

3.5 Wrap up

Flyability's
Attractiveness Map



Search MOOC



Video





Safe drones for operating indoors,
in complex and confined spaces,
and in contact with people



ets to play in?



Hello and welcome back. In this wrap-up video, we'll go back to Flyability and see how they evaluated their market opportunities and met them on the attractiveness map. As you probably remember by now, Flyability builds safe drones for operating indoors in complex and confined spaces and in contact with people. They called their first product Elios. Elios can be applied to perform different jobs for different types of customers.

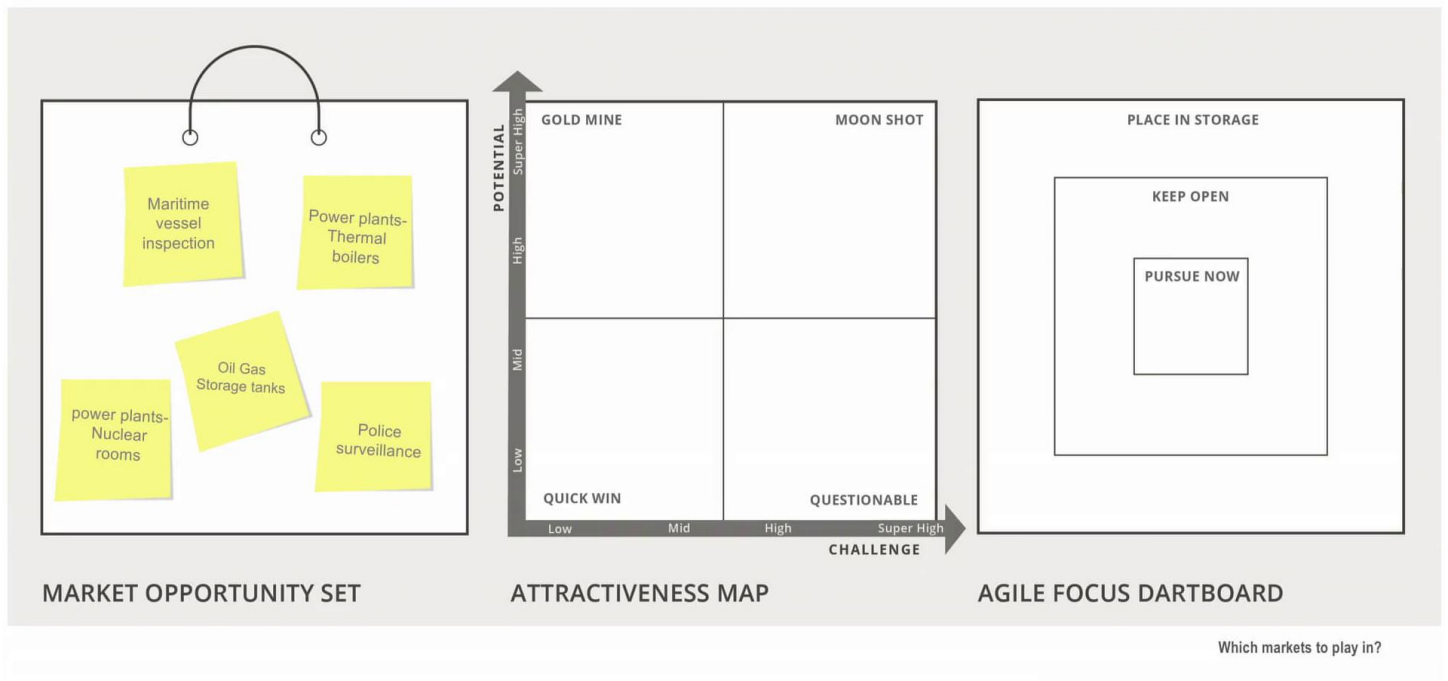
Notes

Summary



0m 04s

The Market Opportunity Navigator- 1st step



At the end of week 2, we showed how Flyability used worksheet 1 to generate their market opportunity set. This set included five options- inspection of boilers and heaters in thermal power plants, inspection of nuclear rooms in power plants, inspection of storage tanks in the oil and gas industry, vessel inspection in the maritime industry, and lastly intelligence and surveillance for police forces. Let's go back to Marc Gandillon, Flyability's marketing manager, to see how they evaluated the attractiveness of these market opportunities.

