crucial to care about corporate image and reputation. For him, a company should also differentiate its services and products from competitors to have an added value. It is the case for Eurofins. The company invested in a laboratory to test for microplastics in drinking water in 2019 and differentiate itself from its competitors. Moreover, he mentioned that testing for emerging contaminants is a balance between doing just enough and doing a bit more. For example, couple of years ago, PFAS was not regulated but nowadays some of them are. Even though only three PFAS are regulated in Australia and two in the United-States, laboratories test for about 30 PFAS compounds. By doing so, they are ahead of a possible future legislation and avoid a possible scandal like the Belgium crisis or dioxin affair about the contamination of feedstock with polychlorinated biphenyls (PCB) in animal food products. The problem was reported in January 1999 but measurements were taken only in May 1999 when the media revealed the case. PFAS are now being banned in clothing by different brands like Adidas or Puma even though it is not legally prohibited. Finally, a lot of company are driven by prices according to Dr. Symons making it difficult to sell this kind of tests. Nevertheless, it is a balance between doing just enough and doing a bit more. For example, the company Senversa which is one of our client, invested in a research project with Eurofins to develop a method to test 6-PPD, a chemical compound present in rubber tyres to help tyres resist degradation and cracking. This compound is not regulated in Australia, but the consulting company sees an interest to test for it as it could be harmful for the human health and the environment.

The second discussion was with Dr. Amy Heffernan. She is a regional technical specialist within Eurofins Environment Testing ANZ. She also has a strong analytical chemistry background, especially in mass spectrometry and in Emerging Contaminants testing.

Dr. Amy Heffernan is not surprised by the responses given by clients and expected to read the term of “greenwashing”. It is a notion more and more used by companies to boost their image. The responses to the statement number 15 “*Testing for emerging contaminants could be a disadvantage as it could show new pollutants to take care of*” were also expected. Only one respondent disagrees with this statement. She directly noticed which respondent has experience in this industry and is familiar with concept and which respondent is new in the domain or has less experience. The respondent with the less experience is the one who does not see the improvement of corporate image and corporate reputation as an advantage of disclosing more info through CSR and who does not think that testing for Emerging Contaminants could improve corporate reputation.

#### b. Interview with the marketing team

To have a marketing point of view, which might be a bit different from the one from the technical team, Kathleen Wrigglesworth was interviewed. She is a marketing manager within Eurofins Environment Testing ANZ.

Kathleen Wrigglesworth agreed with the responses given for question number 6 “*When thinking about CSR, what do you see as the advantage(s) for a company to disclose more information than needed to clients, employees and shareholders?*”. She believes that the key advantage for company to deal with CSR is the corporate image and the corporate reputation. According to her, the more transparency about a company there is, the more trust people give and the better is the corporate reputation. Corporate should find value in disclosing more information for CSR. Also, she agrees on the fact that the main barrier for selling this tests is that once a pollutant is found, people will have to do something and act, even if it is not regulated. She thinks that the company should pitch it to visionaries and people with an entrepreneurial mindset using social medias for example.

For the marketing point of view, a discussion with Shay Xie, general manager within Eurofins Environment Testing might be relevant. He has a lot of experience in management, marketing and customer relationship.

Mr. Xie also totally agrees with the responses to the question number 6 "When thinking about CSR, what do you see as the advantage(s) for a company to disclose more information than needed to clients, employees and shareholders?", especially for the argument "differentiate your business on the market" and the argument given by one of the respondent which is "fulfilment of a duty of care". Concerning the barriers for companies to disclose more information than needed through voluntary CSR report, he agrees on the fact that it is not easy for small companies to engage in CSR in terms of costs and time. Nevertheless, it should not be the case for big organization. They usually invest money and time in CSR as it will be beneficial at some point. His opinion is aligned with the one from a respondent. It is challenging to gather the required data over the global organization and it is sometime difficult to coordinate everything. It is also the case for Eurofins.

### III. AREAS FOR IMPROVEMENT AND DISCUSSION

The aim of this study was to understand clients' needs and motivation to purchase non-compulsory tests like tests to detect the presence or absence of emerging contaminants. Thanks to the online questionnaire, we were able to better define the marketing strategy to sell those tests by identifying the points and arguments to emphasize when developing the strategy.

