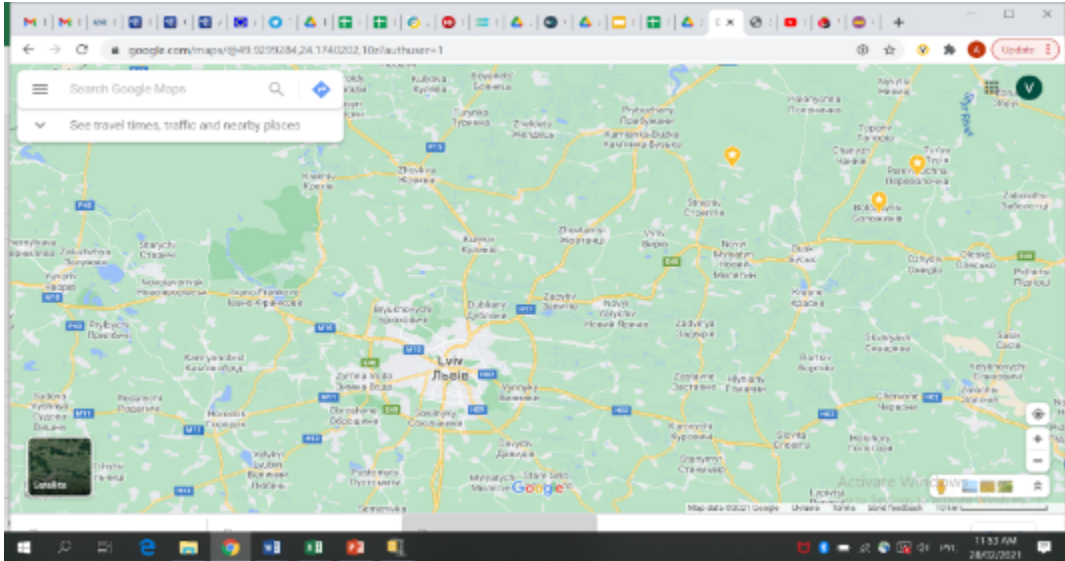


1. Introduction

1.1. Company overview

”Yak Bdzhola” is a newly established agriculture company that is specialized in herbs and berries plantations. It was founded in 2019. Located in Lviv region, the company can benefit from a climate acceptable for different types of berries.



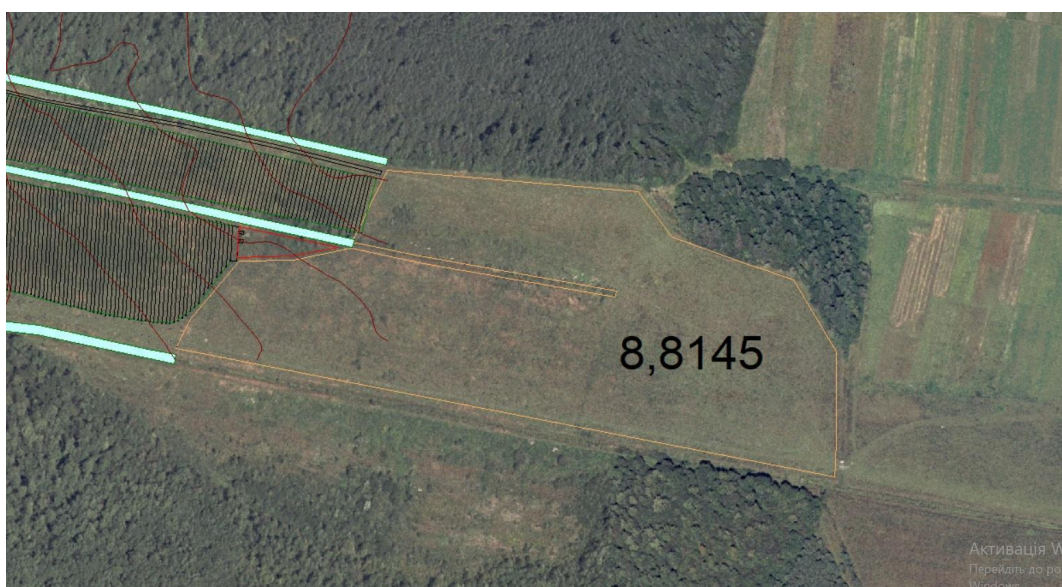
Picture 1. Production geography

As for 2022 the company already has 4 plantations. The oldest plantation is the berry project. This plantation is situated in the Eastern part of the Lviv region near the Bolozhyniv village. The total area of the plantation is 20 ha distributed between strawberry, raspberry and blackberry fields. Roughly 10% of this area is dedicated to the recreation zone with barbeque place, mini-zoo with domestic animals like goats, sheep and mini-pigs. The plantation also has an eco-hotel on its territory. Eco-tourism is not considered as one of the main revenue streams, however it plays an important supportive role and besides that can be treated as a separate marketing activity.



Picture 2. Bolozhyniv -1

The second plantation was founded in 2020. First its focus was on dog-rose growing, which is wide-spread medical plant. Besides its popularity in the form of the dried berries, the dog-rose is also used as the main ingredient for traditional galych rose jam. However, further the company decided to use the part of this territory for strawberry and elderberry plantations, to distribute the plantation's seasonality and weather risks. The total area of this plantation is 9 ha.



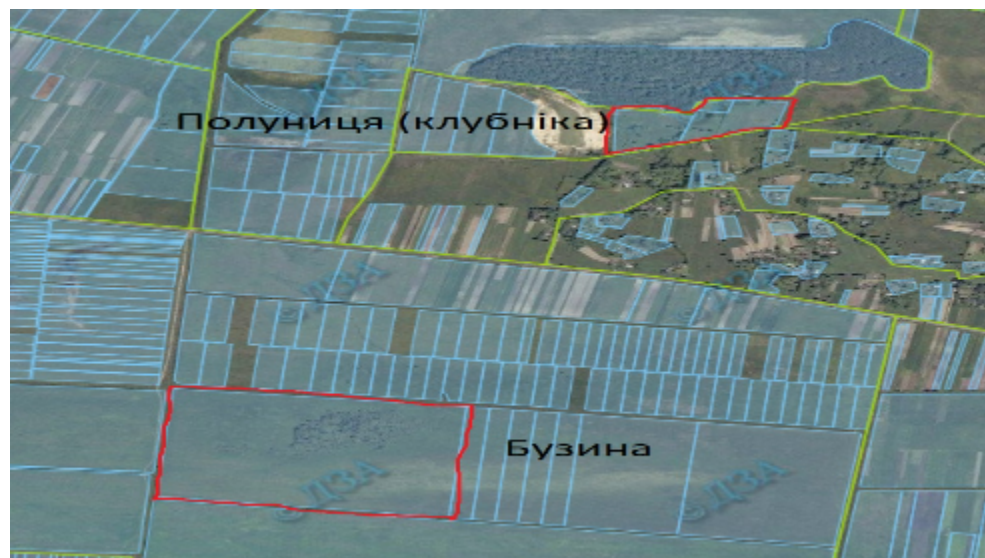
Picture 3. Bolozhyniv-2

The third plantation is dedicated to elderberries and dog-rose with focus on the dried berries. The plantation has a total area roughly 45 ha in the neighborhood of Sokolya village and was founded in the beginning of 2021.



Picture 4. Sokolya

Fourth plantation is situated near to the Perevolochno village of Lviv region and is focused on the two main cultures: strawberry and elderberry. The plantation was founded in the autumn of 2021 and expects its first production-scale harvest in 2023.



Picture 5. Perevolochno

Four plantations together form a production cluster that has joint assets such as a drying plant, transport and agricultural equipment.

Ownership of the joint assets is distributed between plantations proportionally to their equities.

All plantations have organic certification from the Swiss certification agency Organic Standard.

The management of the cluster and plantation is performed by the Management company (head office).

1.2. Market overview

1.2.1. European market

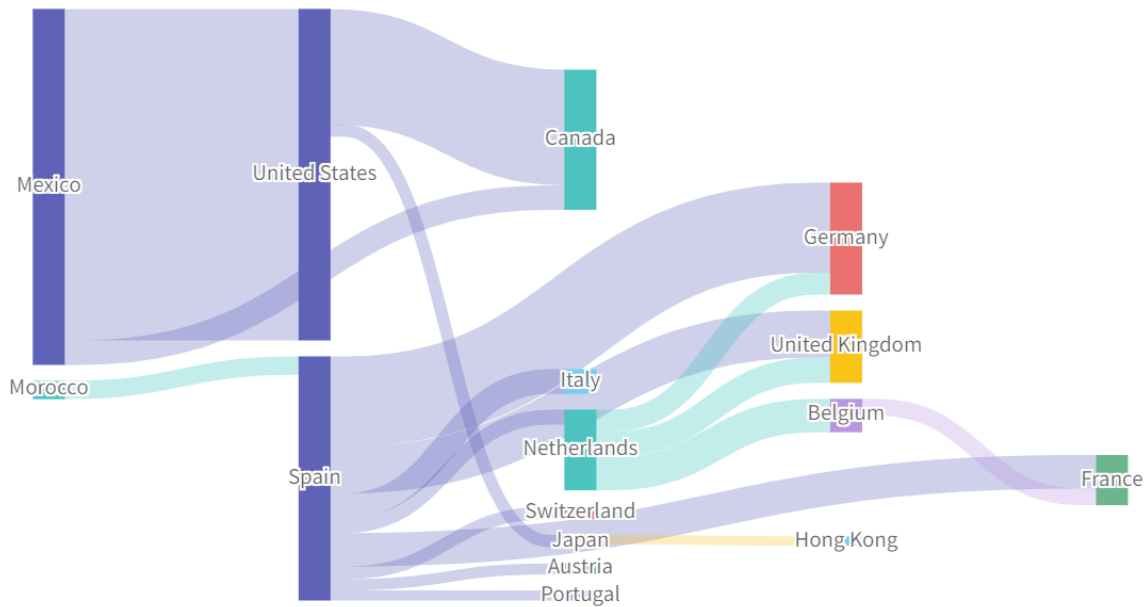
The company is focused on export with a small part of its production sold on the domestic market. Currently the company offers to the market the following goods and services:

- **fresh harvested berries** - strawberries, blackberries and raspberries according to the harvest seasoned can be sold fresh
 - to Silpo network according to the direct contract with Fozzy group (packaged)
 - directly at the location -mostly for tourists, who come to the recreation zone
 - through own address delivery (available in Lviv and Lviv region).
- **frozen berries in bulk** - strawberries, blackberries, elderberries and raspberries are sold in bulk to the European market through agrotaders. Main end customers are food and drink producers. Frozen berries are used as ingredients for the yogurts, drinks, and confectionery products. The company is already in negotiation regarding the direct supply contracts with a few European producers starting from 2023-2024 (when it will reach its full production capacity).
- **dried elderberries and hope-rose berries** - also sold to the Europe through traders but with focus on pharmaceuticals producers
- **drying service** - ledning of drying plant to the third parties
- **eco-tourism** - accepting visitors and excursions at the farm and plantation

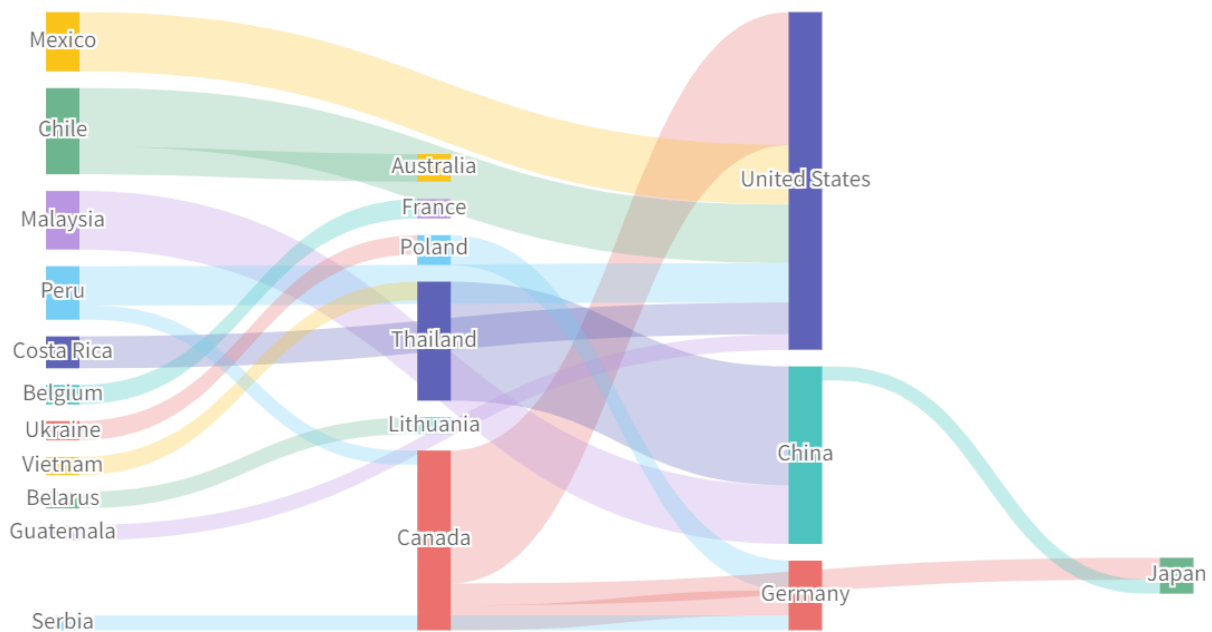
The worldwide berry market (limited to the four types of berries planted by Yakbdzhola) in 2020 reached almost 15 billion dollars in imports and demonstrated stable growth. Main importers of berries are the United

States, Canada, China, while in Europe Germany and the United Kingdom. At the same time the import-export flows from the American continent almost do not overlap with those on the European market.