Notes

Summary



0m 41s



“So to learn about the different markets, we did quite a lot of research. Of course first was you know, evaluating the market and reading a lot of articles about the industry. Looking at the problems they would meet and how we could, or potentially if we could, solve them with Elios and after that we went in the field and had customers interviewed and we confirmed that our ideas were correct. We went to a lot of trade shows as well where there is a high potential to meet all these actors of the industry. Among the opportunity we’ve seen before in the beginning, there was boiler in thermal power plant and here it was kind of straightforward because a boiler is a huge tower basically and there is a super heater at the top that needs to be visually inspected. To get there it requires weeks of shutdown to build a huge scaffolding to get people up there and be able to have them have a look at that. The environment is very simple, it’s a simple room, it’s like a chimney basically, so there is no constraint about the environment and flying a drone in there is very unlikely unless you have a protective cage. So the core abilities of the drone were really aligned with the environment.

Notes

Summary

1m 26s





It was very simple to get up there and find this very confined space and get the required information. In terms of potential there is there is a lot of plants around the world. We evaluated them over fifty thousand plants worldwide and there is a need to inspect these plants once a year, so this makes a lot of opportunity to sell a drone and the sales is straightforward. They always look for means to lower the cost of the operation to lower the downtime of the plant, because this is a lot of money that is wasted on maintenance operation basically. In terms of challenge, the technology was there. There had been other trial with conventional drone.

Notes

Summary

3m 03s



2

WORKSHEET 2

MARKET OPPORTUNITY EVALUATION

NAME Flyability

DATE

EPFL

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

Use this worksheet for every market opportunity you would like to evaluate.

Market Opportunity: Power plants – thermal boilers

POTENTIAL

LOW MID HIGH SUPER HIGH

COMPPELLING REASON TO BUY

Unmet need
Effective solution
Better than current solutions

LOW MID HIGH SUPER HIGH

MARKET VOLUME

Current market size
Expected growth

LOW MID HIGH SUPER HIGH

ECONOMIC VIABILITY

Margins (value vs. cost)
Customers' ability to pay
Customer stickiness

LOW MID HIGH SUPER HIGH

OVERALL POTENTIAL

CHALLENGE

LOW MID HIGH SUPER HIGH

IMPLEMENTATION OBSTACLES

Product development difficulties
Sales and distribution difficulties
Funding challenges

LOW MID HIGH SUPER HIGH

TIME TO REVENUE

Development time
Time between product and market readiness
Length of sale cycle

LOW MID HIGH SUPER HIGH

EXTERNAL RISKS

Competitive threat
3rd party dependencies
Barriers to adoption

LOW MID HIGH SUPER HIGH

OVERALL CHALLENGE

Use the overall ratings to situate each market opportunity on the Attractiveness Map.

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Which markets to play in?

They failed all the time, crashing in the upper part and so no real competition in place and people were really ready to buy the technology and start using it.” The first market opportunity which was evaluated was inspection of boilers in thermal power plants. Let's see how this evaluation is translated into the scales of worksheet 2. As Marc mentioned, the compelling reason to buy in this market is super high, the market volume is also quite high, and so is the economic viability due to large margins and customers ability to pay. So Flyability estimated the overall potential of this opportunity as high. Regarding the challenge, the firm already had the know-how for developing the drone and estimated both the implementation obstacles and the time to revenues as mid. The external risk seemed low because competition is limited and success is not dependent on other parties. So overall the challenge of this opportunity was estimated as low mid.

