

Market Entry Analysis: Construction Industry



Metasense

Executive Summary

This report focuses on how Metasense can target the construction industry to market their product which measures the UV radiation exposure. This report includes the market analysis of the construction industry that furthermore suggests on which sub-industry to target where major revenue can be generated from the sales of the devices to the users. Construction industry analysis has been performed using various tools and models such as Porter's five forces, Segmentation, Targeting, PESTEL analysis, creating persona and value canvas to decide on which sub-industry category and how to approach them. This report also includes the basic understanding of the costs analysis involved in the entry in the construction industry. The report suggests targeting Commercial & Industrial Building Construction; Road & Bridge Construction; and Institutional Building Construction for Metasense to gain profit from the sales from analysing the market.

Executive Summary	1
Project Background	4
Market Analysis	5
Porter's Five Forces Model	5
The Threat of New Entrants	5
The Bargaining Power of Suppliers	6
The Threat of Substitutes	6
The Bargaining Power of Buyers	7
The Rivalry among Existing Competitors	7
PESTEL Analysis of Metasense	8
Segmentation & Targeting of Construction Industry in Australia	9
Segmentation	9
Size	10
Growth	11
Revenue	12
Revenue per Business	13
Targeting	13
Cost Estimation	14
Customer Analysis	15
Persona	16
Messaging strategy:	16
Value Canvas	17
Metasense - Buyer	17
Metasense - User	18
Recommendations	19

Project Background

Due to the nature of the work performed by outdoor workers, they normally face higher occupational risks. They are exposed to ultraviolet light most of the time at work, often in connection with exposure to toxic chemicals (PAHs, solvents) that promote skin carcinogenesis.

Research also found the existence of strong positive associations between skin cancer and past UV exposure or the past cumulative 3-year UV exposure 3 or 4 years ago¹. An adequate evaluation of the occupational risk related to SR and adequate preventive measures are essential in construction workers.

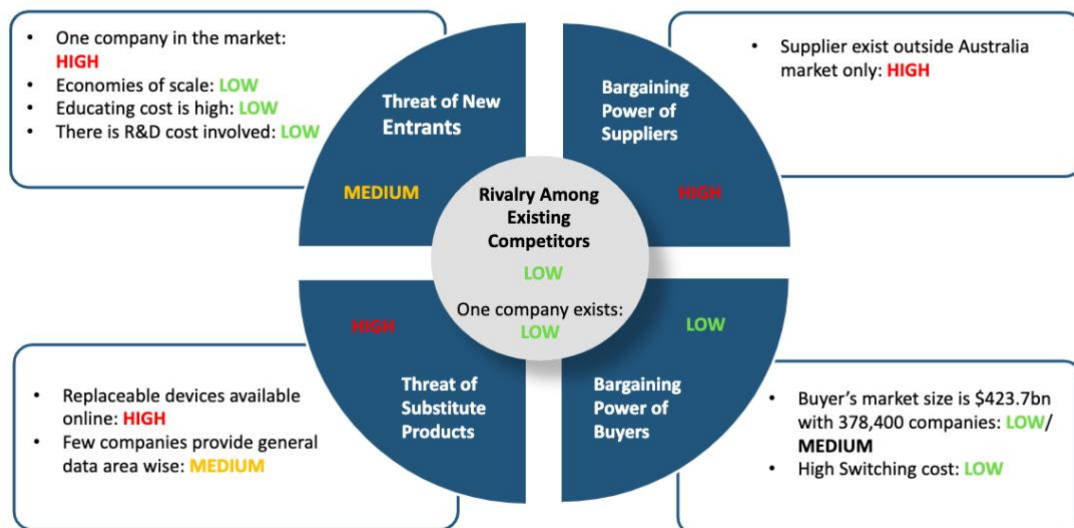
¹ [https://www.sciencedirect-com.ezproxy1.library.usyd.edu.au/science/article/pii/S1438463910000842?via%3Dihub](https://www.sciencedirect.com.ezproxy1.library.usyd.edu.au/science/article/pii/S1438463910000842?via%3Dihub)

Market Analysis

Porter's Five Forces Model

Porter's Five Forces model is used to give a good perspective of the current senior in the market. This report uses Porter's Five Forces model to analyse the industry where Metasense is involved in.

Market Analysis - Porter's 5 forces- UV Index Personalised Device Calculator



The Threat of New Entrants

- Currently, there is no device available in the Australian market that gives personalised information about the UV index, humidity and the temperature exposed to a worker on sight exposed to direct sunlight except for Metasense.
- One of the threats of entry may include the lack of education among the people in Australia for UV Radiation exposure effects and prevention.

Therefore, as the market is very new to be explored into, the entry cost may be high as the R&D requires but, there is always a scope to be dominant in the market. Moreover, the resources available for any companies to enter this market is very limited and they will have to enquire about the cost of educating the target market before proceeding with them buying the devices. Hence the **Threat of New Entrant is Medium**.