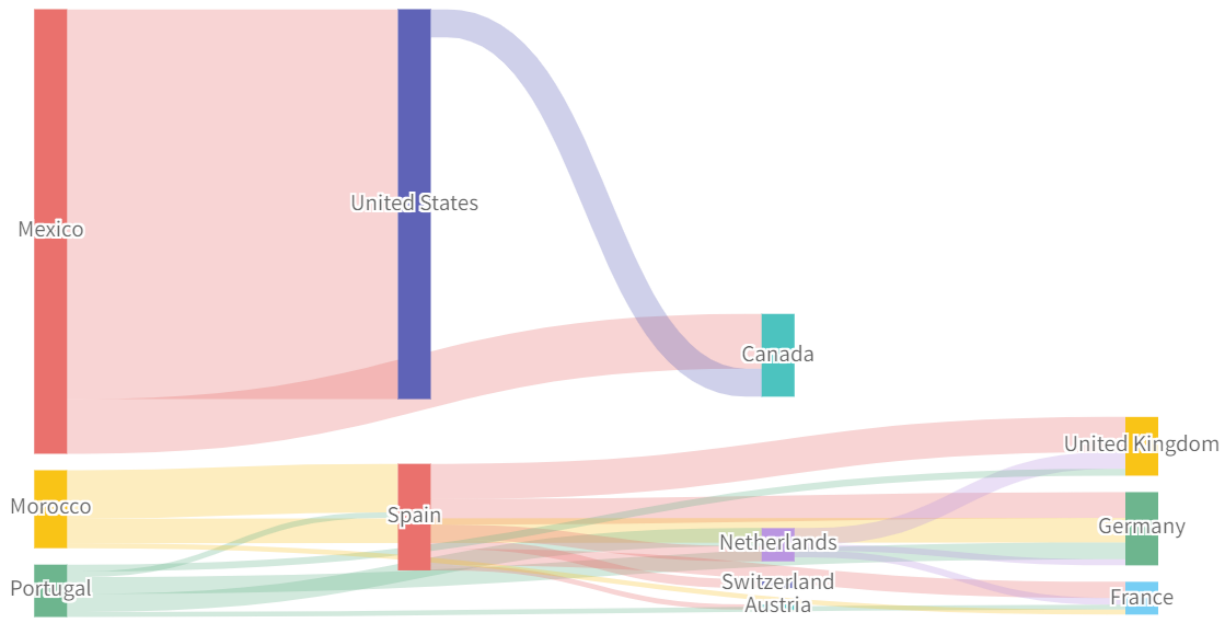
The charts below show main export-import flows of berries.



Picture 6. Import - export flows of strawberry 2020. <https://www.tridge.com/intelligences/strawberry/import>



Picture 7. Import-export flows of elderberry 2020
<https://www.tridge.com/intelligences/elderberry/import>



Picture 8. Import-export flows of blackberry and raspberry 2020
<https://www.tridge.com/intelligences/blackberry/import>

Such structure of export-import flows demonstrates that European demand in berries fully depends on internal production.

Separately we should highlight the situation on the elderberry market. Elderberry is a comparably new rapid growing culture (it grows with a CAGR 4,19%). Its demand boomed after shortage in blueberry production, and a lot of food and drinks producers were forced to replace blueberry with elderberry in blueberry flavored beverages and yogurts. Moreover, elderberry is used as a natural deep purple coloring. Additional demand for elderberries was created by COVID-19. The berries and flowers of elderberries are packed with antioxidants and vitamins that may boost your immune system. They could help tame inflammation, lessen stress, and help protect your heart, too. Some experts recommend elderberries to help prevent and ease cold and flu symptoms. So nothing strange that after the pandemic the demand on elderberry contained vitamins also boomed.

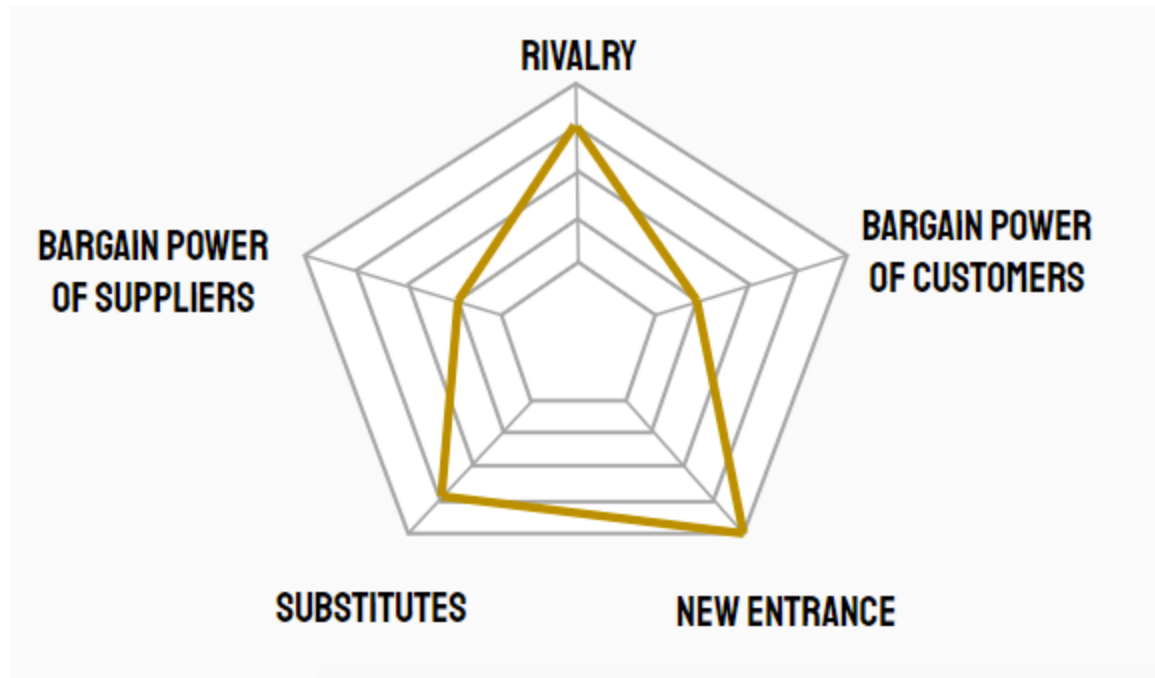
Elderberry plants are deciduous and are commonly many-trunked shrubs or small trees. On the European continent it is spread only in one climatic belt of Ukraine, southern Poland and Belarus and northern

Romania. Being a wild-growing plant it is at the same time almost impossible to grow in the production scale in other climatic regions.

In Ukraine the elderberry is very common and that is why Ukraine has a great potential of covering the European demand. However most of the berries that can be gathered on such wild growing trees do not satisfy European quality standards. Most of the wild elderberry trees grow along the highways, so the berries have high concentrations of heavy metals and toxic elements that are unacceptable for the European food production industry. Moreover, small parties of manually gathered wild berries require a lot of expenses on laboratory control, that is why buying from the population is unpreferable for European trading companies. The combination of these factors gives a huge advantage to the organic certification bulk producer of elderberry such as YakBdzhola.

1.2.2. Ukrainian market

On the local market there are a number of berry producers, who specialize in strawberry, blackberry or raspberry. The market is highly competitive, with a large number of small producers and low barriers to entry for a new player. Considering that very often berries are sold unbranded or under the retailer brand (white labels) producers are forced to the price competition. The total revenue of producers of berries, bush fruits and nuts in 2020 exceeds 1 billion UAH. The top 5 producers embrace together less than 15% of the market. The chart below demonstrates the evaluation of Porter's five market forces on the local market.



Picture 9. Porter's five forces of internal berry market in Ukraine

At the same time only a few producers produce organic production. The number of organic certified agriculture (not only berries) producers are limited to roughly 100 companies.

1.2.3. Impact of Russian invasion

On 24th of February 2022 Russia invades Ukraine territory. This fact, among other horrific consequences, highly impacted the agricultural sector of Ukraine. In the Eastern and Southern regions of Ukraine the sowing campaign was canceled because of the high risk of shelling and mines. Considering the southern regions of Ukraine to be the main suppliers of strawberry on the internal market, due to the war we can expect shortage of supply and price growth.

The worldwide market of strawberries is not likely to suffer a lot from the Russian war in Ukraine, in contrast to the elderberry market, where Ukraine, Poland and Belarus were among the main exporters of elderberry. So we can expect lower supply and higher demand, that will be a result of further shortage of blueberry (mostly produced in Belarus), that will result in higher global prices.

YakBdzhola is situated in the western part of Ukraine, so the territory of its plantations was not occupied by enemies, so the war had no negative influence on the 2022 spring sowing campaign.

1.3. Financing strategy overview

First the YakBdzoha company was founded by three co-founders experienced in agricultural production. Soon the co-founders understood the necessity of engaging additional funding to scale. Given the company's mission to build a community of wealthy people who can easily benefit from their own mother land, YakBdzhola co-founders decided to engage "crowd-funding style" investors instead of creditors to fund the further development.

Currently the company is financed by external investors who become minority shareholders of a particular plantation. This relationship is regulated by an agreement of participation in a production cooperative. Each of these investors regardless of the size of share has the right of vote and the right of veto in strategic decisions related to the plantation he owns. Investors can quit cooperative anytime they wish with the right to receive 90% of the initial contribution amount.

The managing company "Yak Bdzhola" is responsible for marketing, operational and people management. As a result it receives 15-35% of profits from each plantation.