Notes

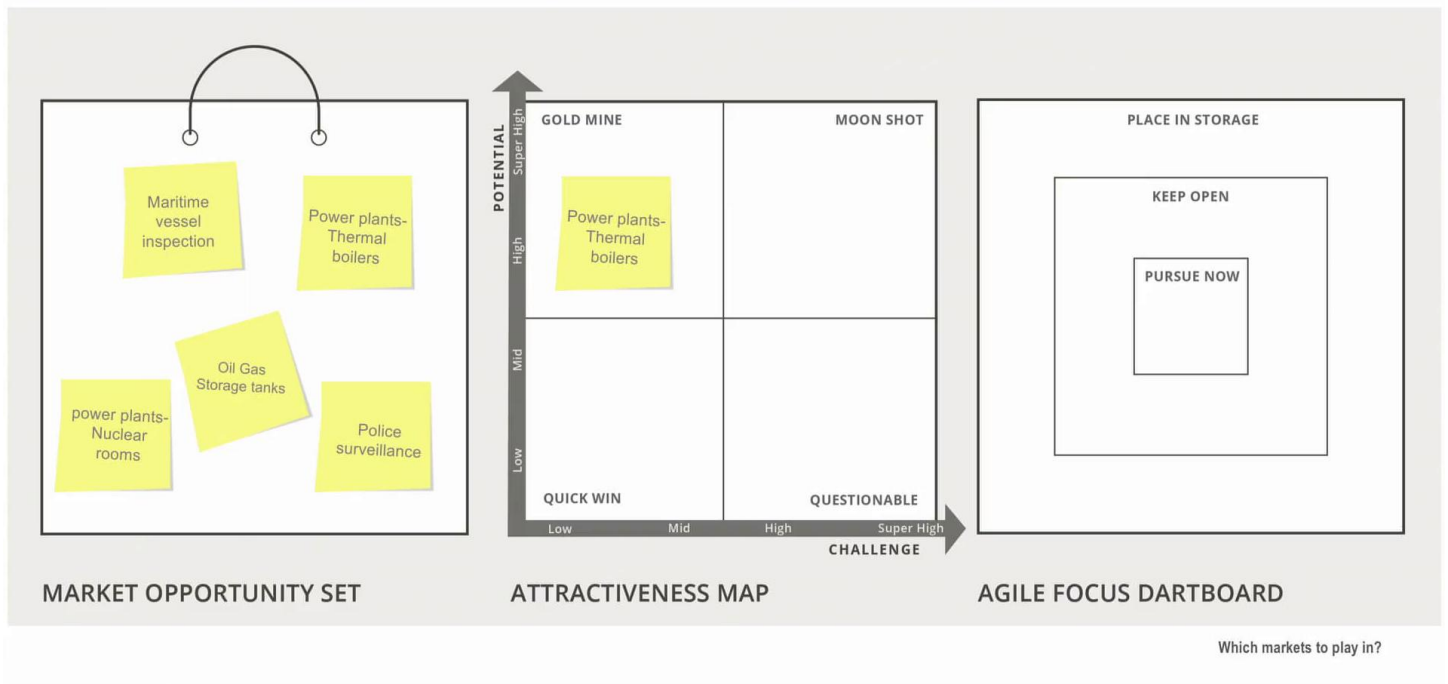
Summary

3m 56s

Week 3 - How to evaluate your market opportunities

6 of 18

The Market Opportunity Navigator- 2nd step



Overall this is an attractive market opportunity located in the goldmine quarter of the attractiveness map. Next, let's see how Flyability estimated the inspection of nuclear rooms in power plants.

Notes

Summary



5m 13s



“So for the nuclear power plant, among the opportunities we saw. I mean it's clear that said owners are looking into ways to limit the exposure of their workers to radioactivity so they're always looking into a solution that can help them in there. Now the challenge there is environment. Because it's radioactive, there is special development that need to be taken into account to make sure that the robot can be left a long time or actually a relatively long time in there and there is another threat which is competition because we know it's a very difficult environment and they have been looking into solutions already for a long time, so we're not the first one to think about that. There is already robots in this place and it's just adding a new approach and it needs time to validate that it works so that's one of the challenge. And still on the opportunity, the volume is relatively low because there are about 450 nuclear reactors in the world and we see that slowly they're starting to shut them down and to switch to other source of energy.” Let's summarize this information with worksheet 2.

Notes

Summary



5m 29s

2

WORKSHEET 2

MARKET OPPORTUNITY EVALUATION

NAME Flyability

DATE


ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Use this worksheet for every market opportunity you would like to evaluate.