The Bargaining Power of Suppliers

When looking for suppliers, it seems that when done the research on knowing the manufacturing companies in IT for devices, the health industry came as an outcome. As Metasense is importing the devices from overseas, it can be said that the **suppliers have a high bargaining power** due to limited companies to supply the demanded devices except overseas.

The Threat of Substitutes

- There are manufacturers of similar devices that are available for the public to buy. They sell their devices on platforms like Amazon, eBay, etc. But it seems they don't do wholesale for the target market Metasense has^{2 3}.
- Recent wearable devices, such as SunSmart⁴, SunSprite⁵ and Apple Accessories⁶ use embedded UV sensors to objectively measure current UV exposure levels.
- ARPANSA is one of the website governments approved that allows the public to access UV index per city (limited). This company also provides personalised data area wise only with an additional cost. Otherwise, this company produces devices that allow other companies to buy them for the regulation of the radiation experienced by workers in medical, mining, etc⁷.
- Similar kinds of data are also provided online, for example, Google Weather, Accu Weather, Apple Weather, etc. This data again is not personalised to an individual therefore, just gives out the UV radiation details limited to suburbs and cities and does not target the segment where Metasense is looking into.

² <https://www.wearable-technologies.com/2018/08/wearables-can-monitor-your-uv-exposure-but-how-effective-are-they/>

³ <https://www.wearable-technologies.com/2018/07/loreal-batteryless-uv-sense-fits-on-your-fingernail/>

⁴ <https://www.cancer.org.au/news/media-releases/9-in-10-australians-dont-know-when-they-need-sun-protection.html>

⁵ <https://www.sunsprite.com/shop/>

⁶ <https://www.apple.com/au/shop/product/HML02Z/A/la-roche-posay-my-skin-track-uv-sensor>

⁷ <https://www.arpansa.gov.au/our-services/monitoring>

In conclusion, the devices on calculating the UV radiation exist but when considering the target market of Metasense in mind, the **Threat of Substitute is High**.

The Bargaining Power of Buyers

- The total construction industry has \$423.7bn of the market in Australia with 378,400 companies. [More information can be found on the Market Size section]
- Because not many wholesale suppliers of the required device are available in the Australian market, the buyers' ability to bargain or switch among competitors is low.

Therefore, the **Bargaining Power of Buyers is low** unless buying in a few quantities which they can do from the substitutes available in the e-commerce space but the prices when compared, may or may not be high.

The Rivalry among Existing Competitors

There is only one company in this market type, therefore, the **Rivalry among Existing Competitors is Low**.

Therefore, the entry to the construction industry is safe and the only threat for the entry is to have a look at the **threat of the substitute** available in the market and the **bargaining power of the suppliers**.

PESTEL Analysis of Metasense

PESTEL analysis describes a framework of macro-environmental factors (political, economic, social, technological, environmental and legal) used in strategic management. It gives an overview of the external environment to be taken into consideration for Metasense when entering the construction industry. It is a strategic tool for Metasense for understanding market growth or decline, business position, potential and direction for operations. ^{8 9 10 11 12}

13 14 15 16 17 18 19

Political / Legal	Economic	Social	Technological	Environmental
Advantage <ul style="list-style-type: none"> • Probability to lobby the government to implement the policies about UV risk • Cancer Australia [8] and Cancer Institute NSW [9] are promoting some actions related to sun protection Disadvantage <ul style="list-style-type: none"> • Limited government policy related to the protection of workers from UV radiation 	Advantage <ul style="list-style-type: none"> • Profit margins have improved in the construction industry in Australia [10] Disadvantage <ul style="list-style-type: none"> • Companies are unwilling to invest money on the device 	Advantage <ul style="list-style-type: none"> • Most adults pay attention to sun protection (88% of NSW adults engage in at least one sun protection behavior in a four-week period [11]) Disadvantage <ul style="list-style-type: none"> • Lack of knowledge of UV risk • Adults do not pay too much attention to sun protection (Only 38% of NSW adults engage in at least three sun protection behaviors in a four-week period [12]) • Tan culture is popular among young people [13] (60% prefer a light or moderate tan; 15% prefer a dark or very dark tan [14]) 	Advantage <ul style="list-style-type: none"> • Successful innovation and manufacturing of the device Disadvantage <ul style="list-style-type: none"> • Similar devices (SunSmart [15], SunSprite [16] and Apple Accessories [17], etc) 	Advantage <ul style="list-style-type: none"> • UV levels across Australia are very high to cause serious sunburn even skin cancer [18] • Over 1.2 million Australian workers are exposed to solar UV radiation at levels 5-10 times more than indoor workers [19] Disadvantage <ul style="list-style-type: none"> • Whether it becomes a disadvantage depends on whether the company has a response strategy for device recycling and disposal