#### 1. Confrontation of customers' needs and opinions with the offered services and the point of view of Eurofins

Before getting feedbacks from actual and potential clients, a work of standardisation of the products that the company wants to sell has been carried out. Indeed, the Emerging Contaminants BU has existed since 2017. Several projects were carried out and it was possible to group projects into categories when the objectives were the same. By doing so, five different products were defined in collaboration with the Emerging Contaminants team (figure 18).



Figure 18: Standardisation of products proposed to clients

The two “PFAS characterisation” products correspond to PFAS screening apart from those generally tested with more or less details. The “product verification” is simply a test to identify suspect contaminants, confirm or not the presence of active constituents for which there is no established method, or investigate potential product failures. The one called “contaminant screen with QToF” is a test to screen a broad number of compounds including PPCPs and pesticides for instance. It tests the usual suspects with high-resolution spectrometry. It is combining both GC and LC-QToF-MS. The last product is called “environmental forensics” and uses GC and

LC-QToF-MS as well. It is a non-targeted analysis for complex site investigations and research projects.

Once the products were defined and standardised, it was necessary to understand the needs and opinions of the potential clients of this new market to better target them. This was the aim of the online questionnaire. After having the results of the questionnaire, they were presented to the team to get their point of view and discuss about it. The goal was also to see if the added value of Emerging Contaminants testing seen by Eurofins is the same as the one seen by clients. People from the Emerging Contaminants team mostly agreed with the responses given by the people surveyed even if some of the answers can be discussed.

First, the questionnaire highlighted that all the respondents have heard about CSR. This is good for the company Eurofins. It is a lever that can be used to develop the marketing strategy for emerging contaminant testing. The usefulness of this service can be emphasised by using the importance of CSR for the image and reputation of the company. Indeed, the main advantage of CSR seen by respondents is to improve corporate image and corporate reputation. All of the Eurofins people interviewed agree on this advantage. Dr. Bob Symons thinks that corporate image and reputation is one of the biggest argument to disclose information through CSR. For him, it is crucial as it allows companies to differentiate themselves from competitors. Mr. Shay Xie agrees on that point as well. He noticed one of the answer from a respondent which was “fulfillment of a duty of care”. He strongly approves this response by stating that companies want to be good corporate citizens. He also thinks that clients’ trust is one of the biggest argument to disclose more through CSR. This opinion is in accordance with the one from some respondents, even if it is not the more cited by them. Nevertheless, one of the main trend that emerged from the questions dedicated to CSR is that it costs time and money, especially for small companies. It is not necessarily the case for big group like Eurofins for example. Those do not hesitate to invest in CSR to improve their image and to try to be good corporate citizens.

Concerning emerging contaminants testing itself, the main obstacle would be that it is a non-compulsory analysis. Respondents mostly think that if companies do not have to take those tests, they will not purchase it. This is something anticipated by the emerging contaminants team. They were aware of this obstacle, especially as these analyses are quite expensive. Also, it could show pollution to take care of. To get around these obstacles, people from Eurofins think that this new service should be pitch to visionaries with entrepreneurship mindset and that customers need to be made aware of the potential risks of emerging contaminants and the added value that testing for their presence can bring.

## 2. Development of a marketing strategy responding to clients' needs

The results of the survey give us some trends about what is the behavior of the market and the opinion of the clients we are dealing with. Thanks to that, we are able to orientate the marketing strategy in order to better target companies' needs.

Non-mandatory tests are not easy to sell as companies do not have to purchase those. It is a totally voluntary action that could be taken by them, either to improve their image and reputation, or to gain the trust of their customers, or differentiate their business on the market. Most of the respondents think that testing for emerging contaminants could be a disadvantage as it could show new pollutants to take care of. Here is the challenge: selling tests that companies do not have to take if they do not want to and that could potentially show them the presence of pollutants to take care of. Finding something that could lead to additional costs is the biggest fear.

One of the way to sell non-mandatory tests is to raise awareness by informing people about the possible risks on the environment and on the human health. By doing so, it can involve a reaction and encourage them to undertake those tests for the feeling of a fulfilment of duty. In order to do that, people should be educated about emerging contaminants, their omnipresence in our environment and their potential dangerousness on the environment and on human health. In order to raise this awareness, conferences and presentations about these compounds should be

held to inform people from the industry. After pointed out issues during these presentations, solutions could be provided which are Eurofins emerging contaminants tests to figure out if there is an exposition to those compounds.

Another way to promote non-regulated tests is to use social media like LinkedIn for example. As it is a professional social network, Eurofins can reach a wide professional audience that could be interested or curious. The use of social media is increasing and young generations are very active on those media making them unavoidable. Social medias are kind of a showcase for companies. They can use it to improve their corporate reputation and to show the actions they take to ensure a good corporate reputation.

