

D5.2: BEACON training material

WP5 – Creating Business Experience & BEACON Accreditation path

Authors: Maja Budimir, Vladimir Mrkajić, Nemanja Nićin, Milana Vračarić



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 821964.





Disclaimer

Any dissemination of results reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains.

Copyright message

© BEACON Consortium, 2019

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both. Reproduction is authorised provided the source is acknowledged.





Document Information

Grant Agreement Number	821964	Acronym	BEACON				
Full Title	Boosting Agricultural Insurance based on Earth Observation						
Horizon 2020 Call	H2020-SPACE-2018						
Type of Action	IA						
Start Date	01/01/2019	1/01/2019 Duration (in months)		37			
EU Project Officer	Iulia SIMION						
Deliverable	D5.2: BEACON training material						
Work Package	WP5 – Creating Business Experience & BEACON Accreditation path						
Date of Delivery	Contractual	M14	Actual		M14		
Nature	Demonstrator	nonstrator Dissemination Level		P - Public			
Lead Beneficiary	InoSens	'					
Lead Author	Maja Budimir	Organisati	Organisation		InoSens		
Other authors	Maja Budimir, Vladimir Mrkajić, Nemanja Nićin, Milana Vračarić						
Reviewer(s)	KARAVIAS						

Document History

Version	Issue Date	Stage	Changes	Contributor
1.0	11.02.2020.	Table of Content	Contribution	INOSENS
2.0	19.02.2020.	Platform	Platform description	KARAVIAS
3.0	28.02.2020	Final Version	Final	INOSENS





Abbreviations	5
Executive summary	6
1. Introduction	7
2. Users and their needs	8
2.1 Approach to trainees	8
3. The training curriculum - team, material, model and plan	10
3.1 BEACON Couching team	10
3.2 Training material	10
3.3 Training formats in use	10
3.3.1 Online trainings	10
3.3.2 In person trainings	11
3.4 BEACON Training model	11
3.4.1 Need assessment	11
3.4.2 Coaching methodology	11
3.5 BEACON Training plan	12
3.5.1 Tentative training plan for the upcoming period – t	imeline12
4. Monitoring and evaluation	13
5. Conclusions	14
Annex 1 – BEACON Training Material	15
Annex 2 – Pilot monitoring sheet via google doc	31





Abbreviations

Agricultural Insurance	AgI
Lighthouse Customers	LHC





Executive summary

The deliverable D2.5 is created to provide potential end-users of the BEACON Toolbox (BEACON pilot participants - Agri-Insurance (AgI) companies and their representatives) with the necessary skills to test and use the BEACON Toolbox. As training represents a necessary task to be done before testing and validation activities of BEACON pilots, the training material needs to cover all potential uncertainties when it comes to usage of services. Moreover, BEACON Toolbox will be implemented in an operational environment of the three pilot companies (three different countries: Greece, Spain and Serbia) acquiring the different needs of each pilot participant (pilot AgI company) within. Here, the BEACON training material is designed in a common manner, in order to be applicable for future pilot companies (and countries) as well.





1. Introduction

This document will generate the training material to ensure execution of the BEACON pilot through each of the three development phases: Alpha, Beta, Gamma. The methodology applied is the following: based on feedback from actors in the Alpha stage, training workshops will be designed and implemented to complement work done in the Beta stage. This is necessary so that all actors are able to use the provided data and services effectively and are thus able to provide the most relevant and accurate feedback. Furthermore, through group and / or in individual coaching sessions, individual needs are addressed helping the end-users in their daily workflows, implementing the BEACON Toolbox services in their operational business settings.

Within the document, the end-users are identified, the training model is created, and a set of training material is designed and presented. Moreover, the set of tools for monitoring of the pilot running and for collecting the feedback from the end-users is established to ensure timely reaction on any failures in the pilot approach and in the solution. For each testing phase, the results of the evaluation will be summarized in a report. The work on creating the training materials will be an iterative process. Here, within this document, the first version of the material is presented. Such material is created during the Beta stage and it will be further enhanced at the end of this stage according to the feedback received by the users involved in the evaluation process (the evaluation process is presented within the Deliverable 5.1).