⁸ <https://ncci.canceraustralia.gov.au/prevention/sun-exposure/sunburn-and-sun-protection>

⁹ <https://www.cancer.nsw.gov.au/sun-protection-behaviours>

¹⁰ <https://my-ibisworld-com.ezproxy1.library.usyd.edu.au/au/en/industry/e/industry-at-a-glance#key-trends>

¹¹ <https://www.cancer.nsw.gov.au/sun-protection-behaviours>

¹² <https://www.cancer.nsw.gov.au/sun-protection-behaviours>

¹³ <https://www.avonadvocate.com.au/story/5770614/cancer-council-stats-show-teens-still-value-having-a-tan/>

¹⁴ <https://www.cancer.nsw.gov.au/sun-protection-behaviours>

¹⁵ <https://www.cancer.org.au/news/media-releases/9-in-10-australians-dont-know-when-they-need-sun-protection.html>

¹⁶ <https://www.sunsprite.com/shop/>

¹⁷ <https://www.apple.com/au/shop/product/HML02Z/A/la-roche-posay-my-skin-track-uv-sensor>

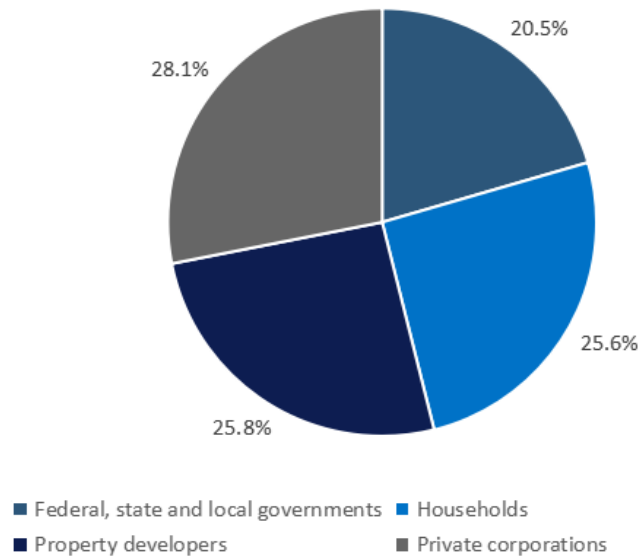
¹⁸ <https://www.cancer.org.au/news/media-releases/9-in-10-australians-dont-know-when-they-need-sun-protection.html>

¹⁹ <https://www.cancer.org.au/preventing-cancer/workplace-cancer/uv-radiation.html>

Segmentation & Targeting of Construction Industry in Australia

Segmentation

Market Segmentation in Revenue



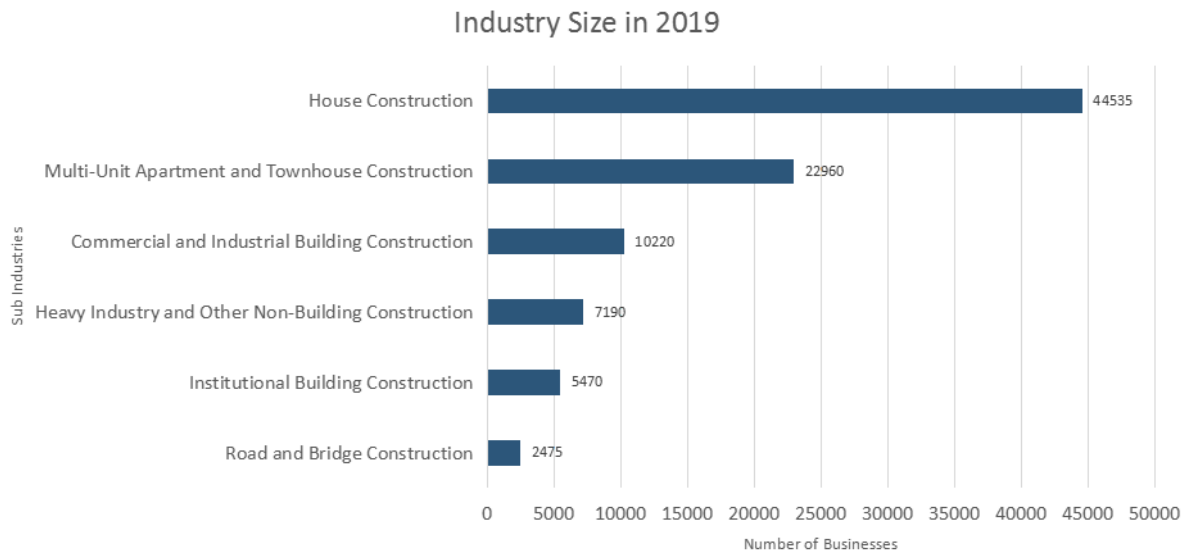
Market segmentation is the activity of dividing a broad consumer or business market, normally consisting of existing and potential customers, into sub-groups of consumers based on some type of shared characteristics.