The share of dividends the investor will receive depends on the size of initial contribution:

- from 30 to 100 UAH enable investors to earn 65% of profits per share
- from 100 to 300 UAH enable investors to earn 75% of profits per share
- above 300 th UAH enable investors to earn 85% of profits per share

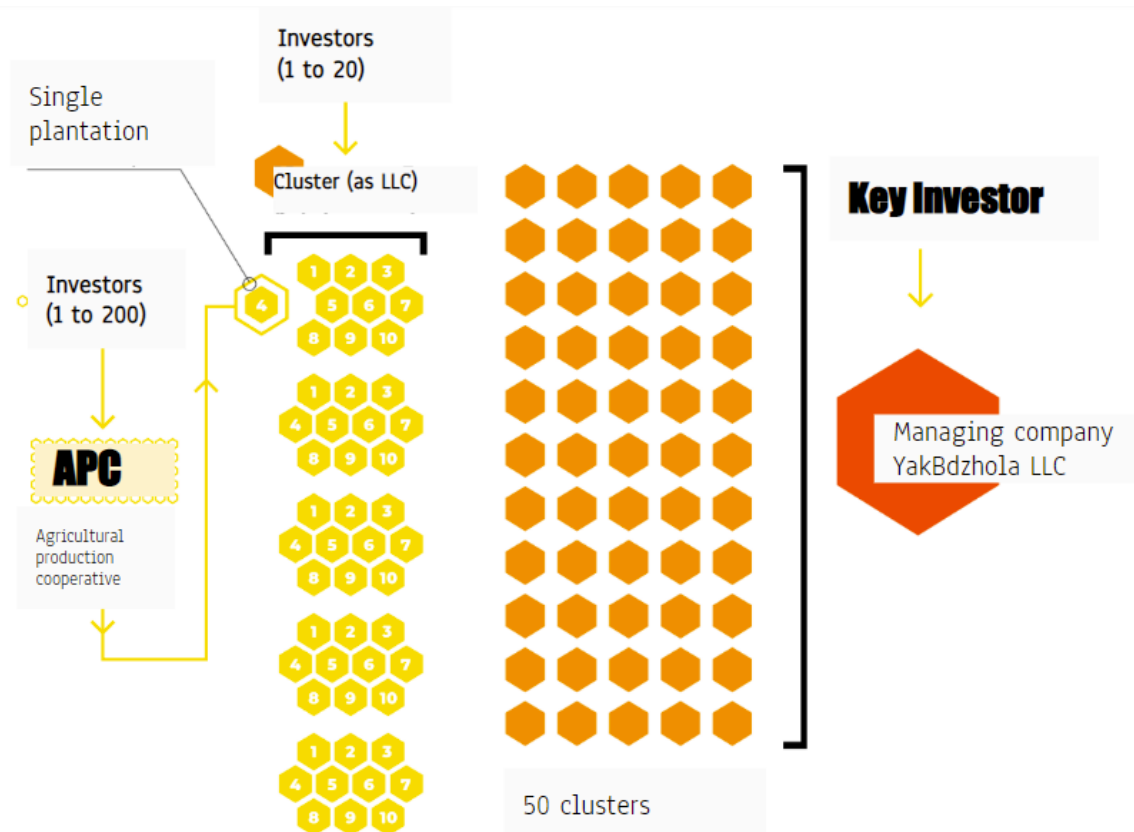
2. Business Goal:

2.1. Growth plan

- Increase number of clusters up to 30% by end of 2023
- Increase in revenue up to 20% by end of 2023

The company is planning to grow on this business model and benefit from the economy of scale and forward integration.

It has an ambitious plan to continue engaging external investments and to extend the current "cluster of plantation" structure. By 2030 the company wants to reach 120 mln USD of revenue and roughly 20x the number of current investors. The picture below demonstrates the vision of further expansion.



Picture 10. Planned company structure, 2030

Given such an ambitious growth goal and long term payback of the projects, the company's goal is to stay attractive for new investors and minimize the risk of rapid decrease in the number of current investors. Since the managing company has an obligation to return 90% of the investor's contribution amount on demand, massive shortage of investors will be equivalent to the "bank run" and will lead to the immediate company bankruptcy.

This risk is extremely high in war time. General uncertainty of the market makes people try to get back into cash as soon as possible.

So the company goal is to stay attractive to the current (first priority) and potential (second priority) investors.

2.2. Investing climat

Despite the total investing rating of Ukraine being low, locally on the domestic level there is a strong demand for personal investing opportunities (peer-to-peer credits or small share investments).

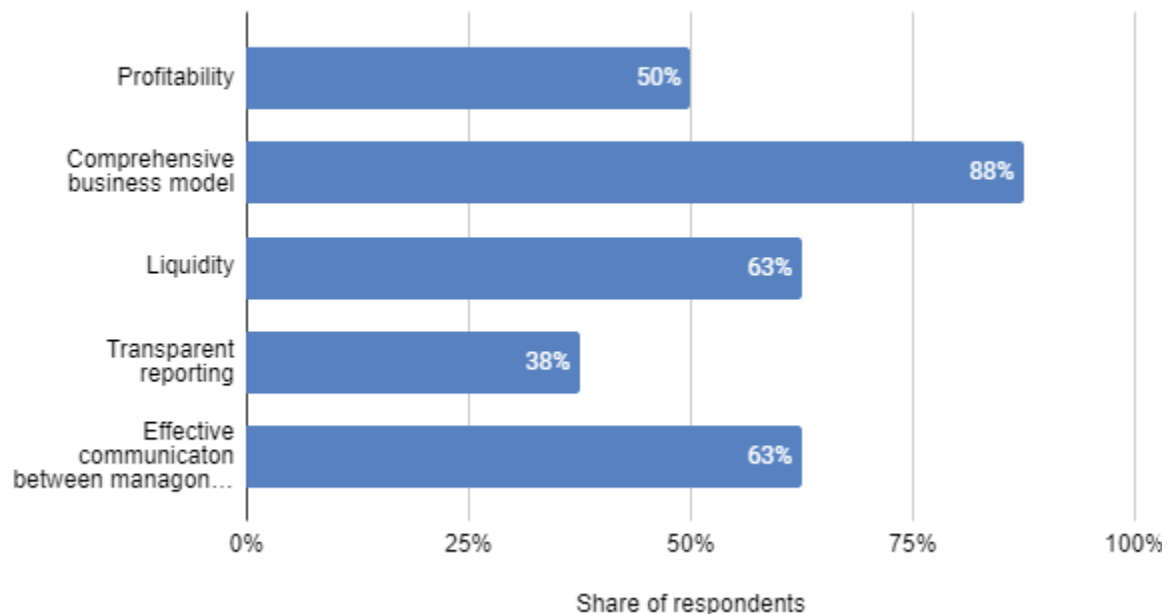
For instance one of the community investment clubs focused mostly on the local Ukrainian market, [UkrInvestClub](#), attracted nearly 27 USD millions into 1700 agreements.

Given the growing trend of domestic investments in the pre-war period, YakBdzhola may expect, in case of fast economic recovery of Ukraine, opportunity to rapid growth with the investors money. To use this opportunity YakBdzhola should take into account and meet the main criteria of how investors select where to invest and with which company to stay.

To crystalize the problem we performed the survey in different investment communities with focus on people, who are already shareholder investors or are interested in such kind of investment, not only fixed interest agreements. From the result of the survey we can see that a comprehensive business model and effective communication between investors and managing companies are among the most important criteria for investors to select the proper investment, while profitability of investment is only on the 4th place out of five criteria.

Investors also highlight, in survey, that the most common problems in their investment agreement are poor communication of managing company with shareholders and problems related to badly developed or communicated business model.

Criteria to select the investment



Picture 11. Investors' survey result, Jan,2022

Thus we arrived with the assumption that by building comprehensive and extensive communication with its investors, YakBdzhola may secure itself from the risk of “bank run” and ensure further extension.

Despite full independence in operational and tactical decisions, the managing company has to share information regarding strategic decisions with its shareholders and receive their feedback. Otherwise it may face unfavorable consequences such as a reputation of non-transparency or even current investors’ willingness to leave.

Current approach to information sharing is messy and sub-efficient. Company uses a combination of zoom-meetings with investors, multiple-charts and document sharing with Google drive. As a result statuses are hard to keep up to date with all resources, and investors are disappointed with missing important notifications.

2.3. Investment to YakBdzhola

YakBdzhola offers investors opportunities with a flexible “commission” regarding the amount of equity contribution.

- investors with contribution from 30 to 100 th UAH receives 65% of profit earned per share
- Investors with contribution from 100to 300 th UAH receives 75% of profit earned per share
- contribution above 300 UAH receives 85% of profit earned per share

The rest is earned by the managing company.

Net profit of the cluster is distributed between plantations that form this cluster proportionally to their contribution to the cluster's equity.

The table below shows the earning plan for the investor, who contributes 5 mln UAH into Perevolochko plantation (Plantation 4, that produces enderberry and strawberry).

Output											
		Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
	Units	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Sales	UAH th	171	3,046	11,433	14,607	15,277	16,611	21,574	23,459	21,355	23,220
Net Income	UAH th	(1,289)	(55)	5,218	7,467	8,230	9,033	12,148	13,534	12,260	13,417
Net profit margin	%		-2%	46%	51%	54%	54%	56%	58%	57%	58%
Dividends paid out (total)	UAH th	-	-	2,656	3,800	4,189	4,597	6,183	6,888	6,240	6,829
CF for shareholders	UAH th	(5,000)	-	2,656	3,800	4,189	4,597	6,183	6,888	6,240	6,829
Discounted CF for shareholders	UAH th	(5,000)	-	2,195	2,855	2,861	2,855	3,490	3,535	2,911	2,896
Cumulative discounted CF for sha	UAH th	(5,000)	(5,000)	(2,805)	50	2,912	5,766	9,256	12,791	15,702	18,598
DPB	years	3.4									
NPV (10 years)	UAH th	18,598									
IRR (10 years)	%	50.75%									

Picture 12. Calculation of financial result and net present value of money for a single investor.

3. Business Objectives:

Given the problem of poor communication with investors and critical necessity for attracting new investors and keeping existing, we came up with the idea to perform the digital transformation of YakBdzhola business that will enable better comprehension of companies business model, easy and effective engagement of investors into the decision-making process and transparent process.

- Cost reduction by 10%
- Decrease revenue leakage
- Increase brand awareness

The project hypothesis is that investors are more loyal to the transparent business and are less likely to take out their contribution given the same level of profitability. That's why, taking into account, that the war has not influences the YakBdzhola business directly, it's main goal is to avoid the war and crisis related panic that may lead to the "bank run".

To prove the hypothesis we have performed the following research. We have asked investors in different interest groups in Ukraine to answer the

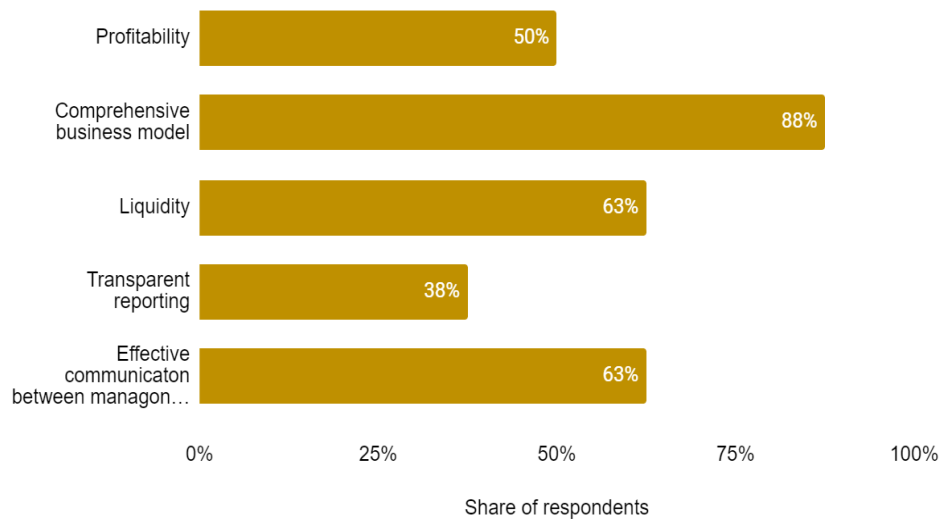
short questionnaire to understand what are the main criteria to invest to the business (or to stay and not take money back).

According to the questionnaire we detect the following:

- Investors select business by transparency not profitability
- Investors think the most common problems are poor communication and badly developed business model

The picture below shows the full distribution of options

Criteria to select the investment



Picture 13.
Investors' questionnaire results.