Market Opportunity: Power plants – Nuclear rooms

POTENTIAL



LOW MID HIGH **SUPER HIGH**

COMPELLING REASON TO BUY
Unmet need
Effective solution
Better than current solutions



LOW MID HIGH **SUPER HIGH**

MARKET VOLUME
Current market size
Expected growth



LOW MID HIGH **SUPER HIGH**

ECONOMIC VIABILITY
Margins (value vs. cost)
Customers' ability to pay
Customer stickiness

OVERALL POTENTIAL

LOW MID **HIGH** SUPER HIGH



CHALLENGE



LOW MID HIGH **SUPER HIGH**

IMPLEMENTATION OBSTACLES
Product development difficulties
Sales and distribution difficulties
Funding challenges



LOW MID **HIGH** SUPER HIGH

TIME TO REVENUE
Development time
Time between product and market readiness
Length of sale cycle



LOW MID **HIGH** SUPER HIGH

EXTERNAL RISKS
Competitive threat
3rd party dependencies
Barriers to adoption

OVERALL CHALLENGE

LOW MID **HIGH** SUPER HIGH



 Use the overall ratings to situate each market opportunity on the Attractiveness Map.

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Which markets to play in?

While the compelling reason to buy and the economic viability of this market were estimated as super-high, the market volume is relatively low so the overall potential of this opportunity is mid high and as Marc said the overall challenge was estimated as high, especially due to high implementation obstacles and external risks.

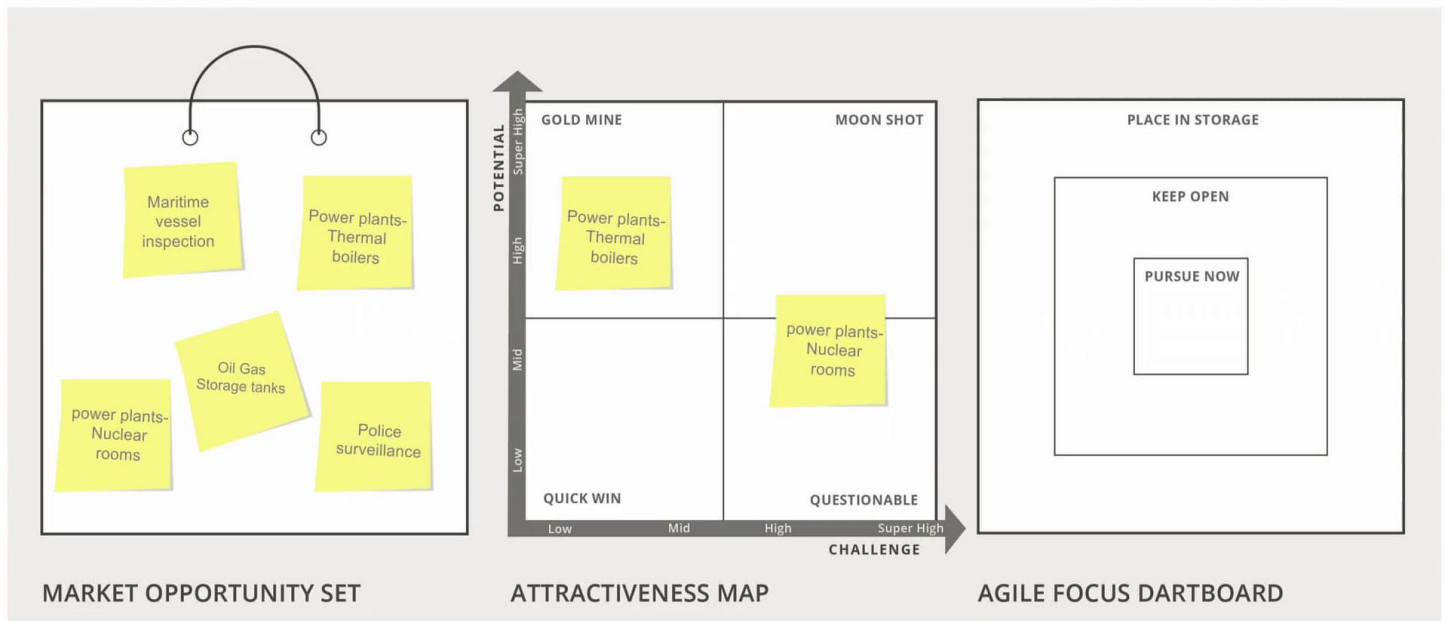
Notes

Summary

3.5 - Wrap up

9 of 18

The Market Opportunity Navigator- 2nd step



Which markets to play in?