The pie chart above is based on the revenue (\$ billion), it presents the major markets in the construction industry in Australia which include property developers, private corporations, households and governments²⁰. Deriving a revenue of \$86.86 billion, private corporations are the biggest customers in the construction industry in Australia with a division of 28.1%. Based on that, Metasense can focus more on private corporations to extend its B2B market because they are the biggest customers in the construction industry in Australia.

²⁰ <https://my-ibisworld-com.ezproxy1.library.usyd.edu.au/au/en/industry/e/products-and-markets>

From IBIS World²¹, major sub industries in the construction industry in Australia are House Construction²², Multi-Unit Apartment and Townhouse Construction²³, Commercial and Industrial Building Construction²⁴, Institutional Building Construction²⁵, Road and Bridge Construction²⁶ and Heavy Industry and Other Non-Building Construction²⁷.

Size



From the above chart, House Construction and Multi-Unit Apartment and Townhouse Construction are two sub industries with the highest number of businesses in 2019. However, the CEO of Metasense said the company focuses more on non-residential building construction than residential building construction. Therefore, entering Commercial and Industrial Building Construction, Heavy Industry and Other Non-Building Construction and Institutional Building Construction can be a good choice in terms of the large number of businesses.

²¹ <https://my-ibisworld-com.ezproxy1.library.usyd.edu.au/au/en/industry/home>

²² <https://my-ibisworld-com.ezproxy1.library.usyd.edu.au/au/en/industry/e3011>

²³ <https://my-ibisworld-com.ezproxy1.library.usyd.edu.au/au/en/industry/e3019>

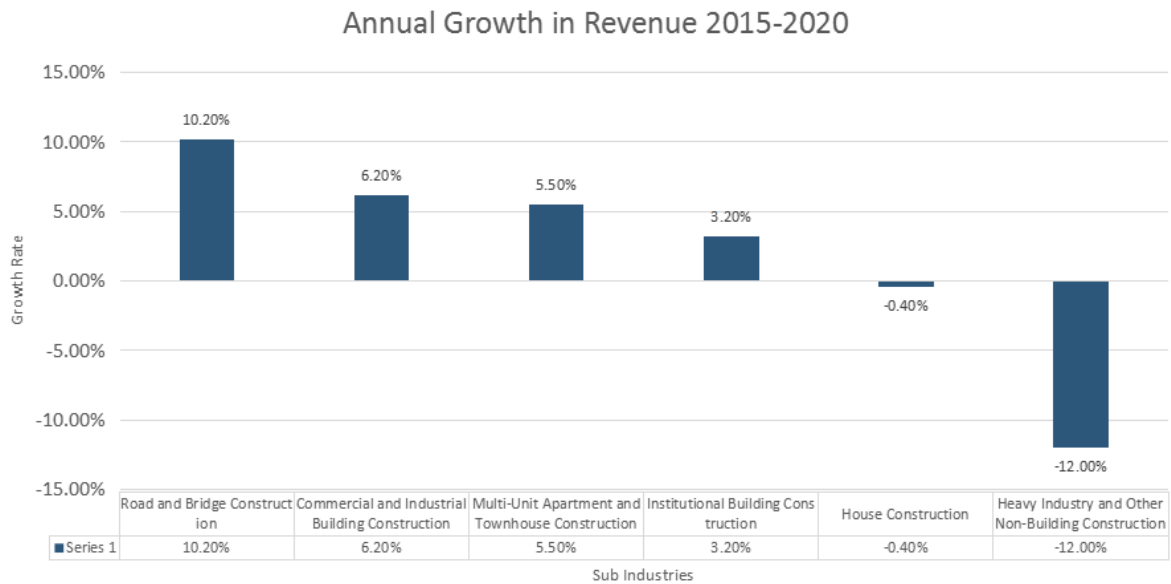
²⁴ <https://my-ibisworld-com.ezproxy1.library.usyd.edu.au/au/en/industry/e3021>