The main goal behind the creation of training material as part of the BEACON project is to train all endusers to use the BEACON Toolbox properly. Also, this includes making them accustomed to novel technologies behind the BEACON services and special attention will be given to motivate them to give the relevant feedback on the usage, as well.





2. Users and their needs

The targeted audience within the BEACON Toolbox users are the following AgI actors - representatives of AgI business industry:

Agl Companies

AgI companies are primary targeted customers of BEACON services — with clear economic benefits delivered for their core business activity. For this targeted group, the damage prevention is a key area of interest that lower their costs, allowing them to offer better premiums to clients that invest in damage prevention infrastructure (e.g. hail nets, heat towers against frost, etc.). Also, AgI companies often have their own internal department to conduct underwriting.

Reinsurance companies

The use of internal reinsurance enables capital requirements to be reduced for individual entities since the risk is transferred to a captive reinsurer, which may be a separate entity, or a department within the holding company. By automating the execution of reinsurance treaties through BEACON smart contracts, the entities concerned (e.g. group subsidiaries) would no longer need to be involved in the "declarative" phases of insurance (contracts, claims reporting, verification, settlement trigger, etc.) transforming processes, achieving a highest rate of automation and trust, by enabling a transparent environment, within the Agl supply chain.

O Underwriting companies

Underwriting companies perform underwriting services for insurance companies, including the AgI. These companies have a focus on using statistical analysis to assess risk and calculate premiums to be charged. BEACON Weather Forecasts/Weather Risk Probability function has clear value to improve the precision of their assessments in AgI, where precision is notoriously low.

Main target group of the BEACON Toolbox's end-users (and pilot participants) are representatives of AgI companies and/or staff of AgI departments within insurance companies. More precisely, firstly the BEACON Training Model addresses the Lighthouse Customers (LHC)s - pilot participants. Later, all other AgI companies involved into LHCs group could be trained, as well.

2.1 Approach to trainees

To maintain the effectivity of trainings among the target end-users, BEACON business coaches take into consideration their user personas, main characteristics and regular daily schedules. For example, among BEACON pilot participants, AgI representatives are usually members of middle to senior management within their companies or managers of the specific AgI departments. In other words, these high professionals are part of the decision – making process, having the great responsibility as well as handling the very busy agendas. In order to acquire all, the business team introduces several actions that will firstly, follow their specific needs and secondly, secure the accomplishment of the proper training:





1. The tailor-made approach

Each BEACON pilot participant/ an AgI individual will be taken differently and the approach will be created individually. For example, the approach can be based on the specific crop, specific business pipeline, etc., in order to follow the specific needs of each end-user. Intuitively, the face-to-face trainings will follow the course of the interest of the specific AgI representative/attendant of the training.

2. The tentative trainings plan - timeline

The tentative trainings delivery timeline will be proposed to AgI pilot participants (and all other Lighthouse Customers as well) with not strictly set up dates, to show them the flexibility and tolerance, when it comes to their time and engagement.

3. B2B training model

B2B model represents the best approved model within this (AgI) end-users' group, especially for the organisation of meetings-training sessions, both online and in person.





3. The training curriculum - team, material, model and plan

In order to provide support to the users of the BEACON toolbox, training workshops will be designed and implemented to complement work done in all stages. This is necessary so that all actors are able to use the provided data products and services effectively and are thus able to provide the most relevant and accurate feedback.