Moreover, these analytical services should be promoted to a targeted audience. A lot of company would not pay for these services as it is not mandatory, they do not have to buy these analyses to respect laws and regulations. Also, some of the interviewees stated that emerging contaminants are not well understood yet. There are still toxicological studies conducted to see the impact of some compounds. This is indeed the case. We missed some data about emerging contaminants. We have suspicions but for now, clear environmental and human health risks have to be proved to justify conducting these analyses. As a consequence, these products should be pitched to visionaries and people with an entrepreneurship mindset. At some point, some chemicals that are now qualified as 'Emerging Contaminants' will be regulated. So, companies that are already testing for those could be ahead of the legislation and have competitive advantage on their competitors.

Finally, the services Eurofins wants to standardise and sell can be part of environmental forensic sciences. The technique used to test the presence or absence of emerging contaminants is new and not common in private laboratories. Usually, GC/LC-QToF-MS is used in research laboratories and required highly qualified analytical scientists. The technique is really useful as it can screen a wide range of compounds by comparing MS spectra to databases. However, it is really time consuming, and consequently it costs a lot as it implies high labor costs. Nevertheless, one marketing strategy could be not to sell the analyses of non-

regulated compounds, but rather to sell the technology and expertise involved. For example, it could be sold as an analysis to determine which compounds are present in a sample as part of an investigation. Also, if a client would like to find out what compounds are present in a sample, they can ask for this technology.

Thus, the different areas to be considered are shown in the diagram below:



*Figure 19: Areas to be considered for the new business of Emerging Contaminants testing*

### 3. Limits of this study

The main difficulty encountered in this study was to capture the opinion of our clients or potential clients. Eurofins is mostly dealing with businesses. The company is acting in B2B making it challenging to contact them and have responses. People from the industry are rather reticent to give their opinion because it implies not only them but also their company. Clients were first approached during an exhibition called “Oz’Water 2022” that took place in Brisbane in May 2022. This exhibition has gathered all the actors of the water sector, including some of our clients but also some of our competitors. People present on booths were not especially the ones that have knowledge in emerging contaminants or experience in this specific market.

Most of the time, they gave contact details of one of their colleagues, a general email address or they took my contact details making it more difficult to reach the good person to send the questionnaire to. One of the way to reach clients that worked most effectively was to be introduced directly by people from the company that work with those clients. Some of the clients that were contacted were first approached by either Dr. Amy Heffernan or Alana Wadsworth, an Analytical Service Manager. Those clients are the ones who responded to the questionnaire according to the contact detailed they gave at the end of the questionnaire. Another way to reach a wider audience is to write a LinkedIn post on the Eurofins Environment Testing ANZ page. This was done by Kathleen Wrigglesworth, the marketing manager, just before submitting this thesis. Even if the results may not be used and analyzed for this study, it will still be useful for the company, for the development of the marketing strategy, and to have the market feedback on this topic. Despite all, it is still challenging to have a significant number of respondents.

As the number of respondents is small, it is impossible to make a general rule from this study. It is really specific to a handful of professional from the environment sector. Nevertheless, it will still be useful for the company to have some opinions to better orientate the marketing strategy and fulfil clients' needs.

This study is also very specific to the market of environment testing in Australia. It is difficult to transpose these results to other markets. For example, the food market is different. People are more involved in it because it has a direct impact on their everyday life if there is a health risk discovered about a chemical present in the food. It was the case in Belgium in 1999. The dioxin affair is a scandal that happened in Belgium. It was about the contamination of feedstock with polychlorinated biphenyls (PCB) in animal food products. The problem was reported in January 1999 but measurements were taken only in May 1999 when the media revealed the case. Companies in the food industry are more likely to undertake non-mandatory tests before it became legislated as it could be a real added-value for the products (Wikipedia, 2022).

Therefore, it could be good for Eurofins to expand the business not only to the environmental market but also to other markets, and especially the food market. Indeed, we know that some chemicals with potential health risks are found in our food.