Overall this market opportunity is located between the moonshot and the questionable quarters of the attractiveness map. Next, let's see how Flyability estimated the inspection of storage tanks in the oil and gas industry.

Notes

Summary



7m 27s

2

WORKSHEET 2

MARKET OPPORTUNITY EVALUATION

NAME Flyability

DATE

EPFL
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Use this worksheet for every market opportunity you would like to evaluate.

Market Opportunity: Oil & Gas Storage tanks

POTENTIAL

LOW MID HIGH SUPER HIGH

COMPELLING REASON TO BUY

Unmet need

Effective solution

Better than current solutions

LOW MID HIGH SUPER HIGH

MARKET VOLUME

Current market size

Expected growth

LOW MID HIGH SUPER HIGH

ECONOMIC VIABILITY

Margins (value vs. cost)

Customers' ability to pay

Customer stickiness

LOW MID HIGH SUPER HIGH

OVERALL POTENTIAL

CHALLENGE

LOW MID HIGH SUPER HIGH

IMPLEMENTATION OBSTACLES

Product development difficulties

Sales and distribution difficulties

Funding challenges

LOW MID HIGH SUPER HIGH

TIME TO REVENUE

Development time

Time between product and market readiness

Length of sale cycle

LOW MID HIGH SUPER HIGH

EXTERNAL RISKS

Competitive threat

3rd party dependencies

Barriers to adoption

LOW MID HIGH SUPER HIGH

OVERALL CHALLENGE

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Which markets to play in?

“So for the storage tank, actually the opportunity is huge because there are millions of storage tank in the world. They contain different kinds of product and they need regular inspections and today inspecting a tank is a long down time which is a waste of money. Sometimes it's multiple hundreds of thousands of dollars wasted over the downtime and then you have to build a whole structure in there to access the roof and look at every beams and extraction system, so it's a very huge opportunity. Now the environment is very complex because in these tanks you will store some products that have explosive properties so if you have gas left over in the tank it's very dangerous to have electronic equipment running in there so there is a lot of standard around there that you have to respect. And regarding this standard as we have first developed, it was not ready to sustain this kind of environment so it was more like driving a change to the customer of operating in a different way or adding some additional development to make sure that we can sustain the environment.” Let's go back to worksheet 2 to summarize the evaluation of this market opportunity. As Marc mentioned, Flyability estimated the overall potential of this market opportunity is high and so is the overall challenge. Mainly because of the need to comply with regulations for working in explosive environments.