²⁵ <https://my-ibisworld-com.ezproxy1.library.usyd.edu.au/au/en/industry/e3022>

²⁶ <https://my-ibisworld-com.ezproxy1.library.usyd.edu.au/au/en/industry/e3101>

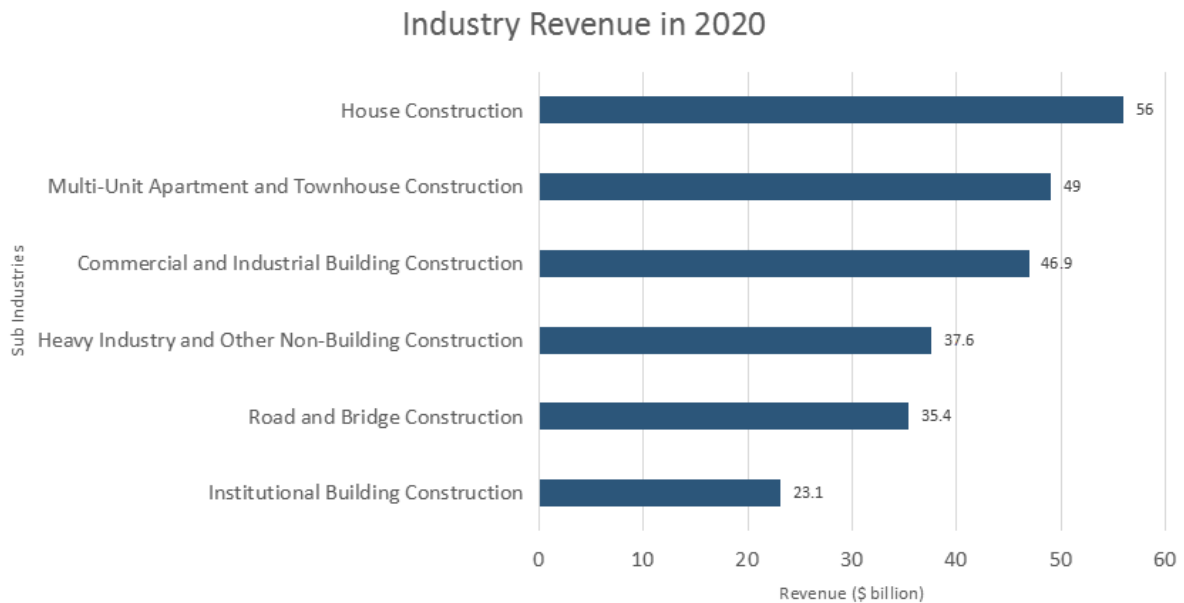
²⁷ <https://my-ibisworld-com.ezproxy1.library.usyd.edu.au/au/en/industry/e3109>

Growth



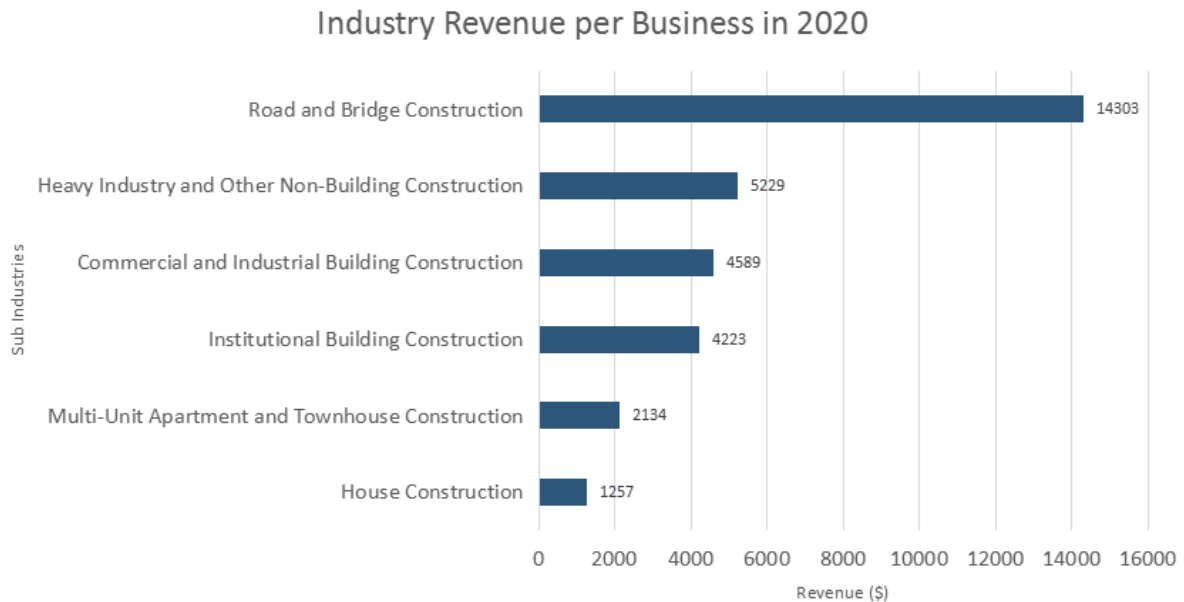
It can be observed in the chart above that although Heavy Industry and Other Non-Building Construction has a large number of businesses in 2019, its revenue is expected to decrease at an annualised 12% from 2015 to 2020. Although there are only 2,475 businesses in Road and Bridge Construction which is the lowest, it has the highest annual growth in revenue from 2015 to 2020. Comparatively, Commercial and Industrial Building Construction and Institutional Building Construction can be initially considered to enter because they have a large number of businesses and positive annual growth in revenue from 2015 to 2020 with 6.20% and 3.20% respectively.