3.1 BEACON Couching team

The team (responsible for the BEACON Toolbox development) will train the BEACON business coaches to use all BEACON Toolbox functionalities continually as this is very important in order to keep all processes aligned with the synergy between teams. Therefore, for example, during the creation of the Alpha version, the business team was deeply involved into development of services (as a medium / communication channel between BEACON LHCs and scientific team). Later, both scientific and business teams together, have created the training material – presentation of the BEACON Toolbox functionalities (Annex 1). As the BEACON business team will act like the BEACON couching team as well, the scientific team will continue to support the training process until the end of development.

3.2 Training material

Training material is designed to fit the needs of BEACON users and pilot cases and after each training, it will be distributed. For the purpose of BEACON training sessions, the material will include both printed and digital multimedia material. It will be composed of training manuals (complete set of instructions) and/or tutorials (set of step-by-step lessons on how to use the different functionalities of the BEACON toolbox) if needed. Here, within this document, the first version of BEACON training material is introduced (Annex 1), representing the collaboration between BEACON scientific and business team. If needed, the training material can be translated upon request.

3.3 Training formats in use

3.3.1 Online trainings

On-line trainings will be provided via platform Zoom – the online meetings place, where the Agl representatives will have the access provided by business coaches (from InoSens) before the meeting. In fixed appointments of one-hour call sessions, pilot participants can have the chance to directly see the platform functionalities, set of services and ask questions to coaches.

The online trainings are accompanied by interactive group discussions after the platform presentation. The main purpose of the online discussion is to address all potential uncertainties related to the usage. Participants will be encouraged to ask questions concerning the training, platform, etc. Where specific





technical know-how is needed, questions will be directed towards the scientific team or the special meeting between users, scientific and business team, will be organized additionally.

3.3.2 In person trainings

If possible, business coaches will organize as many as possible in person face-to-face trainings with pilot participants and / or BEACON Lighthouse Customers, as this method is the most applicable for BEACON end-users. Such method is based on short and proactive meetings (keeping in mind their busy agendas) and if possible, will include all potential users within one insurance company (e.g. staff of the Agl department).

3.4 BEACON Training model

In general, training sessions will consist of two major parts:

- BEACON Toolbox presentation
- BEACON Business presentation.

More detailly presented, each training will have following parts covered within:

1. Technical Part

Platform development component & Blockchain development component – the usage of EO services and Smart Contracts together – via the BEACON Toolbox presentation

2. Business part

 "More from BEACON" – short presentation related to BEACON business proposition, pricing models, etc. (Annex 2)

3. Q & A part

• Business couches will motivate the discussion or open the Q & A sessions, in order to collect feedback (if any), check if everything is clearly presented, etc.

4. Sending of the training material after the training sessions

• The training material is presented within Annex 1 of this document.

3.4.1 Need assessment

In parallel to the trainings, BEACON business coaches will ask if there is the need for additional explanations, in order to detect the specific technical / business support of each end-user. Moreover, it will be discussed which parts are especially interesting and where the participant wants to see/hear/try again how it work. All this will be performed in order to secure the understanding of all functionalities and where the BEACON business coaches can additionally support him / her.

3.4.2 Coaching methodology

The basis of the coaching is the BEACON Training model, as the concept is created to follow the needs of users. Namely, Agl professionals can find it difficult to agree on a standardized terminology for describing the usage of the BEACON services (especially EO, blockchain). For this reason, the BEACON Training model





will firstly show them "how it works" (platform presentation), check if all aspects of training are given through Q&A session and finally, provide them with training material. At the end of the day, this model will serve for the drafting a business plan, growth hacking material creation, collection of feedback from future users, according to previously set up concept.

3.5 **BEACON Training plan**

The BEACON training program will be performed in several rounds. Firstly, as previously explained, pilotresponsible persons are already trained. These persons are representatives of AgI companies or pilot support persons (e.g. within the Serbian pilot, the business team member will track the pilot implementation and communicate with Serbian AgI pilot company - Triglav Osiguranje). Secondly, in the case where responsible person is not from the AgI pilot company, the AgI representative of respective pilot company will be trained by the pilot responsible person. Finally, the business coaches will perform trainings for other BEACON LHCs, deeply interested into the BEACON services, in order to collect the greater sample of valuable feedback.