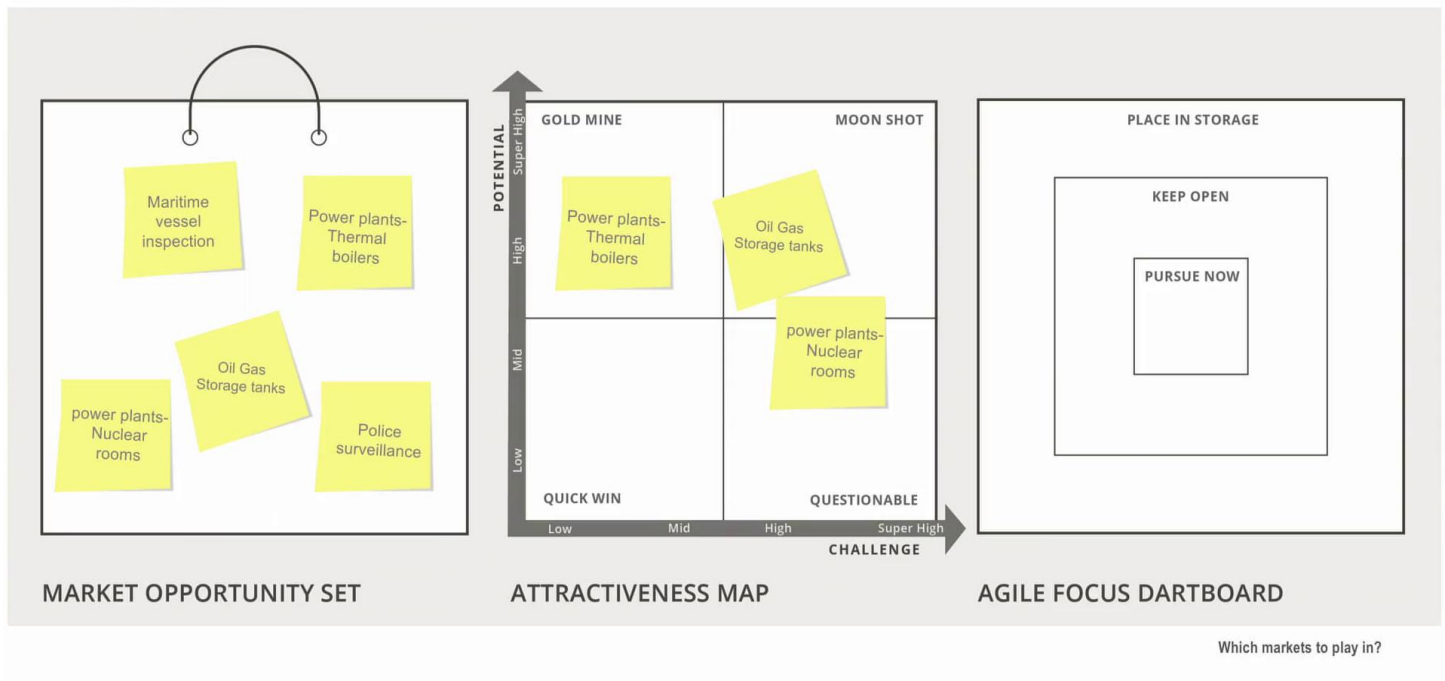
Notes

Summary

3.5 - Wrap up

11 of 18

The Market Opportunity Navigator- 2nd step



Overall this market opportunity is located on the moonshot quarter of the attractiveness map. Let's see now how Flyability estimated the fourth opportunity which was vessel inspection in the maritime industry.

Notes

Summary





“In the case of vessel inspection, the idea here is to inspect different parts of the vessel like fuel tanks or storage tanks. If you think of the oil and gas industry, again you have to transport some bold liquid so there is huge space that you have to inspect. There is also ballast tanks which are used to lower the level of the boat to make it more stable in the water. And all these parts of the boat have to be inspected every few years to keep their allowance to sail on the sea, basically. And in terms of opportunity, the market is smaller than other markets that we looked at because there is a limited number of boats around there, and there is few classification companies that are subject to use the drone for inspections. Now on the challenge side, one of the things that was a problem is the fact that a lot of the parts that need to be inspected are open so there might be wind. And this makes the inspection a bit more complex. However, if this industry starts to adopt the technology it should be straightforward in terms of sales because it's also very standard-driven so if they start to use one technology it's going to spread to the whole industry.” Again let's summarize the assessment of this opportunity.

Notes

Summary



10m 00s

2

WORKSHEET 2

MARKET OPPORTUNITY EVALUATION

NAME Flyability

DATE

EPFL
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Use this worksheet for every market opportunity you would like to evaluate.

Market Opportunity: Maritime vessel inspection

POTENTIAL

LOW MID HIGH **SUPER HIGH**

COMPELLING REASON TO BUY
Unmet need
Effective solution
Better than current solutions

LOW **MID** HIGH SUPER HIGH

MARKET VOLUME
Current market size
Expected growth

LOW MID HIGH **SUPER HIGH**

ECONOMIC VIABILITY
Margins (value vs. cost)
Customers' ability to pay
Customer stickiness

LOW MID **HIGH** SUPER HIGH

OVERALL POTENTIAL

CHALLENGE

LOW MID **HIGH** SUPER HIGH

IMPLEMENTATION OBSTACLES
Product development difficulties
Sales and distribution difficulties
Funding challenges

LOW **MID** HIGH SUPER HIGH

TIME TO REVENUE
Development time
Time between product and market readiness
Length of sale cycle

LOW MID **HIGH** SUPER HIGH

EXTERNAL RISKS
Competitive threat
3rd party dependencies
Barriers to adoption

LOW MID **HIGH** SUPER HIGH

OVERALL CHALLENGE

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Which markets to play in?