Revenue



Since the CEO of Metasense said the company focuses more on non-residential building construction, House Construction and Multi-Unit Apartment and Townhouse Construction will not be analysed. From the chart above, it can be perceived that Commercial and Industrial Building Construction, Heavy Industry and Other Non-Building Construction and Road and Bridge Construction may have a large revenue in 2020. However, the revenue of Heavy Industry and Other Non-Building Construction is expected to decrease from 2015 to 2020, and there are limited number of businesses in Road and Bridge Construction. Thus it may be possible to enter Commercial and Industrial Building Construction.

Revenue per Business



The chart above presents that the highest industry revenue per business in 2020 is Road and Bridge Construction with a revenue of \$14,303 per business. Although the number of businesses in Road and Bridge Construction is the lowest in the construction industry, it has the highest annual growth in revenue from 2015 to 2020 and the highest industry revenue per business in 2020. On the other side, due to the large number of businesses in House Construction and Multi-Unit Apartment and Townhouse Construction, their industry revenue per business in 2020 is the lowest. Heavy Industry and Other Non-Building Construction has the second highest industry revenue per business in 2020, due to its decreasing annual growth in revenue, it is not suggested to enter this sub industry.

Targeting

According to the charts above, it is suggested to first target **Commercial and Industrial Building Construction** because it has large industry size, large revenue and revenue per business and high annual growth in revenue. **Road and Bridge Construction** can be the second choice due to the highest annual growth in revenue and revenue per business. However, if Metasense wants to enter Road and Bridge Construction, it should be concerned about its small industry size. Based on revenue per business, **Institutional Building Construction** may be the third option for Metasense to target.

Cost Estimation

**This section overlooks the details of the costs involved, and concentrated on the types of costs that the company might face.*

There are other devices available in the market for the public to buy (not for wholesale, has different sizes and features) to measure the UV rays. These devices cost depending on where the prices start from \$169 (google search). Therefore, the companies whose requirements are to have limited devices will go online and buy them rather than Metasense. This is because over the period of a year, online devices are cheaper when compared with the Metasense devices for long-term consideration.

The basic idea to reach this project's revenue is to have 2000 users that will give \$1,128,000 revenue over one year $\{2000 * (\$199 \text{ for device} + \$365 \text{ for days}) = \$1,128,000\}$. To have 2000 users, the sub category in construction with high growth rate and highest number of businesses will be chosen, i.e., Commercial & Industrial Building Construction; Road & Bridge Construction; and Institutional Building Construction. By targeting these sub categories in construction industries, the probability of reaching the target of 2000 users in a year's time is achievable because the current industry size of the target market is 18,165 with the industry revenue of \$105.4 billion.

Some more costs that may be involved when looked at the target market segment are:

1. Marketing
 - a. Education cost
 - b. Social media
 - c. Event organising cost
 - d. Search Engine Marketing (banner ads, online video, etc.)
 - e. Networking
 - f. Accessing data of the target market/ businesses requirements
2. Hidden costs eg- Traveling costs, Maintenance cost
3. Selling cost
 - a. Investigation cost
 - b. Installing cost
4. Employment
5. Legal- government policies and support cost
6. Taxes
7. Transportation & Overhead costs, etc.

When comparing the facts with the requirements the company Metasense wants to target, the above projects costs involved may exceed in the initial stages but when the planning is performed by the finance team, they will be surely able to see a growth by implementing the marketing plan slowly and gradually avoiding putting in all the cost at one go. The main cost that Metasense should look for is the **Marketing and Selling cost** as those are the ones that the company will be investing most of its finances into. Through this investment, they will be able to make the Market aware of their products and services as the very first stage of building a business to invest in Researching the selling cost involved according to the demand and then look out for the installation costs of the individual businesses. By setting up a team and then making the market aware of their existence, Metasense can easily be the dominating company over the period of one year and soon they will hit and cross the break-even point.

Customer Analysis

Persona

Alex Lane



"I want to purchase a device that can measure UV risk for my workers."

Age: 45 years

Status: Married

Education: Bachelor. Graduated from The university of Sydney

Industry: Construction Industry

Occupation: Risk Manager

Decision Maker?: Yes

Salary: A\$100,000/Year

How can Metasense help Alex:

- Help to reduce the risk of paying compensation/insurance for workers getting skin cancer
- Help to improve the welfare of workers

Goal:

- Reduce staff mobility
- Minimise compensation/insurance paid
- Increase company reputation
- Improve welfare of workers

Challenges:

- Many workers are exposed to UV ray
- Risk of skin cancer (Melanoma)
- Insurance cost paid to workers who suffer from skin cancer.