4. Problem Statement:

#	Problem is	It affects	Impact
1.1	Absence of transparent decision-making process	Lead time of core business functions	<ul style="list-style-type: none"> ● Investor leakage ● Revenue leakage ● Inefficient cost spending
1.2	Absence of clear processes of managing clusters	Management of clusters	
1.3	Absence of centralize monitor and control system	Define issues on the early stage. Attract potential investors	
1.4	Inefficient way to store and manage documents	Lead time of core business functions	<ul style="list-style-type: none"> ● Information leakage ● Human error ● Potential law sue
1.5	Inefficient way of communication with Investors	<ul style="list-style-type: none"> ● Process of investors engagement 	<ul style="list-style-type: none"> ● Investor leakage
1.6	Weak brand awareness	<ul style="list-style-type: none"> ● Process of investors 	<ul style="list-style-type: none"> ● Attract new investors

		engagement	
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Business Requirements

#	Description	Comments	Role	Status
BR.0 1	The system should support several user roles and systems levels to support access management and scalability	CORE	Manager/Investor	Approved
BR.0 2	The system should support SSO mechanism of login and logout by: <ul style="list-style-type: none"> • Social networks • Corporate Email • External Email 	CORE	Manager/Investor	Approved
BR.0 3	The system should support Investors and Management interfaces	CORE	Manager/Investor	Approved
BR.0 4	The system should allow users with corresponding rights manage information <ul style="list-style-type: none"> • Add/Edit/Delete an article • Search an article 	Bee Informed (Wiki)	Manager/Investor	Approved

BR.0 5	The system should allow users with corresponding rights view, upload and download documents to/from the system on the corresponding access level	Bee Document	Manager/Investor	Approved
BR.0 6	The system should collect and present information based on Manager or related investor request	Bee Analytics	Manager/Investor	Approved
BR.0 7	The system should allow Manager to setup KPI monitoring dashboard	Bee Analytics	Manager	Approved
BR.0 8	The system should allow Investor and management the following ways of communication: <ul style="list-style-type: none"> ● Q&A Forum ● IM chat ● Bot chat ● Voting 	Bee Connect	Manager/Investor	Approved
BR.0 9	The system should allow user with corresponding rights to CRUD: <ul style="list-style-type: none"> ● Management Company ● Cluster ● Plantation Project 	Investor engagement	Manager	Approved

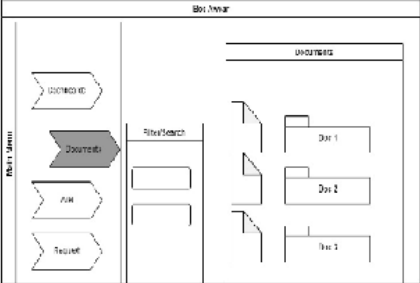
	In order to setup corresponding environment			
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1. Opportunity canvas

As a first step to initiate the project we started with analysis of the current situation and to be state by using opportunity canvas. This brought us to the problems we were trying to solve, weighting alternative scenarios, establishing high-level metrics and potential solutions.

1.1. Document Management

OPPORTUNITY NAME **Document Management**

<p>WHAT IS THE DESIRED OUTCOME?</p> <p>Ability to store, manage and share docs in context</p>	<p>WHAT ARE THE MEASURES OF SUCCESS?</p> <p>Time reduction Success rate - 100%</p>	<p>HOW BIG IS THIS OPPORTUNITY?</p> <p>~ 1K</p>
<p>WHO WANTS THIS?</p> <p>Management and Investors</p>	<p>WHAT IS THE BIG PICTURE?</p> 	
<p>WHAT PROBLEMS ARE WE SOLVING?</p> <p>Document storage issue Management documents in the one place</p>	<p>HOW DOES THIS OPPORTUNITY ADVANCE OUR STRATEGY?</p> <p>Technical Transformation</p>	<p>WHAT ARE SOME POSSIBLE SOLUTIONS?</p> <p>Document Storage Upload/Download Drag and Drop</p> <p>WHAT ARE THE ALTERNATIVES OUT THERE?</p> <p>MS Sharepoint Google Drive</p>

1.2. Information Management

OPPORTUNITY NAME

Information Management

 WHAT IS THE DESIRED OUTCOME?

Personalized Information

 WHAT ARE THE MEASURES OF SUCCESS?

Usage rate

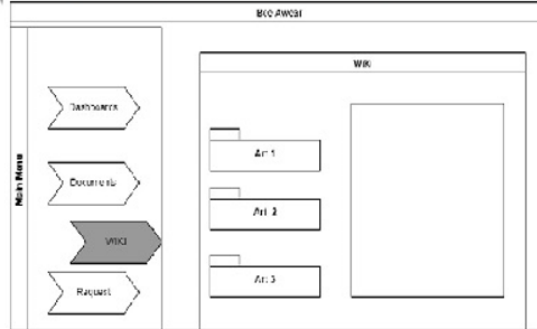
 HOW BIG IS THIS OPPORTUNITY?

~ 1K

 WHO WANTS THIS?

Managers and Investors

 WHAT IS THE BIG PICTURE?



 WHAT ARE SOME POSSIBLE SOLUTIONS?

Wiki pages

 WHAT PROBLEMS ARE WE SOLVING?

Information Governance






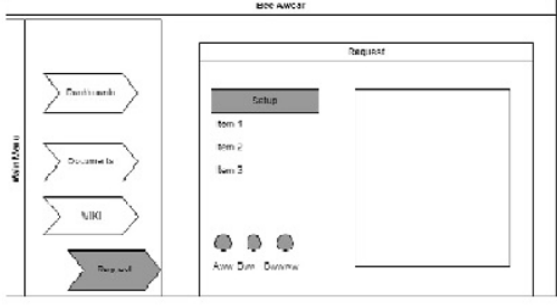




 HOW DOES THIS OPPORTUNITY ADVANCE OUR STRATEGY?

Technical Transformation

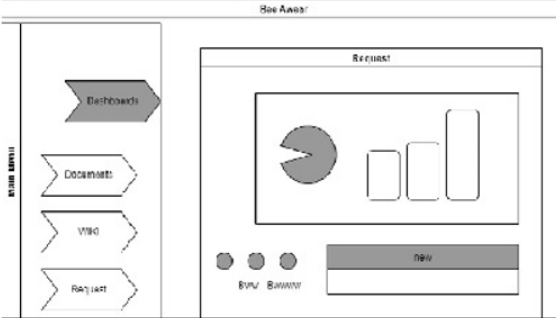
 WHAT ARE THE ALTERNATIVES OUT THERE?

Tiddly Wiki
Zim
Confluence

1.3. Communication Management

OPPORTUNITY NAME		Communication Management	
 WHAT IS THE DESIRED OUTCOME? Single Phase of commuciation	 WHAT ARE THE MEASURES OF SUCCESS? Decrease level of investor complaints	 HOW BIG IS THIS OPPORTUNITY? ~1K	
 WHO WANTS THIS? Managers and Investors	 WHAT IS THE BIG PICTURE? 		 WHAT ARE SOME POSSIBLE SOLUTIONS? Request info Posting question Voiting
 WHAT PROBLEMS ARE WE SOLVING? Communication issue	 HOW DOES THIS OPPORTUNITY ADVANCE OUR STRATEGY? ...		 WHAT ARE THE ALTERNATIVES OUT THERE? Telegram Viber Google Chat

1.4. Analytics

OPPORTUNITY NAME		Analytics	
<p>WHAT IS THE DESIRED OUTCOME?</p> <p>Collect data and configure dashboards for making a decision</p>	<p>WHAT ARE THE MEASURES OF SUCCESS?</p> <p>3 major sets of KPIs</p>	<p>HOW BIG IS THIS OPPORTUNITY?</p> <p>~1K</p>	
<p>WHO WANTS THIS?</p> <p>Manager</p>	<p>WHAT IS THE BIG PICTURE?</p> 		<p>WHAT ARE SOME POSSIBLE SOLUTIONS?</p> <p>Data collection Reporting Dashboarding</p>
<p>WHAT PROBLEMS ARE WE SOLVING?</p> <p>Monitoring and control</p>	<p>HOW DOES THIS OPPORTUNITY ADVANCE OUR STRATEGY?</p> <p>Technical Transformation</p>		<p>WHAT ARE THE ALTERNATIVES OUT THERE?</p> <p>MS PowerBI</p>

2. Project Scope

Bee Aware is an agriculture software solution to manage day to day business activities and investor engagement. The MVP of the product would include the following Modules and subsystems:

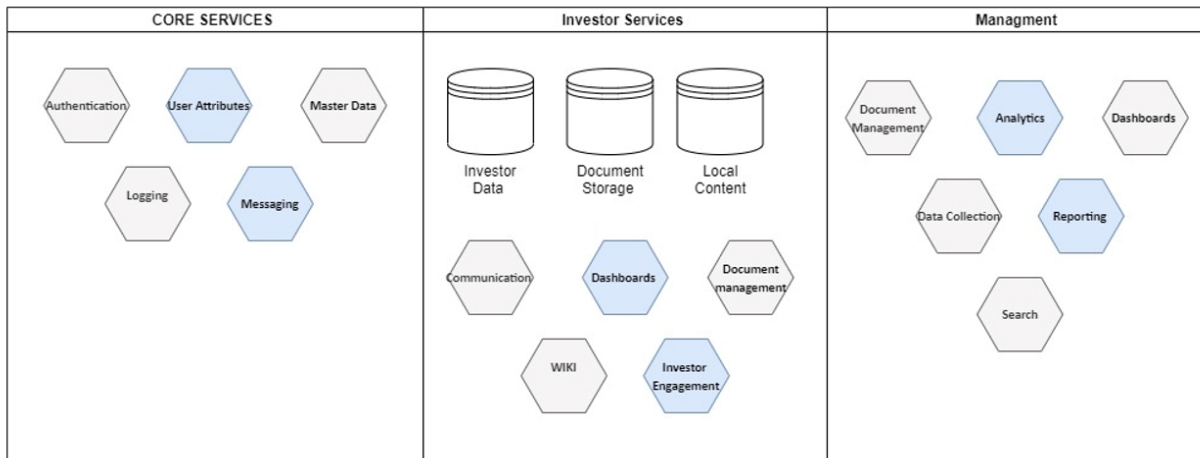
- Core subsystem
- Info WIKI
- Document management
- Analytics
- Connection management

- Investor engagement

3. High-level Architecture

Software product architecture represents following structure:

-
- 20 microservices
- 50 + Data Objects
- Mongo DB data base

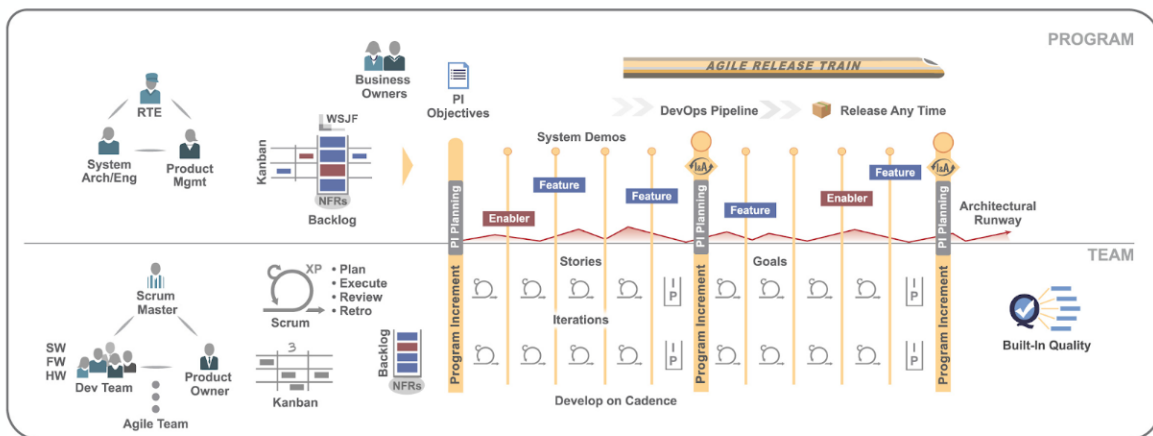


Pic.1.1 Microservice Architecture

4. Delivery Approach

During product discovery, we stopped our choice on the scale agile framework (SAFe) as the most suitable for the project and business requirements standpoint.

SAFe promotes alignment, collaboration, and delivery across large numbers of agile teams. It was developed by and for practitioners, by leveraging three primary bodies of knowledge: agile software development, lean product development, and systems thinking

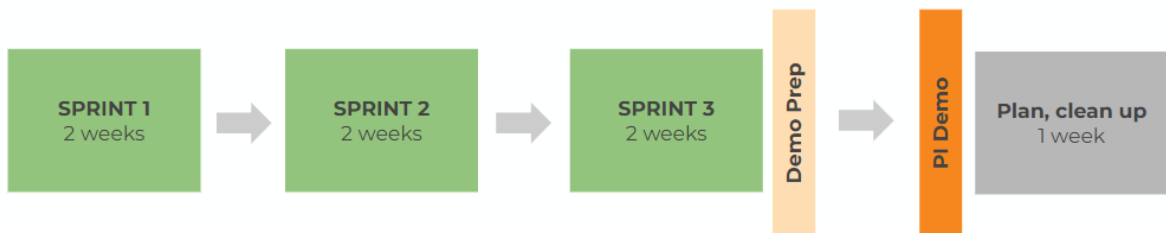


<https://www.scaledagileframework.com/>

4.1. Program Increment

The Program Increment includes 3 business development sprints and could also include stabilization sprint and clean up week.