3.5.1 Tentative training plan for the upcoming period – timeline



- Triglav Osiguranje
- **Karavias Underwritting**
- AgroSeguro

The legend:

- Pilot responsible persons are trained before pilot testing
- March 2020 Training sessions with pilot participants
- April 2020 Training sessions with other LHCs
- May 2020 Additional training sessions e.g. upon request, if needed



4. Monitoring and evaluation

Monitoring and evaluation are based on the methodology introduced within the Del 5.1. Namely, in order to properly monitor the pilot activities, BEACON business & scientific teams streamlined the activities and established the following elements for more efficient BEACON pilot implementation:

Introduction of the responsible person per each pilot

Each BEACON pilot case will introduce the responsible person that will access the BEACON Toolbox every week to check if there is any new event recorded by the services. Later, based on such experience, the BEACON pilot report template (via google sheet, presented within the Annex 2) will be filled in. Moreover, such a person will be in a continual communication with the respective AgI pilot company (in the case when the person is not from the pilot AgI company) and check whether there was an event, damage and etc.

In addition, the responsible persons have been trained before the pilot has started, after the business coaching team members. After all training sessions, the BEACON training material will be distributed (Annex 1).

Report Template Delivery (filling the google doc)

Every week, each responsible pilot person will deliver the filled report to the BEACON Business & Scientific Team. In order to properly keep track on the record, the google sheet will be used (Annex 3). Such a report will contain the following parameters that will be monitored during the BEACON pilot:

1. Weather Extreme Alerts

- Yes/No
- Damaged parcels
- Checked with pilot partner Agl company / How accurate the data provided by BEACON Toolbox is?

2. Damage Assessment

o Yes/No, etc...

3. Overall Monitoring

o NDVI, Yield estimation, Biomass, field number and other relevant information.

If necessary and based on the progress of the pilot implementation cases and the needs of each development phase, some further information may be added to monitoring list of parameters.

The purpose of such pilot monitoring is twofold. Firstly, to track the pilot implementation: if functionalities /services are working properly, how precise are the services, etc. Secondly, all records, together with the feedback gathered via Trello application (already used during the Alpha phase of development), will be used for the improvement of the toolbox, as well.





5. Conclusions

The purpose of the BEACON training material is to explain to the end-user all BEACON Toolbox functionalities that should be understood in order to use BEACON services properly and moreover, to secure the successful BEACON pilot implementation. Finally, this material is designed to train the BEACON end-users for pilot implementation and then, to help them to transfer the usage from testing activities to future real work issues.





Annex 1 – BEACON Training Material

BEACON Toolbox functionalities

Intro: This document details the version of the BEACON Toolbox that will be used by the pilot users to test and validate its provided services and functionalities. BEACON training material is mostly based on the description of the toolbox presented within the **D4.2 First version of the BEACON Toolbox** with some additions, in order to cover the toolbox's workflow.

The users/insurers can register via the web and a verification email is sent to the user's email account. Once the admin accepts the new users, then a confirmation email is sent.

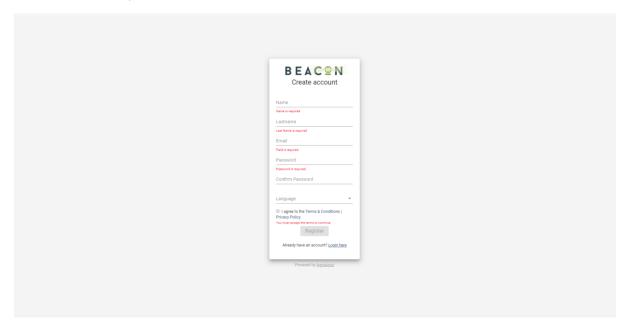


Figure 1: Registration form

The users/insurers can login to the toolbox and land on the dashboard.