Bob Jackson



"I want to use a device to measure UV risk accurately so that I can protect my skin in advance."

Age: 30 years

Status: Married

Education: XX High school

Industry: Construction Industry

Occupation: Construction Worker

Decision Maker?: No

Salary: A\$80,000/Year

How can Metasense help Bob:

- Help to reduce the risk of getting skin cancer
- Help to improve the welfare of Bob

Goal:

- Reduce risk of getting injured
- Reduce exposure to sun(UV ray)
- Improve work performance
- Get job promotion/Earn higher salary

Challenges:

- Inevitable exposure to Ultraviolet (UV) ray
- Risk of skin cancer (Melanoma)
- Other safety risk (e.g. injured)

Messaging strategy

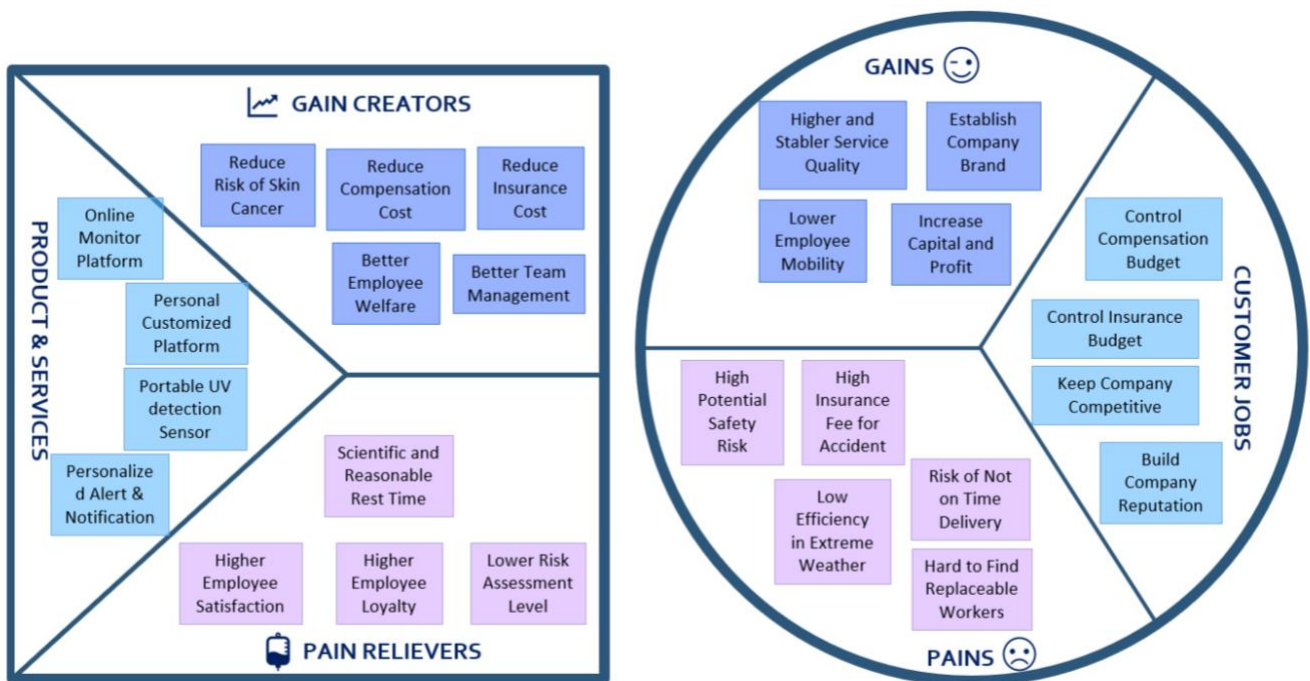
1. Message risk manager and discuss a 30-day free trial plan for construction workers.
2. Give some workers 30-day Free Trial of our device and platform.
3. Give those workers real-time UV index detection and reliable and accurate feedback about their skin condition.
4. Contact those workers to get feedback on the usage of Metasense devices.
5. Ask for Alex's decision on purchase of Metasense Device.