## CONCLUSION

CSR has become a major issue in the business world since its conceptualisation and democratisation in the second half of the 20<sup>th</sup> century. Today, it is an unavoidable concept to be considered by corporations. CSR participates to help companies to improve their reputation. It is a way of being transparent to stakeholders and show social and environmental commitment. Corporate image and corporate reputation have obviously a role to play in the marketing and selling of environmental analyses not required by law. However, companies have to see a real return on investment to engage in voluntary action. With this in mind, Eurofins has decided to launch itself into the niche market of emerging contaminants testing. As those compounds are not regulated because of a lack of toxicological studies, companies are not required to test for them. It is a voluntary action they can undertake to know more about the possible presence of emerging contaminants and to commit to a socially and environmentally responsible approach. After interviewing some of the clients, we noticed that they seemed to care about their image and reputation, and that could be an argument to use to sell them non-mandatory tests, like emerging contaminants tests. Nevertheless, there is one cloud in the picture. As the GC/LC-QToF-MS required skilled and qualified analytical chemists, it is an expensive analysis. So, this is one of the biggest obstacle. Also, as emerging contaminants are not regulated nor well understood in a human health and environmental risk, some companies do not see the point of undertaking tests to verify their presence. Indeed, it can cause undue alarm for things that do not end up being a concern and we do not know if the only presence of a compound could imply risks. Moreover, some clients might not see the return on investment. Eurofins was aware of these obstacles. In order to overcome them, a marketing strategy must be established. After discussing respondents' responses with the emerging contaminants team, different approaches have been raised. The new services should be pitched to visionaries and people with an entrepreneurship mindset. Eurofins should raise awareness, try to educate clients about the potential risks of the presence of emerging contaminants and then offer them their analytical solutions to test for them. To do so, conferences and talks should be organised to present the

new products. The use of social media to inform and promote the products is also a good way to reach targets. Even though there are obstacles, it is a niche market that may become increasingly important in the future as the risks of certain chemicals are discovered. At the moment and according to the information available on the websites of Eurofins' competitors, there is no marketing of a similar service. The QToF technology is for the moment only used in research laboratories. By focusing on this emerging market, Eurofins will have a monopoly in this sector and will develop knowledge and expertise. After establishing their new testing offering in the environmental sector, Eurofins may move into another sector such as the food industry. Today, more and more emerging contaminants are found in food packaging. This is the case for PFAS, which are present in cardboard food packaging, but also microplastics. Some countries such as Denmark have banned certain PFAS from food contact packaging (Retsinformation, 2020). Some countries may do the same and there is therefore a potential market for food testing for emerging contaminants.

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## APPENDIX

*Raw data from the online questionnaire:*

1. What is your role within the company?

ID	Response
1	Senior environmental scientist
2	Senior Environmental Scientist
3	Senior Health Safety & Environmental Consultant
4	Principal Human Health Risk Assessor
5	Sales Manager

2. Number of Years in your industry:

ID	Response
1	15
2	5
3	11
4	20
5	20

3. What is your highest level of Education?

ID	Response
1	Bachelor
2	Bachelor's Degree
3	Certificate IV (Tertiary)

4	Bachelor of Science (BSc)Hons
5	Masters

4. Have you previously heard of CSR?

ID	Response
1	Yes
2	Yes
3	Yes
4	Yes
5	Yes

5. In your opinion, what two actions could a company take to ensure a good corporate image?

ID	Response
1	Don't 'greenwash' without actually having the credentials trust
2	Become ISO accredited for environmental management and develop a framework for managing emerging contaminants.
3	I think primarily a good corporate image revolves around the perception of that company in terms of trust and responsibility. As a consulting company working within the contamination space, we are engaged as technical experts to provide advice and assist in preventing harm to people and the environment. In my opinion, this includes staying up to date on emerging contaminants of concern so that we can provide the best possible advice to clients and build trust. As our clients develop trust in our expertise, they also develop a sense of responsibility (eg, in relation to Health and Safety obligations), and a willingness to go above and beyond current legislative

	requirements to ensure the best outcome for the situation. This also helps to redefine industry standard 'best practice'
4	Prioritising diversity (gender, cultural etc) and inclusion within the organisation. Visible corporate environmental responsibility, becoming a BCorp company
5	Support of social projects. Environmentally friendly operations (reduced water, energy, carbon footprint etc.)

6. When thinking about CSR, what do you see as the advantage(s) for a company to disclose more information than needed to clients, employees and shareholders?

ID	Response
1	Clients' trust; Improving corporate image and corporate reputation;
2	Anticipation of stricter regulation in the future;
3	Improving corporate image and corporate reputation; Fulfilment of a duty of care;
4	Improving corporate image and corporate reputation; Improve performance;
5	Improving corporate image and corporate reputation; Competitive advantage; Improve performance; Differentiate your business on the market;

7. When thinking about CSR, what are the barriers for your company to disclose more information than needed through voluntary CSR reports?