Program increment (PI) - 7 weeks



4.2. Feature and PBI requirements

Features should not span more than 1 program increment (~6 weeks).

Features may have

multiple child stories/PBIs that are being worked on by one or more delivery teams.

Stories/PBIs should not span more than 1 sprint (~2 weeks). Stories/PBIs are owned by a

single delivery team; they may be required to collaborate with other teams that are responsible for other Stories/PBIs required to deliver the parent feature, but it is a single team's responsibility to deliver the working software for the Story/PBI.

Epic - for Release (2 PIs / 1 Quarter / 15 weeks / 7 sprints) End User to focus

Feature - targeted for 1 PIs (7 weeks / 3.5 Sprints) PO to focus

Stories (PBIs) - up to 1sprint / 2 weeks. BA, SME to focus

4.3. Feature and PBI lifecycle

- Story/PBI States with Exit Criteria
- New - Exit Criteria: Story meets the Definition of Ready (DoR)
- Refined – Exit Criteria: Story reviewed/approved by Product Owner
- Approved - Exit Criteria: Story has been planned into a sprint
- Committed - Exit Criteria: At least one child-Task has started
- In Progress – Exit Criteria: Story meets the Definition of Done (DoD)
- Done – No more work

- IMPORTANT: If a Feature or Story/PBI starts late in the cycle, then it is likely to span across
- the Program Increment or Sprint. The goal is to minimize this, but it is not completely
- avoidable. When this happens, the entire Feature or Story/PBI needs to be discussed with the
- POs to determine if it advances to the next iteration or if it goes to the backlog for future
- prioritization. The effort or business value does not change

- Stories/PBIs should be written for both development (front-end and back-end) and QA testing
- activities. This ensures a shippable, valuable work that could be deployed to production. There
- are several factors to be considered:
 - The ratio between the Development effort and QA effort needed given the Stories/PBIs.
 - There should be a 15%-20% of development capacity planned for bug fixing.

- o The timing and sequencing of the task assignments.
- o The cross-team collaboration for integration activities.

4.4. Estimation Approach

- Story Point = f (efforts, complexity, risks (uncertainty))
- Story Points = Fibonacci sequence: 1, 2, 3, 5, 8, 13, 21, 34....
- Relatively estimation - compare one PBI to another PBI to decide on estimation!
- Estimation in Story Points - this is a Team estimation (not separate BE, FE, QA)
- Planning poker, we review max & min estimates and as a team agree on one specific number

4.5. Definition of Ready

User story

- User story defined
- User story acceptance criteria defined
- UX/UI design define
- Architectural design is ready
- User story sized by the delivery team
- Scrum team accepts user experience artifacts
- Performance criteria identified
- The Person who will accept the user story is identified
- A Team is able to 'demo' the user story.

Sprint

- Prioritized sprint backlog
- Defects, user stories and other work the team has committed to are contained in the sprint backlog
- No hidden work

- All team members have calculated their individual capacity for the sprint
- All users' stories meet the definition of Ready.

4.6. Definition of Done

- Design Documents completed and approved
- Code developed
- User Guides / Operating instructions are complete
- Testing complete
- All defects resolved
- Release notes are complete
- Acceptance Criteria met and product accepted
- Change Control complete
- Deployed to production environment

4.7. USER STORY

A user story is a tool in Agile software development used to capture a description of a software feature from a user's perspective. The user story describes the type of user, what they want and why. A user story helps to create a simplified description of a requirement.

The purpose of a user story is to write down how a project will deliver value back to the end user. It is then the development team's job to take care of how to develop the code that will satisfy the requirements of the user story. In best-case scenarios, developers collaborate closely with the business owners and stakeholders to clarify the details as the code gets developed. User stories do not replace use cases or technical requirements documentation. Instead, user stories can be written by product developers to help prioritize how functionality is going to be added to a project over the project timeframe. A user story can be considered a starting point to a conversation that establishes the real product requirement.

<https://www.techtarget.com/>

USER STORY TEMPLATE		
NAME	PRIORITY	ESTIMATES
STORY DESCRIPTION - AS A USER: - I WANT: -SO THAT:		
ACCEPTANCE CRITERIA: GIVEN: WHEN: THEN:		
UX/UI DESIGN: REFERENCE		
TECHNICAL DESIGN: REFERENCE		

5. Solution Comparison

To initiate potential solutions with alternative scenarios we need to identify stakeholders, their impact and interest in the initiative by such value attributes as project budget, implementation time, adaptability, reliability, usability, scalability and maintenance.

Based on stakeholders analysis and value attribute weights, we tried to come up with the best solution among 3 alternatives: “to leave as it is”, “to build product solution” from scratch, or “Buy ready solution”. In our case the best option identified was to build our own application in terms that satisfy

current business needs and enable business transformation to use applications for different similar tasks and look at the product SAAS strategy in the future.

	A	B	C	D	E	F	G	H	I	J
1										
2			VA	Project Budget	Implementation time	Adoptability	Stability	Usability	Scalability	Maintenance ...
3		Role	Influence	13%	19%	14%	13%	16%	14%	11%
4	1	Sponsors	1	3	1	1	1		3	1
5	2	Production director	0.7	1	2	2	2	2		1
6	3	Financial director	0.4	1	2	2	1	3		1
7	4	Sales director	0.3	1	2	2	1	2	1	1
8	5	Logistics manager	0.3	1	2	1	1	3	1	1
9	6	Chief accountant	0.3	1	2	2	1	2	1	1
10	7	Chief agronomist	0.2	1	1	1	1	4	1	1
11	8	HR	0.2	1	3	1	1	4		
12	9	Clients	0.1				2	8		
13	10	Program Director	0.9	2	4		1	1	1	1
14	11	Partners	0.2	1	1	6			1	1
15	14	Investors	0.6			3	2	2	2	1
16	15	Development Teams	0.5	1	3	1	1	1	3	
17	16	Operation & support	0.3				2		2	6

Pic.1.2 Stakeholders analysis

As a result of our analysis we identified critical value attributes and their values and compared our product solution with alternatives. Results you can find in Pic 1.3. Alternatives

	A	B	C	D	E	F
1						
2				Option 1	Option 2	Option 3
3				Stay As Is	Build the product	Sales Force
4		VA	Weight of VA	Evaluation of each VA form 1 to 4		
5		Project Budget	13%	4	1	1
6		Implementation time	19%	4	1	1
7		Adoptability	14%		3	2
8		Stability	13%		3	4
9		Usability	16%		3	1
10		Scalability	14%		4	2
11						
12				1.3	2.2	1.5

Pic.1.3 Alternatives

In this comparison we focused on 3 major options. The first is to keep current processes and tools as it is without any changes. Obviously with this option the company will be hard to grow fast and engage new investors but we decided to keep this option in the list for the sake of comparison. The second option is to build an application and enable emerging new business and support fast growth of old one. And the last option is an existing solution. The existing solution will try to satisfy current pain points but it's hard and very expensive to customize it. Another problem with out of the box software is that it's ready business and in our capital structure it will be rather operation expense than investing in capex not to mention that the opportunity of transforming the business will not be the case anymore.

6. Product Catalog

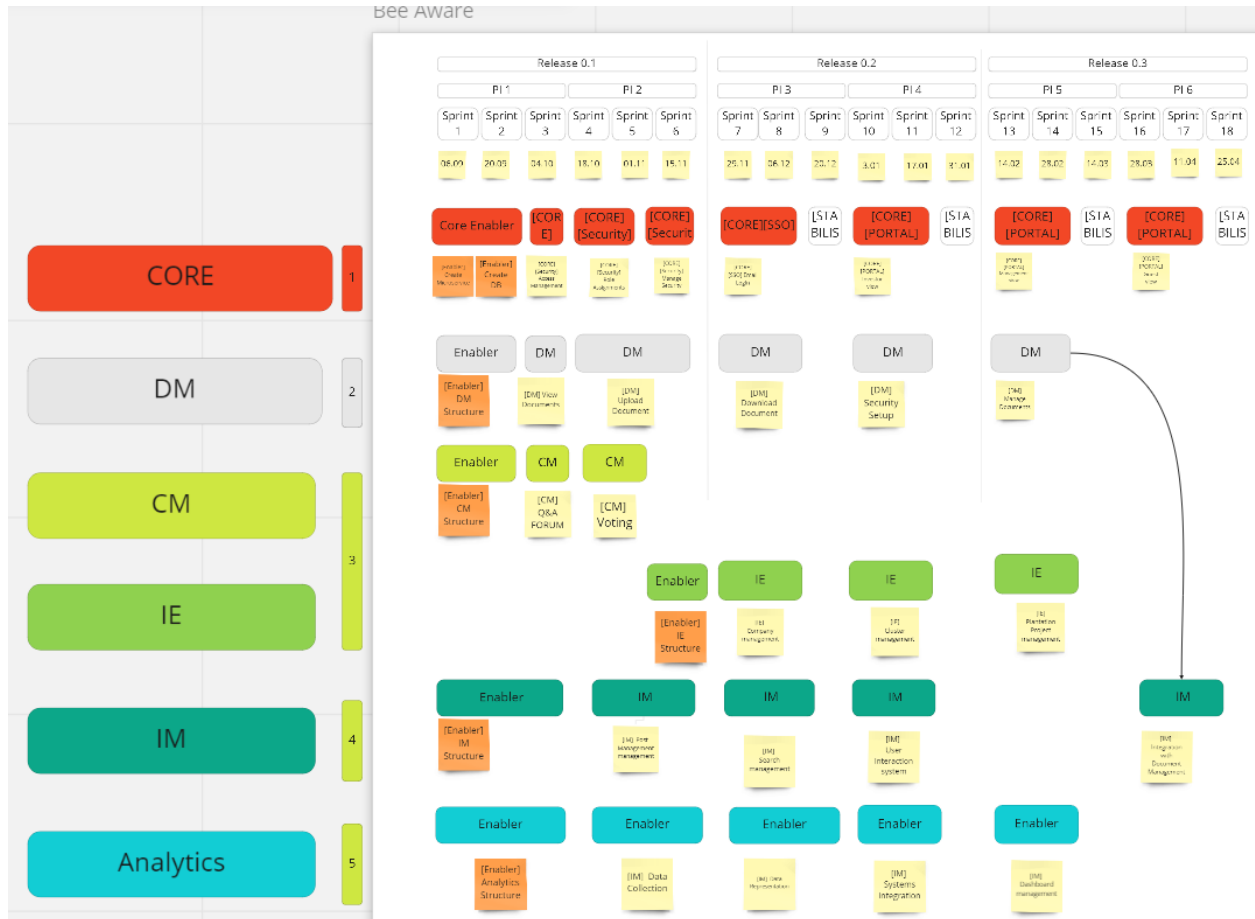
As part of solutioning were used story mapping techniques and setup special workshop to identify key product modules, features that could cover business needs, definition on MVP scope and release.

The following key modules were identified:

- CORE - should cover platform technical solutioning and security
- Document Management - should cover user requirements related to interaction with comments.
- Communication Management - should cover needs of communication between management and investors to reduce decision making process.
- Investors Engagement - allows easy to set up new projects for potential investors.
- Information Management - allows users to work with information utilizing integration with document management and new posted info.
- Analytics - allows managers and investors to collect necessary information for decision making and monitoring.