Value Canvas

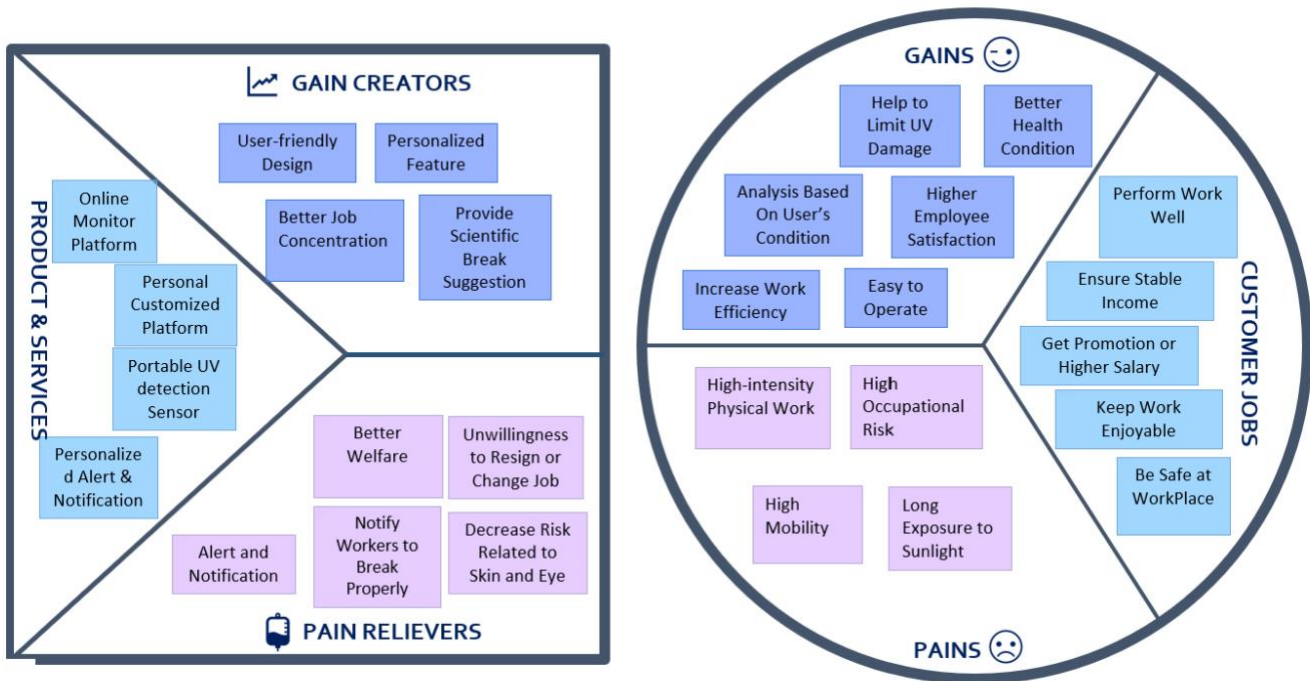
Value proposition canvas is composed of two parts, the customer profile and the value map, helping users to visualise the value of the products.

Customer profile describes the jobs the customer is trying to get done. Based on the buyer's persona and user's persona, there are two different value proposition canvas. For the buyers, the targeted customer is the risk manager of a middle-to-large size construction company. And the user is the middle-aged construction worker in the company.

Metasense - Buyer



Metasense - User



Recommendations

After the various tools and analysis we can offer the recommendations about the top priority of sub-category of marketing would be Commercial and Industrial Building Construction, Road and Bridge Construction and Institutional Building Construction. For the targeted person in the company, the focus and association can be risk and insurance manager, work health safety manager and the co-decision maker is strategy and investment manager of the property developer and private corporations.

Detailed marketing strategies would focus on the networking to build connections in the industry, it will be beneficial for the start-up company's connection with the potential customer. The networking event may include emailing associates, visiting premises, and attending business association events. Besides, the activities including putting advertisements in social media and search engines as online marketing strategies should also be considered, which can work as education activities to raise people's awareness about the importance of sun protection and the value of the products.

Therefore, the set goals suggested by the project are specific, measurable, achievable, relatable/realistic, and time-bound, i.e., Specific to the 3 sub categories in the construction industry, Measurable as to analyse the market size and growth, Achievable because of the marketing suggestions, Relatable as the outcome aligns with Metasense goal, and Time-bounded as the project suggests after one year of the continuous marketing, the break-even point is achieved.

Appendix

Link to the Google Excel of the Company Contact Info:

<https://docs.google.com/spreadsheets/d/1b4B2Sv-GJigEqVCOWZ4zYgWM0i6RWOuGWcfMBTh1p8k/edit?usp=sharing>

More Companies Names:

14 Georgiou Group	27 Burbank Australia	39 Grindley Construction
15 Uhde Shedden	28 Hedley Constructions	40 BRB Modular
16 J Hutchinson	29 AVJennings	41 Thomas & Coffey
17 Winslow Constructors	30 Kell & Rigby	42 Raptis Group
18 Ertech	31 Goodman International	43 Prime Constructions
19 Badge Constructions (SA)	32 Stockland Development	44 St Hilliers Contracting
20 Service Stream	33 Watpac	45 J & P Richardson Industries
22 JWH Group	34 Sunland Group	46 Bovis Lendlease
23 Isis Projects	35 APG Homes	47 Mossop Group
24 Pellicano Builders	36 AJ Lucas Group	48 Hooker Cockram Corporation
25 Choice Homes (Qld)	37 Richard Crookes Constructions	49 Becton Property Group
26 JA Dodd	38 AW Edwards	50 Adco Constructions