ID	Response
1	Time. effort. Cost. Will there be a real pay-off - in terms of quality of clients/jobs and profit? No real reason to (this may be due to the small size of our company < 5 employees)
2	as consultants, client confidentiality represents the key issue.

3	Corporate structure - Typically the person we deal with in the field where potential additional contaminants are discovered, isn't the person responsible for making decisions, particularly if that decision represents increased costs/additional fees. The industry tends to be heavily focused on financials resulting in a "just the the minimum legal requirement' mentality. the other major barrier is typically "If you identify this contaminant, how does that affect ongoing management requirements and/or remediation practices?"
4	Unable to benchmark the information through comparison to standards Inability to collect the information
5	We currently provide a comprehensive report. Gathering the required data over our global operations is the most challenging area.

8. Are clients sensitive to voluntary actions like testing for non-regulated compounds?

ID	Response
1	Yes
2	Yes
3	Yes
4	Yes
5	No

9. Testing for Emerging contaminants could improve the corporate reputation

ID	Response
1	Disagree
2	Disagree
3	Strongly agree
4	Neutral
5	Agree

10. Testing for emerging contaminants or non-regulated compounds could be an added value to your service

ID	Response
1	Disagree
2	Agree
3	Strongly agree
4	Neutral
5	Neutral

11. Testing for Emerging contaminants could give you a competitive advantage

ID	Response
1	Agree
2	Agree
3	Agree
4	Neutral
5	Agree

12. Testing for Emerging contaminants would allow you to get ahead of the legislation

ID	Response
1	Agree
2	Disagree
3	Agree
4	Neutral
5	Neutral

13. Testing for Emerging contaminants could be an incentive to legislate and thus be in a leadership position

ID	Response
1	Agree
2	Disagree
3	Strongly agree
4	Agree
5	Strongly agree

14. Testing for Emerging Contaminants is a way to put barriers to entry

ID	Response
1	Neutral
2	Neutral
3	Neutral
4	Neutral
5	Agree

15. Testing for Emerging Contaminants could be a disadvantage as it could show new pollutants to take care of

ID	Response
1	Strongly agree
2	Strongly agree
3	Agree
4	Agree
5	Disagree

16. Do you see other advantages or barriers to test for Emerging Contaminants?

ID	Response

1	I don't see companies testing for something when they don't need to. There needs to be a real reason to make a company test for emerging contaminants, otherwise they may be highlighting that they are causing contamination when they don't need to admit this. What are they to gain? Unless the emerging contaminant is 'about' to be legislated and they want to understand their position first to be ready for upcoming requirements to save their public image.
2	It is an advantage to test for emerging contaminants such that a company can assess their risk and liability. It would be a disadvantage to publicly share this information as emerging contaminants are not regulated nor well understood from an environmental / human health risk. As such, there would be a risk of incurring social/legal/financial repercussions if found, with no clear solution to resolve any potential issue due to lack of regulation and understanding of risk.
3	Advantages can be purely financial, for example an additional revenue stream, and guarantee of ongoing work security. The biggest barrier is finding clients willing to undertake the testing and invest in the science required to determine effective legislative procedures.
4	The issue with testing for emerging contaminants that do not have guidelines to compare to so it is hard to understand if there is a risk of harm to people or the environment. It can cause undue alarm for things that do not end up being a concern
5	Customers are generally unwilling to pay for services seen as not needed for current regulatory needs.

17. A more personal question, do you think that CSR is important?

ID	Response
1	I think it is becoming more important, but to be honest, unless a company see's it will benefit them in some way, in terms of tangible public perception (and that is their core value) or money, I don't see them doing it.

2	Yes, it is important that companies are held socially accountable.
3	Yes - Corporations have the most funding available to invest in emerging technologies to combat emerging contaminants. I believe such companies have a societal responsibility to reinvest gross profits into better industry practises for the betterment of the community and planet as a whole.
4	Yes it is import and is becoming more important for companies to show they take it seriously and not just 'green wash'. It is increasingly important for employers to demonstrate CSR to attract quality employees. In the case of emerging contaminants, companies may test for additional compounds but are unlikely to make that freely available under CSR reporting unless there are guidelines/criteria by which they can assess if the chemical concentrations pose a risk to human health or the environment.
5	Yes it is