In the pic. 1.4 displayed product catalog defined in the Feature mapping workshop were stakeholders define minimal viable product scope and corresponding required modules

For feature information refer to section "Feature to Business requirements traceability"



<https://miro.com/app/board/uXjVOymEDE4=>

Feature to Business requirements traceability

BR	Description	Module	Feature	Effort
----	-------------	--------	---------	--------

BR.0 1	The system should support several user roles and systems levels to support access management and scalability	CORE	[CORE][Security] Access Management	20
			[CORE][Security] Role Assignments	40
			[CORE][Security] Manage Security	20
BR.0 2	The system should support SSO mechanism of login and logout by: <ul style="list-style-type: none"> • Social networks • Corporate Email • External Email 	CORE	[CORE][SSO] Email Login	40
BR.0 3	The system should support Investors and Management interfaces	CORE	[CORE][PORTAL] Investor view	40
			[CORE][PORTAL] Management view	40
			[CORE][PORTAL] Guest	40
BR.0 4	The system should allow users with corresponding rights manage information <ul style="list-style-type: none"> • Add/Edit/Delete an article 	Bee Informed (Wiki)	[IM] Post Management	40
			[IM] Search management	40

	<ul style="list-style-type: none"> Search an article 		[IM] User interaction system	40
			[IM] Integration with Document Management	40
BR.0 5	The system should allow users with corresponding rights view, upload and download documents to/from the system on the corresponding access level	Bee Document	[DM] View Documents	20
			[DM] Upload Document	60
			[DM] Download Document	40
			[DM] Security Setup	40
			[DM] Manage Documents	40
BR.0 6	The system should collect and present information based on Manager or related investor request	Bee Analytics	[IM] Data Collection	40
			[IM] Data Representation	40
BR.0 7	The system should allow Manager to setup KPI monitoring dashboard	Bee Analytics	[IM] Systems integration	40
			[IM] Dashboard management	40

BR.0 8	The system should allow Investor and management the following ways of communication: <ul style="list-style-type: none"> ● Q&A Forum ● IM chat ● Bot chat ● Voting 	Bee Connect	[CM] Q&A FORUM	20
			[CM] Voting	40
BR.0 9	The system should allow user with corresponding rights to CRUD: <ul style="list-style-type: none"> ● Management Company ● Cluster ● Plantation Project In order to setup corresponding environment	Investor engagement	[IE] Company management	40
			[IE] Cluster management	40
			[IE] Plantation Project management	40

8. UX/UI Design and user flow

This section presented initial mockups of several moduled of our product. The idea is to utilize modern UX/UI approach to tackle several potential issues. First of all, all elements should be intuitive and easy to use. This should be a significant part of the user onboarding process. In our mind we don't know what to face when elegant architecture and technological approach will fail because of simply awful usability or practically hard to learn how to accomplish work.

Login page

The login page allows users to get access to the application by specifying email address with company domain. The Single sign on mechanism will allow users to not enter password each time they open the application. The external login version will allow external users like a new guest to use the email and password version for the page. The MVP feature in the roadmap will include capability for external users to use social networks for the login if needed. That requirement was elicited during our interviews with current and potential investors.

The main feature in the IAM (Identity and Access management) system is building flexible mechanisms of users and roles management. During our initial analysis we identified two major groups or types of users in our BeeAware platform: its internal or corporate users and external or investors. The behavior, access to the assets of the system and primary view will differ based on this type of user.

The next important step was role identification. We identified the following list of preliminary roles and responsibilities for the users for MVP :

- Admin user - this role has full access to the platform and allows creation of new projects and clusters and assign them the project admin.
- Project Admin - this role will assign project and clusters assign to specific users.
- Setup Admin - this role assigned to specific users with assignment projects and will allow to customize views and special project settings and customizations.
- Support admin - Operation and maintenance users with extended permissions
- Support User - limited access support engineer
- Manager - this role will allow users to some companies internal operation and actions necessary for internal management tasks like preparing reports, configure dashboards or preparing voting.
- Investor - this role will get access to some assets with view only mode and ability to vote for investing decisions and communication with managers and other investors.



Core and Dashboards functions

The dashboard page is a main page for the most logged users and will be present with elements set up by setup admin based on user demand. In future implementation all users will be able to set up their own dashboards based on needs and prefers. The decision was made not to include self setup for the sake of simplicity and esea onboarding giving the user the best experience of using the platform.

The benefits of the BeeAware dashboard module is scalability, integration with other modules of the platform like Document management, Wiki, Voting etc. and also external services like banks currency exchange, news, weather etc.

The dashboard will allows user to setup following elements:

Internal:

- Document management reports
- List of newly added documents
- Special section of the reports
- New Votings
- Votings results

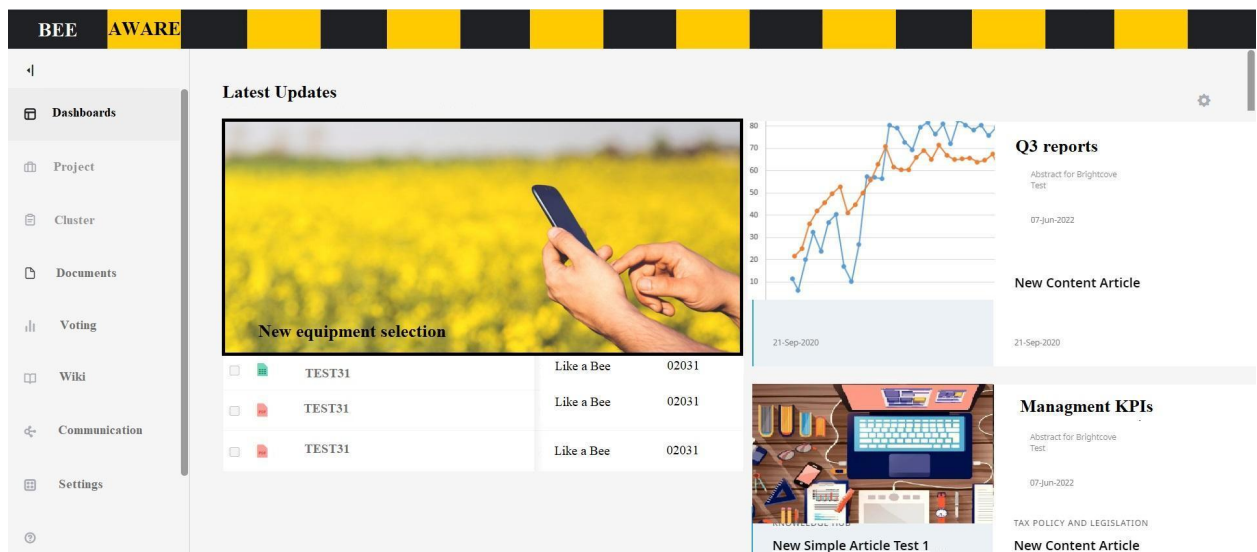
- Management's KPIs
- Latest messages
- Wiki
- New articles
- Wiki by topic/s

External:

- News
- Banking
- Weather
- Other platforms

The user flow looks following way:

1. Setup admin will define the dashboard with the user.
2. The investor or manager access the system
3. The system display predefined items on the dashboard
4. The user can easily navigate to the specific dashboard item to view details

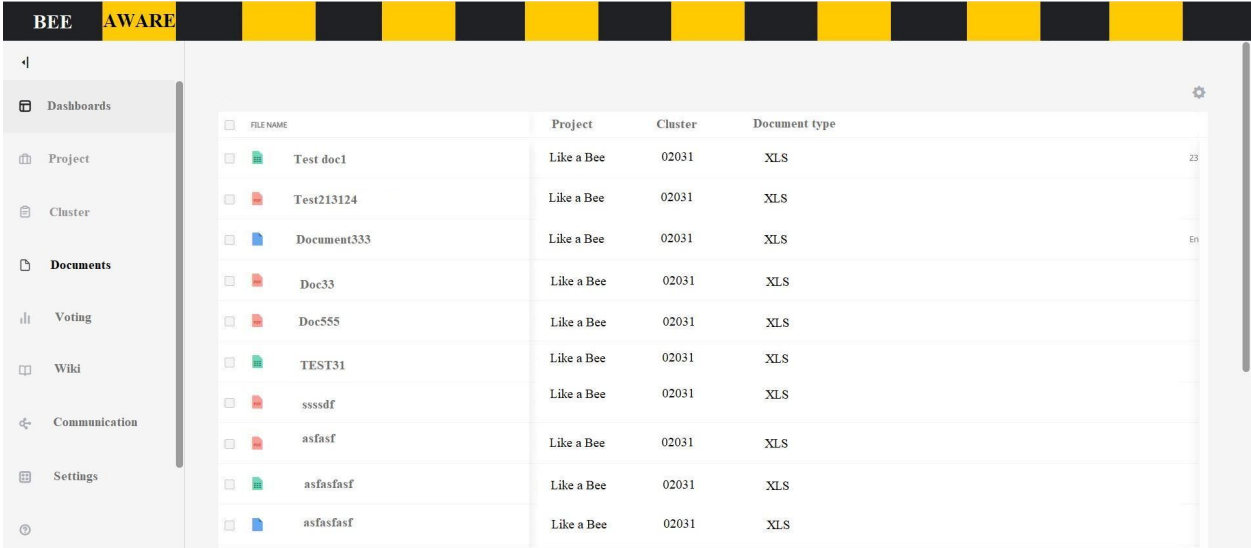


Document Management

The document management module represents a sophisticated storage database that allows user upload download and manage documents based on their level of access and roles.

Upload and Download documents will be allowed only for manager roles with corresponding permission so that not lose important documents. Same this will be implemented for edit. The initial use cases described the necessity of uploading/downloading and editing of documents only by managers. Also the system will support multi hierarchical levels of restriction and operations to enable high levels of security standards.

From the investor perspective users will be able to work with the documents in the view only format without capability of editing and uploading/downloading documents into the library. Despite the fact that investors don't have that option directly to the documents library from the direct access via document management system it's still possible to do this via communication management system. If an investor needed to upload important documents to the project like an expenditure opportunity report she can do that by sending a document upload request and corresponding manager will get a message for approval. After the approver confirms the request the document will be uploaded to the document library and by default in the view only mode for investors. The manager has the option to approve and provide edit mode permissions to the investors if needed.



The screenshot shows a web application interface with a sidebar on the left and a main content area. The sidebar contains navigation items: Dashboards, Project, Cluster, Documents, Voting, Wiki, Communication, and Settings. The main content area displays a table of documents. The table has columns for FILE NAME, Project, Cluster, and Document type. The data rows are as follows:

FILE NAME	Project	Cluster	Document type
Test doc1	Like a Bee	02031	XLS
Test213124	Like a Bee	02031	XLS
Document333	Like a Bee	02031	XLS
Doc33	Like a Bee	02031	XLS
Doc555	Like a Bee	02031	XLS
TEST31	Like a Bee	02031	XLS
ssssdf	Like a Bee	02031	XLS
asfasf	Like a Bee	02031	XLS
asfasfasf	Like a Bee	02031	XLS
asfasfasf	Like a Bee	02031	XLS

9. Program execution plan

During the analysis, project deliverables were defined and listed in the table (see Pic 1.5 Project plan).

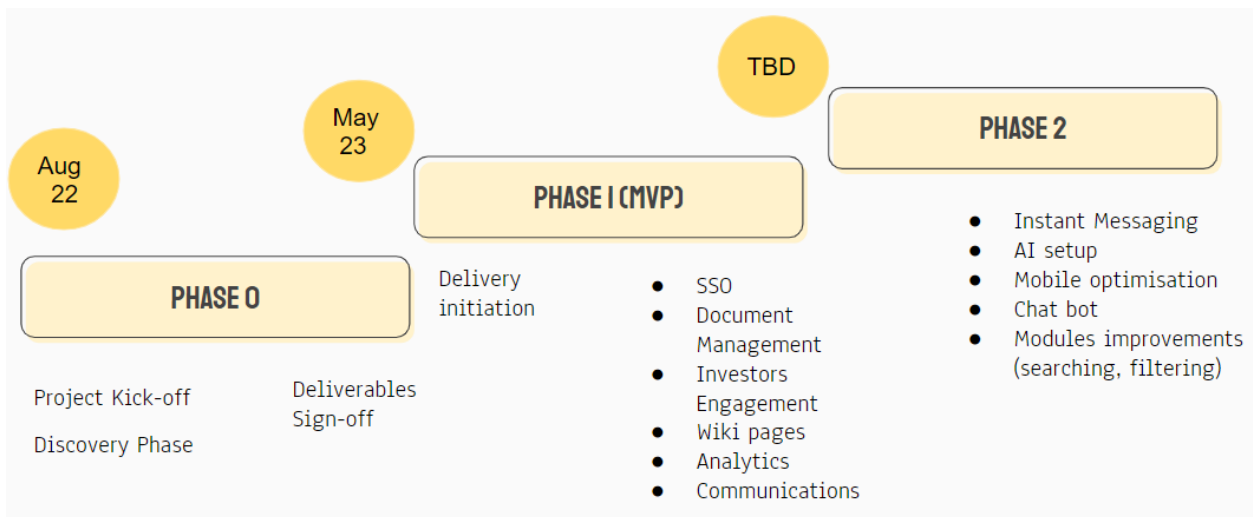
For each deliverable we specified the sequence of project tasks to make deliverables done.

Orange section represents Project preparation tasks.