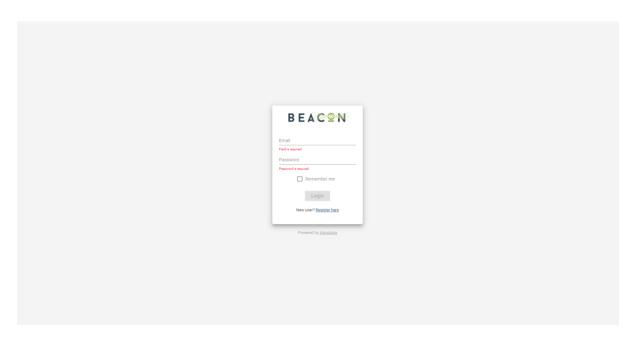


Figure 2: Login

In the dashboard, the user/insurer is able to view all the information aggregated with regards to the policies' (and fields) conditions (damaged, in danger). Specifically, the user/insurer is able to view:

- how many policies (and fields) have been affected/ damaged by an extreme weather event in a pie format;
- from which extreme weather event the policies have been affected/damaged in a chart format;
- how many policies (and fields) are in danger from an extreme weather event based on the midterm weather forecast in a chart format;
- how many policies (and fields) might be affected from a pest and disease in a pie format.

Furthermore, the user is able to view the total number of policies (and the fields) that are insured per County (table Counties), along with the respective alerts (per category). The right table (table Fields) presents in details all the fields that are insured (per policy). This table also provides to the user/ insurer the description of the extreme weather event and/ or pest and disease that might affect and/ or has already occurred in a specific field, along with the respective date.





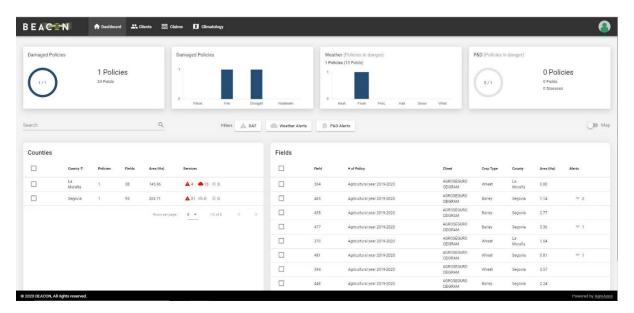


Figure 3: Dashboard



The information provided in the table Fields can be filtered both from the table Counties (per county) as well as from the three filters that are above the table Fields (Damage Assessment Tool (DAT), Weather Alerts, Pest & Disease (P&D) alerts).

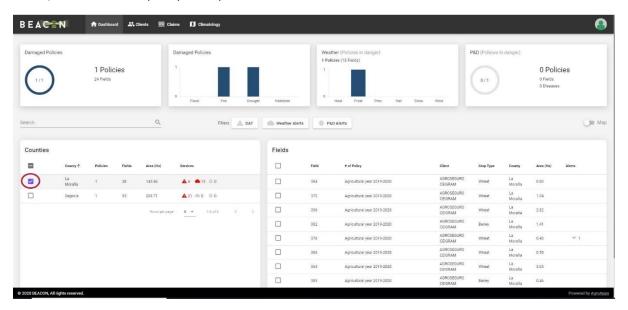


Figure 4: Dashboard

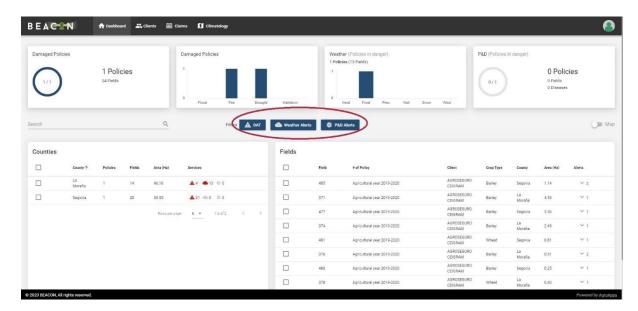


Figure 5: Dashboard



After the filter per one of the three filters (Damage Assessment Tool (DAT), Weather Alerts, Pest & Disease (P&D) alerts), the user will be able to see number of alerts per fields that are affected or are in danger. Furthermore, by filtering table Counties, the user will have an overview of damages per County/Policy of his/her interest.