As Marc mentioned even though the compelling reason to buy is super high and so is the economic viability, this is a relatively low volume market as there is a limited number of classification companies worldwide. The overall potential was therefore estimated as mid-high. Now because this market requires high levels of navigation stability the overall challenge of this opportunity was also estimated as mid-high.

Notes

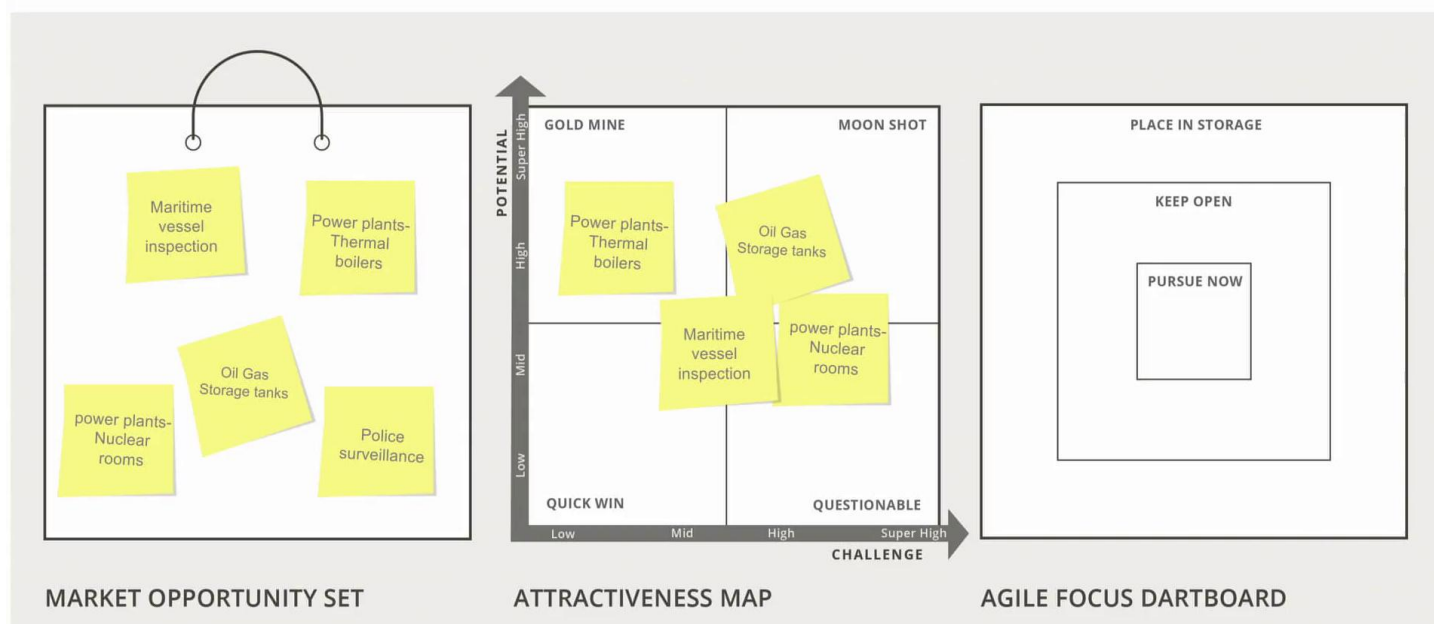
Summary

11m 47s

Week 3 - How to evaluate your market opportunities

14 of 18

The Market Opportunity Navigator- 2nd step



Which markets to play in?

Overall this market opportunity is located right at the middle of the attractiveness map with no clear location in any quarter. Lastly here is how Flyability estimated the intelligence and surveillance market for police forces.

Notes

Summary



12m 21s



“With regards to the opportunity of security, we are looking into scenarios where usually police forces are about to enter a place, but they don't know what's behind the door. So basically they're exposed to a high risk of facing something that might be a dangerous situation so what they do is they send the drone first. They have an overlook of the place, and they can assess the situation and then decide whether they send someone in there or not. The reason to use that technology is really straightforward so there is a super high potential. There are millions of policemen around the globe so if you think that at the end you end up with one drone in every police car, the potential of the market is really tremendous. Now when you look at the challenge to address such a market, there is one thing that needs to be considered. Your drone is going to end up in everybody's hand more likely, so you need to have a product which is very stable, that is very easy to use and that was not the case initially with the product. It's still hard to pilot. It requires competences to use it and there is another obstacle which is procurement. So, you're looking at government budgets so spendings are really controlled and it's very hard to get a foot in there.