#	Task	Status	August					September				October		
			week#1	week#2	week#3	week#4	week#5	week#6	week#7	week#8	week#9	week#10	week#11	
1	SOW signoff	N/A	Orange											
2	Documents review	N/A	Orange											
3	Teams onboarding	N/A	Orange	Orange										
4	Initial Project setup	N/A	Orange	Orange	Orange									
5	Discovery	N/A	Green	Green	Green	Green								
6	Decomposition	N/A				Green	Green							
7	Planning	N/A					Green	Green						
8	Sprint1	N/A						Green	Green					
9	Sprint2	N/A							Green	Green	Green			
10	Sprint3	N/A									Green	Green	Green	
11	Sprint4	N/A											Green	Green
12	Sprint5	N/A												Green
13	Sprint6	N/A												Green
14	Sprint7	N/A												Green
15	Sprint8	N/A												Green
16	Sprint9	N/A												Green
17	Sprint10	N/A												Green
18	Sprint11	N/A												Green
19	Sprint12	N/A												Green
20	Sprint13	N/A												Green
21	Sprint14	N/A												Green
22	Sprint15	N/A												Green
23	Sprint16	N/A												Green
24	Sprint17	N/A												Green
25	Sprint18	N/A												Green

Pic. 1.5 Project Plan

Time Lines



Phase 0 Includes Project Kick-off, Discovery and preparation of a backlog. The main deliverables of phase 0 are signed scope document and project plan. Up to preliminary plan Phase 0 will be delivered at the end of August Y22. The KPI: all requirement documents, architecture and UX/UI design should be approved by corresponding stakeholders

Phase 1 Should cover all six modules described above like SSO core components, document management, investor engagement, analytics, communication management, Wiki. KPI: at least 300 users using the app. The goal is to deliver an MVP application at the end of May Y23.

Phase 2 Should cover after MVP prioritized features including instant messaging, support AI, supporting Mobile app. The goal is to prepare phase 2 detailed scope plan during implementation phase 1 and make alignment to the market needs and trends.

Project Calculation

We used a 3 point estimation approach and put 30% buffering to mitigate project implementation risks. Clear definitions of done and acceptance criterias help us understand how completed tasks should look like.

In the Pic. 1.6 displayed 3 scenarios based on our initial estimation and risk analysis. It's optimistic, normal and pessimistic scenarios.

In orange we highlighted technical sprints or spikes to identify dependencies and enable business features.

In green celse specified regular development sprints with business feature

	P11		P12		P13		P14		P15		P16		SP	105								
Scrum team	Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Sprint 6	Sprint 7	Sprint 8	Sprint 9	Sprint 10	Sprint 11	Sprint 12	Sprint 13	Sprint 14	Sprint 15	Sprint 16	Sprint 17	Sprint 18	Team Velocity	20 SP		
Team 1	Enabler	Enabler	Business	Business	Business	Business	Business	Business	ST	Business	Business	ST	Business	Business	ST	Business	Business	ST	Average salary	1500		
Team 2	Enabler	Enabler	Business	Business	Business	Business	Business	Business	ST	Business	Business	ST	Business	Business	ST	Business	Business	ST	# of team members	3		
Team 3	Enabler	Enabler	Business	Enabler	Business	Business	Business	Business	ST	Business	Business	ST	Business	Business	ST	Business	Business	ST	Team Average salary	4500		
Team 4	Enabler	Enabler	Business	Business	Business	Business	Business	Business	ST	Business	Business	ST	Business	Business	ST	Business	Business	ST	Salary per working day	50		
Team 5	Enabler	Enabler	Business	Business	Business	Business	Business	Business	ST	Business	Business	ST	Business	Business	ST	Business	Business	ST	Days in Sprint	14		
																			Sprint price	2100		
																			SP Price	105		
Optimistic																						
Scrum team	Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Sprint 6	Sprint 7	Sprint 8	Sprint 9	Sprint 10	Sprint 11	Sprint 12	Sprint 13	Sprint 14	Sprint 15	Sprint 16	Sprint 17	Sprint 18	TOTAL			
Team 1	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	360		
Team 2	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	300		
Team 3	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	300		
Team 4	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	360		
Team 5	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	300		
TOTAL SP																			1,620.00			
TOTAL in USD																			\$ 176,100.00			
Neutral																						
Scrum team	Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Sprint 6	Sprint 7	Sprint 8	Sprint 9	Sprint 10	Sprint 11	Sprint 12	Sprint 13	Sprint 14	Sprint 15	Sprint 16	Sprint 17	Sprint 18	Sprint 19	Sprint 20	Sprint 21	TOTAL
Team 1	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	420
Team 2	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	420
Team 3	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	360
Team 4	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	420
Team 5	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	360
TOTAL SP																			1920			
TOTAL in USD																			\$ 201,600.00			
Pessimistic																						
Scrum team	Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Sprint 6	Sprint 7	Sprint 8	Sprint 9	Sprint 10	Sprint 11	Sprint 12	Sprint 13	Sprint 14	Sprint 15	Sprint 16	Sprint 17	Sprint 18	Sprint 19	Sprint 20	Sprint 21	TOTAL
Team 1	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	420
Team 2	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	420
Team 3	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	420
Team 4	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	420
Team 5	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	420
TOTAL SP																			2100			
TOTAL in USD																			\$ 220,500.00			

Pic. 1.6 Project Estimation

Risks evaluation

The goal of the project is to keep current investors within the business with the help of an investing platform.

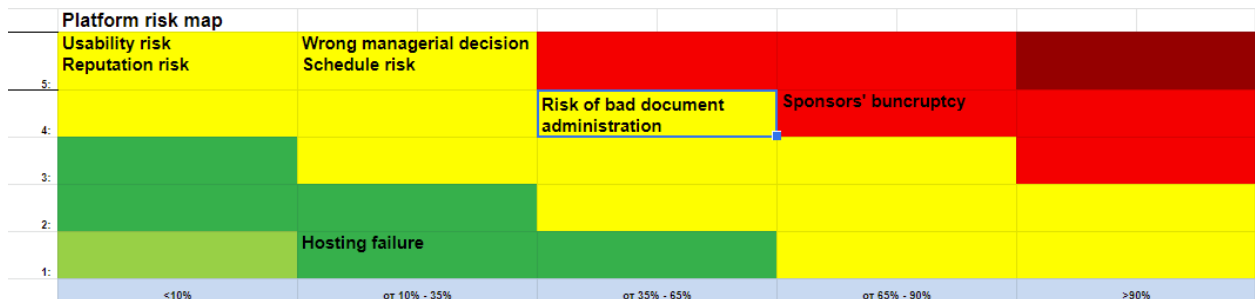
From this perspective we can define two main groups of risks: those related to the core business and those related directly to the project of investment platform development and integration.

From the project risks the more significant is the risk that our main project sponsor will face bankruptcy and be not able to pay for the software development. The response to this risk will be agreement between the sponsor and software development team that envisage prepayment or regular monthly payment for development.

The full list of project related risks is presented in the table below.

ID	Current Status	Risk type	Risk Description	Controls/Actions Already in Place (Description)	Risk Owner	Symptoms / Triggers	Financial interpretation	Risk Impact	Probability of Occurrence	Risk Map	Risk Response Strategy	Further Actions Required	Cost of Risks Reaction	Residual risk
3	Open	Platform related	Sponsors' buncruptcy	main investor will be unable to pay for development	Product owner	Failure of other	200 th USD	5	3	High	Mitigate	Prepare payment breakdown schedule (monthly)	0	20 th
1	Open	Platform related	Risk of bad document administratio	personnel of YakBdzhola will fail to provide timely information to platform	Production Dire	delay in inform	~300 th UAH	3	4	medium	Mitigate	perform personnel training, create doc submission schedule	5 th UAH mont	20 th UAH
4	Open	Platform related	Schedule risk	SW development miss deadline	Product owner	SPI less than 1 on the interim stage	50th USD	5	3	Medium	Mitigate	Regular planning, involve external outsourcer	SW development cost + 10%	10th USD
5	Open	Platform related	Usability risk	The platform will be too complicated for users	Product owner	Low click through rate	50th USD	5	1	medium	Mitigate	Involve focus group for requirements validation	25 th UAH	
6	Open	Platform related	Miscommunication with stakeholders	May lead to rework and delays	Product owner	Delays in feed	10 th USD	2	2	Low	Mitigate	Create and share communication plan and RACI matrix		
7	Open	Platform related	Quality risk	Bad quality of platform software	Production Dire	number of bug	2,1 th USD	2	1	Low	Mitigate	Quality and communication control		
8	Open	Platform related	Hosting failure	platform can be temporary unavailable due to hosting failure	Product owner	regular hosting issues	5 th UAH	1	2	Low	Accept			

On the risk map we can see that there is no risks of the highest priority, and only one high that can be successfully mitigated up to the low impact level.



The core business has a wider spectrum of risks. The main risk is a risk of climate change, which can be mitigated by regular monitoring of climate change and planning of diversification of berries types (change to blueberry, or vise versa extend strawberry plantation).

Core business risk map					
5:	Reputation risk	Lost control on land	Government regulatin risk	Investor shortage	Climat change
4:	Fire or flood damage	Wrong managerial decision		Cash-flow gap	Bad weather conditions
3:			Demand shortage	Absence of seasonal workers	Product Price risk
2:	Employees injured	Shortage personal		Miscommunication	
1:	Employees Strike	Deterioration of ecological situation Logistic risk	Wrong agronomical decision	Government regulatin risk	
	EU import quotes		Machinery issue Employees injured	Macroeconomical risk	
		Spoilage of goods / inventory		Product Price risk	
	<10%	or 10% - 35%	or 35% - 65%	or 65% - 90%	>90%

Despite the big number of high priority risk that can be mitigated to the level of residual risks that in total does not exceed the level of company's risk appetite of 12 mln UAH.

Full list of core business risks can be found below.

1	Open	Core business related	Climat change	Risk of unability to use land for selected berries	Chief agronomist	average temperature differs from appropriate range for certain berry type	40m UAH	5	5	The highest	Mitigate	Review and correct berries types every planting cycle (strawberry -3y, blackberry -3y)	192th UAH per 3y	~300th UAH as 30% of underharvesting of one berry type
---	------	-----------------------	---------------	--	------------------	---	---------	---	---	-------------	----------	--	------------------	--

												5y)		
2	Open	Core business related	Investors' shortage (bank run)	The Managing company should return 90% of investments to investor on demand. Fast outflow will lead to default	Financial director	investors with total share >1% left in 1 quarter	28 m UAH	5	4	High	Mitigate	Platform helps to decrease risk	35 th usd one time	1,4 m UAH as 5% percent share investor want to leave simultaneously
3	Open	Core business related	Absence of seasonal workers	Risk of non-ability to engage seasonal work	Production Director	Increased trend of seasonal workers emigration	~ 290 th UAH	4	4	High	Mitigate	Competable work conditions + advance agree	420th UAH /annum	25 th UAH

				ers for harv esin g		n						eme nt		
4	Open	Core busi ness relat ed	Cas h-flo w gap	Risk of unab ility to pay seas onal work ers or farm ers, who sell berri es for freez ing	Finan cial direc tor	Curr ent liqui dity <1	625 th UAH	5	4	High	Mitig ate	Bud getin g + avail able credi t line for extre mal situa tions	35% of extra mon ey	6 th UAH as 1 day paus e in seas onal berri es buyi ng
5	Open	Core busi ness relat ed	Investors ' short age	The Man agin g com pany shou ld retur n 90% of inve stme nts	Finan cial direc tor	inve stors with total shar e >1% left in 1 quar ter	28 m UAH	5	4	High	Mitig ate	Tran spar ency and timel y com muni catio n, invol vem ent to the	35 th usd one time	1,4 m UAH as 5% perc ent shar e inve stor want to leav e

				to investor on demand. Fast outflow will lead to default								decision making		simultaneously
6	Open	Core business related	Bad weather conditions	Production issues due to weather conditions	Production Director	bad weather	~300 th UAH	4	5	High	Mitigate	Diversify berry types	100 th UAH	
7	Open	Core business related	Machinery issue	Issue related to machinery that cause production	Production Director	Machinery issue	16th UAH /d + repairing =1% * of Cap Ex 47th UAH	2	3	Medium	Mitigate	Machinery rent agreement in case of issue, buy spare	23 th UAH	repairing =1% * of Cap Ex 47th UAH

				downtime								parts in advance		
8	Open	Core business related	Reputation risk	Reputation risk	Production Director	Shortage of 1% investors or 5% decrease in contracted sales	40m UAH	5	1	medium	Mitigate	Quality and communication control	142.5	280th = 1% investors
9	Open	Core business related	Government regulation risk	Risk related to Government actions, Tax laws, regulations	Sales director	Draft laws with new regulation	1 year of tax	3	4	medium	Mitigate	Purchase regular tax consulting with focus on agro (tier 2 company)	2 th \$ annu m	?