For example, the picture below presents the Spanish case, where the insurer concluded 1 policy per each County (see the table on the left) and in the table Fields (on the right) are presented the parcels within covered with 2 policies.

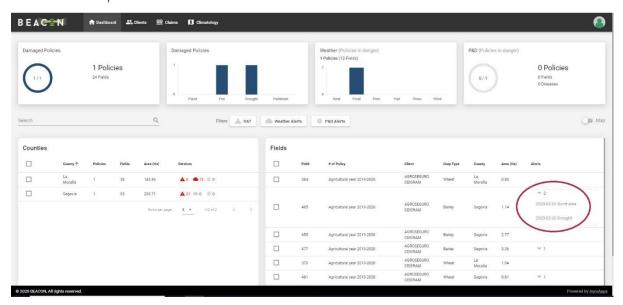


Figure 6: Dashboard

The user/insurer is able to search and manage his/her clients through the Clients' interface. The information provided is Name, Last name, Email and No of Policies (*Figure 7*).



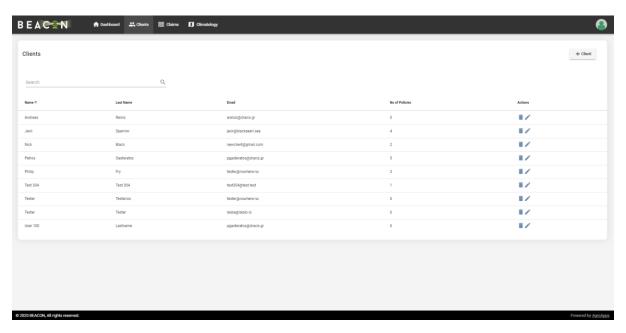


Figure 7: Clients' interface

Through the Clients' interface, the user/ insurer can add a new client. In order to complete the registration for the new client, the user/ insurer should enter all the required information. In addition, the user/ insurer is able to offer their client access to the mobile application. If user click on the "Mobile App Access" and put the email address of client, it will enable insurer to send the mitigation actions to the client (*Figure 8, below*).

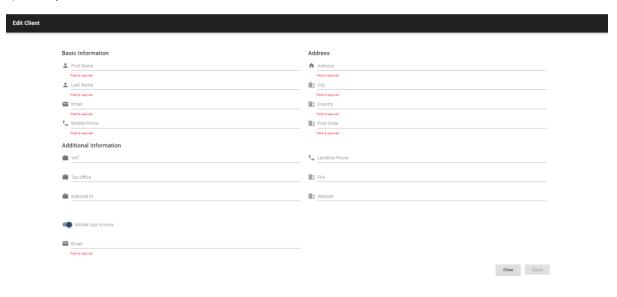


Figure 8: Add new client



Clients

Scarch

Culors

Culor

At any given point, the user/insurer is able to edit the details of a client and/or delete it from the list.