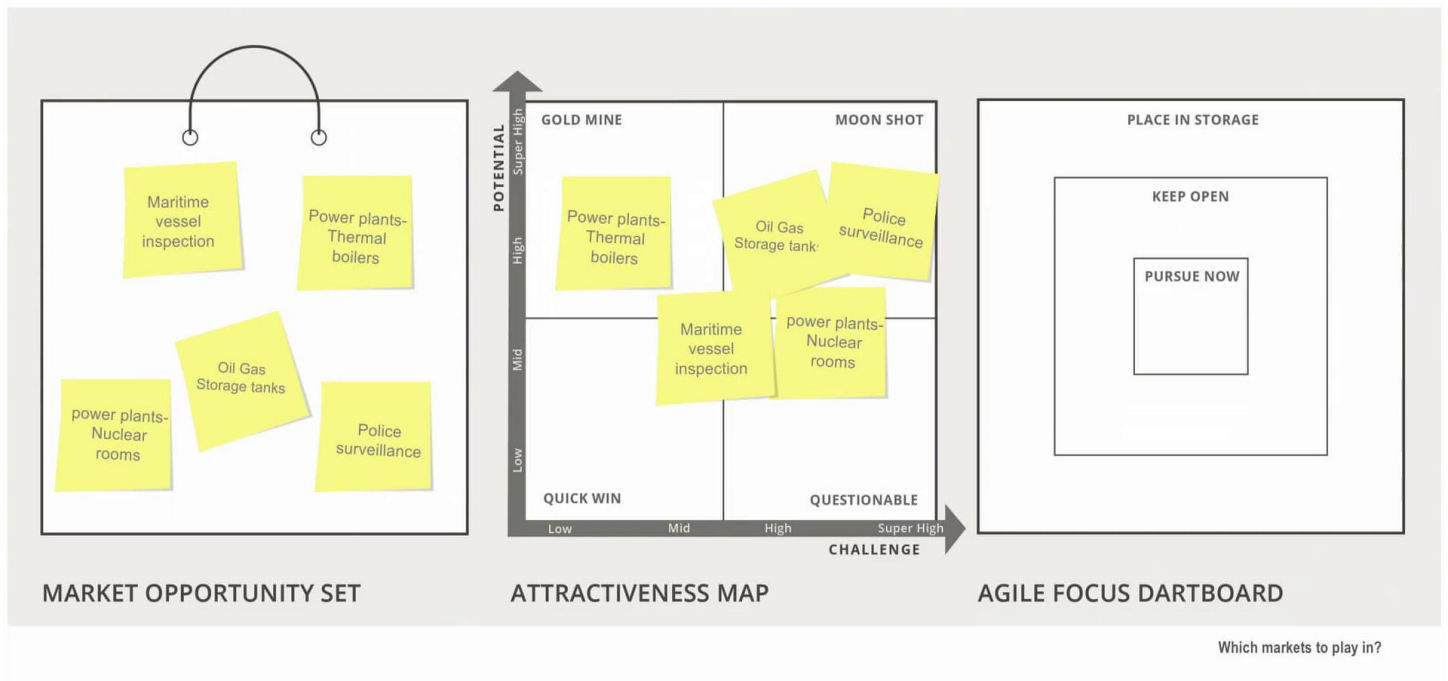
Notes

Summary

12m 39s



The Market Opportunity Navigator- 2nd step



Therefore, it is located in the moon-shot quarter of the attractiveness map. Finally, this concludes the attractiveness map of liability which enables us to see the full set of opportunities from a bird's eye perspective. While each market opportunity has its upsides and downsides, it seems that inspecting thermal boilers in power plants was the most attractive market opportunity for Flyability. In week four, we will see what they decided to focus on and how they designed their agile focused strategy.

Notes

Summary