10	Open	Core business related	Product Price risk	Risk related to uncertainty about the prices	Sales director	Price changing >10% downwards	~150 th UAH	2	4	Medium	Mitigate	Future contracts for 1 year / Diversify berries and customers	additional hours of CEO	0.00
11	Open	Core business related	Lost control on land		Production Director	Change of land legislation	40m UAH	5	2	Medium	Mitigate	Regular investigation of land regulation and land ownership type diversification	9 th UAH annual	~550 th UAH - replanting cost
12	Open	Core business related	Shortage personal	Risk related to human capital	HR	HR KPI, personnel dissatisfaction	~44 th per worker	3	2	Medium	Accept			~44 th per worker

				tal in cert ain area s		acti on								
13	Open	Core business related	Fire or flood damage		Production Director	flood or fire	40m UAH	5	1	Medium	Transfer	Insure	46th UAH annually	0.00
14	Open	Core business related	Dem and shortage	Risk of losing key customer basic shortage of need in berry	Sales director	5% differ in contracted sales from the budget	25% of sales = 1,5 m UAH	5	3	Medium	Mitigate	Diversify berry types and sales channel		5% of sales = 300 th UAH
15	Open	Core business related	Wrong agricultural decision	Wrong decision regarding plants selection or care	Production Director	10% decrease from budgeted harvest amount prognoze	30% of 1 berry type harvest = 190t h UAH	3	2	Medium	Accept			30% of 1 berry type harvest = 190t h UAH

						d								
16	Open	Core business related	Wrong managerial decision	Bad financial, marketing, contracting decision	Sales director	10% less than budget	20m UAH	5	2	Medium	Mitigate	Consulting (tier 2 firm)	5th usd annum	10% of sales. =600 th
17	Open	Core business related	Miscommunication	Risk of poor communication with investors that may lead to financing shortage	Financial director	Dissatisfaction of investors	20% of investors = 5,6 m UAH	3	4	medium	Mitigate	Transparency and timely communication, involvement to the decision making	35 th usd one time	~280 th UAH
18	Open	Core business related	Macroeconomic risk		Financial director	Economic news and growth of curr	~500 th UAH	4	2	Medium	Accept			~500 th UAH

						ency exch ange rate							
19	Open	Core busi ness relat ed	Logi stic risk	Deliv ery dela ys	Sale s direc tor	Dela ys in mor e than 5% of deliv eries , trans port issu es	20% of 1 plant ation Logi stics cost = 14 th UAH	1	2	Low	Acce pt		20% of 1 plant ation Logi stics cost = 14 th UAH
20	Open	Core busi ness relat ed	Spoil age of good s / inve ntory		Prod uctio n Dire ctor	Inco mpli ence with stora ge quali ty criter ia dete cted	5% of own good s = 32 th UAH	1	2	Low	Acce pt		5% of own good s = 32 th UAH
21	Open	Core busi ness relat ed	Dete riora tion of ecol ogic al situa tion		Prod uctio n Dire ctor	Acci dent near by	136 th UAH	3	1	Low	Acce pt		136 th UAH

22	Open	Core business related	Organic standard violation	Risk of violation rules of organic certification	Production Director	rapid growth of heavy metals contained in berries due to organic expertise	20% of sales = 1,2 m UAH	5	1	Low	Mitigate	Quality audit and regular training	142.5	0.00
23	Open	Core business related	Employees injured	Employees injured	Production Director	Violation of work safety rules	155th UAH	3	1	Low	Mitigate	Safety training, safety audits	Monthly - 9th UAH annually	50th UAH of paid help
24	Open	Core business related	Employees Strike	Risk for production due to employees strike	HR	Strike	42 th/day	2	1	Low	Accept		42 th/day	

25	Open	Core business related	EU import quotes	Risk of implementation by EU government import quotes	Sales director	import quotes announced	~50 th UAH	1	1	The lowest	Accept			~50 th UAH
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10. Program Change management

During project analysis and interviewing stakeholders we identified several key objectives for change management.

10.1 Analysis

As a very first step we analyzed pain points that investors and management faced and listed these points as our strategy of clearly informing stakeholders how we are going to help them and how our solution.

List of Pain points:

- Pure Document management process. Mainly working with paper documents or storing in the local PCs. Ineffective way to store and search required documents.
- Pure Communication between management and investors. Absence of single point of information and source of truth. Inability to make weight in decisions based on investors input.

- Lack of trust to management due to absence of transparency in the processes.

We summarize stakeholders pain points and compliance in the 3 top described above to formulate a vision for the stakeholders.

10.2 Design

The next step of our change management process is to engage as many stakeholders and potential users from investors and Management side as possible for the Project activities. It should help us identify champions and users that will push change in the company.

Stakeholder analysis helps identify active stakeholders who are looking for change and ready to participate in the project initiative.

RACI matrix						
	Business Requirements Elicitation	Feature Discovery	Feature Prioritization	Feature Development	Feature UAT	Feature Release
Sponsors	I,C	I,C	I,C	I	I,C	A
Production director	I,C	I,C	I,C	I	I,C	I
Financial director	I					
Sales director	I					
Logistics manager	R,C	C	I,C	I	R,C	I
Chief accountant						
Chief agronomist	R,C	C	I,C	I	R,C	I
HR	R,C	C	I,C	I	C	I
Clients	R,C	C	I,C	I	R,C	I
Product Owner	R	R	R	A	I	R
Program Director	A	A	A	I,C	A	R
Partners						I
Investors	R,C	R,C	I,C	I	R,C	I
Development Teams	I	I,C	I	R	R,C	I
Operation & support	I	I	I	I	I	I

At this stage we have identified major execution steps and created a RACI matrix to document who will be actively engaged into the project.

After stakeholders analysis and execution planning we clearly understand who will participate in the project and what activities and responsibilities at each stage.

From the execution plan we defined the start and end date of each step and planned corresponding engagement with stakeholders in advance.

10.3 Delivery

In the delivery section we should take care about implementation of a change and make sure that desired result will be achieved.

To build a sustainable process of change management we referred to Kotter's 8 steps model.

Kotter's 8 Steps



Step 1

During the kick off meeting of the project we are going to clearly state our goals and mission with focus on the timelines and importance delivering and what is even more important onboarding users to the new product. We hope that should be the first step towards establishing a sense of urgency

Step 2

The major step toward coalition was made during stakeholders interview

and analysis where we built trust relationships, identified pain points and common goals. Also engagement in the project decision making process should make involved stakeholders feeling of their own contribution to the product so our expectation that they should have interest to promote it across the organization.

Step 3

The first part of the kickoff meeting we are going to dedicate to the setup vision across stakeholders. At this part we will present a basic concept with focus on solving their pain points. Present mockups and models that organization clearly understand the outcome and product functionality.

Step 4

To make sure that during the development process potential users of our platform are still connected we will prepare a list of engagement activities that will help users stay tuned and understand what is happening in the program. The preliminary list is presented below:

- Invite potential users on the product Demo at the end of Product Increment
- Facilitate the meetings about the product with corporate gifts
- Encourage users for testing early versions of the product

Step 5

With a clear execution plan and successful stakeholders engagement we are expecting to bring to the program not only form but cultural mining. The idea is that in this project all stakeholders can get more the solution, more than the platform but obtain new skills and gain new experience.

Step 6

Each sprint will generate a small portion of product to the pipeline so that all teams and stakeholders can see result and PI demos should include a part where listed achievements of the product increment and separate sessions like retrospective allowing teams to discuss several points about previous sprint. The first point is to discuss what went well and this should

clearly state the feeling of small achievements. The second point is what didn't go well. It is important to see impediments and potential pitfalls in the future. The last point is what needs to improve in the current process. In the last point is very important to identify action items or next steps towards these improvements otherwise the ceremony of the meeting will be useless and just formal.

Step 7

We understand the importance of keeping up pace of the project and planned to utilize part of our presentation of results for stakeholders highlighting the importance of the projects and going to keep high involvement of stakeholders to the project and results.

Step 8

Incorporate change into the culture we hope for by highly engaged management stakeholders. That should promote the product and encourage other employees not only to use it but to be involved in future development processes so that they feel their own input into the product and proudly and happily use their own recommended features. Importance Management high support and clear communication across organization the old way of work is not exist anymore and also clearly state that those who refuse to follow the rules will not work in the company since engagement of new investors will not be feasible without new way of working

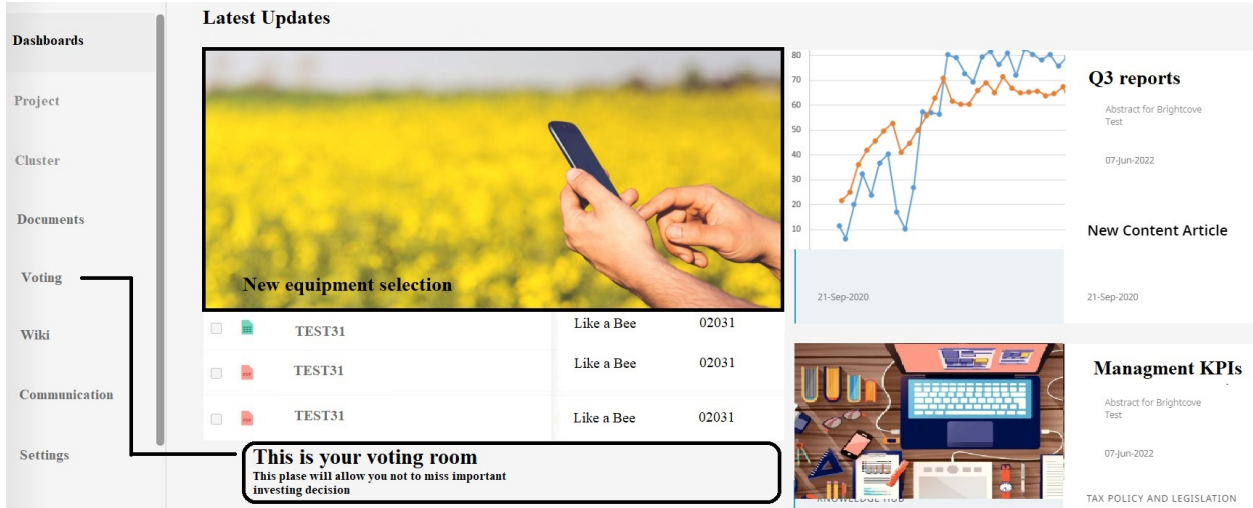
10.4 Evaluation

The main evaluation criterias that help the change rolling and delivery of a successful product are set up by SAFe framework and described in the section 4. *Delivery approach*. The missing point in the framework is what to do next after the product is delivered. We needed to answer the question of how to onboard the new users.

Users Onboarding

The main problem with user onboarding is that they have different experience working with different platforms and applying well known tools to accomplish their work. But tools and platforms work differently and in different ways may accomplish the same task. The main purpose of the product during the onboarding process it's not only to navigate and guide users how to use the platform but also enable them to reach their full features potential in the short time period. We are going to utilize platform functionality hints and help together with internal training. As our engagement plan, we hope to conduct training for those stakeholders who actively participated in the developments of specific features and ask trained employees to conduct next training for the newbie. The positive motivation like kudos and platform achievements like lvl of trainees visible for all users.

The platform navigation and guide is platform capability to show users the best path to accomplish his task based on the role his account has. The example of the navigation guid is presented in the pic. 10.1 below.



Pic 10.1 Onboarding guide

11. Project conclusions

The project is going to tackle 3 major problems - improve current business efficiency for cost reduction and solving major pain points of current managers and investors, enable business scalability and fast growth by easy way of engaging new investors and rollout new plantations,

transform business to the digital service with opportunity to emerge new markets.

One of the success factors is access to “technology library” , relatively cheap development resources and a dev environment. The current project document represents detailed project opportunity analysis and project plan that allow to build value driven applications and get profit. The financial summary provided in the pic. below.

\$170-\$220K

Project cost

\$620K

Earnings enabled by the project

41.45% IRR