Figure 9: Delete a client

In order for the user/insurer to view the registered policies per client, along with the respective insured fields, they should click on the client's row (clickable row). Then, the user/ insurer is directed in the following interface, which includes all the client's policies as well as the respective fields. The interface is separated into two parts. The first part (left table) is the list that includes all the registered policies for the specific client as well as the button for new Policy. Moreover, the clickable option "Ended" presents the policies that have expired and are not presented in the active policies list. The second one (right table) presents all the details from the selected Policy (duration, insured area, insured value), the registered fields with the respective information (field, crop type, sowing date, county, insured risks, insured value, status and actions). If a field is in danger, then in the status column an alert is depicted "Attention is required". Furthermore, the user/insurer is able to upload shapefile and/or delete or edit a field as well as the contract or even discontinue it. If the insurer agrees to engage in the contract, he can call the underwrite function. The application is then turned in a policy on chain, and a policy Id is generated. Although in the real-life process of Agricultural Insurance (AgI), no further editing is allowed in the policy after its completion, the BEACON system allows the user/insurer to proceed with this action. The aim of editing a contract is to correct/modify any errors. These actions are also registered in the blockchain, so no fraud could be performed against the insured farmers.





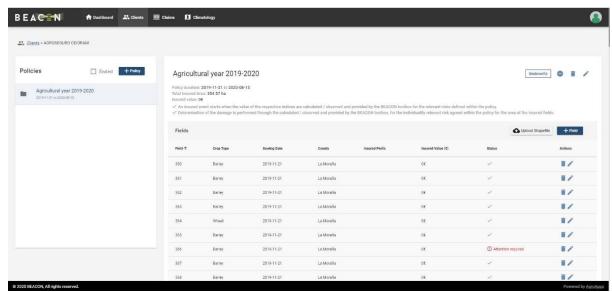


Figure 10: Policies/ Fields

The user/ insurer can select a client and start preparing the policy and the smart contract (by clicking on the button "+Policy") by filling in all the required information.

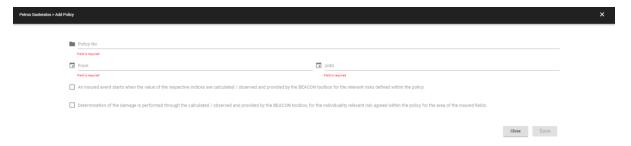


Figure 11: Create policy

The user/ insurer is able to add one or more fields under a policy. The required fields for the field creation are Name, Crop type (dropdown list), Sowing and Harvesting date, Insured Value (€) and Insured Perils. The field can be insured for more than one risks and each risk entails its own boundaries/ thresholds. These boundaries are set in order for the smart contract to know when a damage identified in the field



by the Damage Assessment Calculator is considered as a payout. Moreover, there is a threshold in the amount, meaning that for the specific threshold that is set (%) the respective one should be set in order to calculate the payout amount.

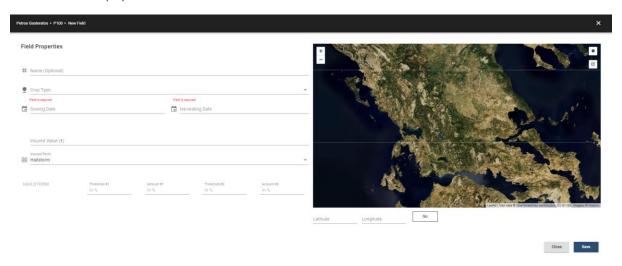


Figure 12: Add field

The user/insurer is also able to edit the inserted details for each field.

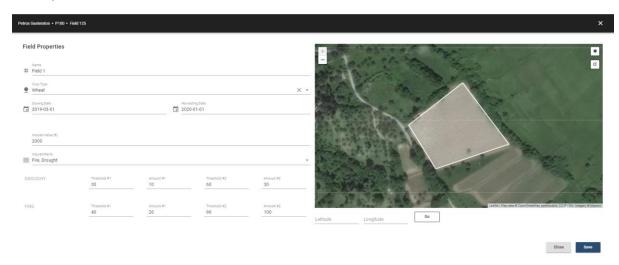


Figure 13: Edit field



Furthermore, the user/ insurer is able to observe the estimations of the crop growth biophysical parameters using remote sensing indices, such as NDVI, Biomass, Chlorophyll, LAI and yield estimation (by clicking on "NDVI" the drop-down menu will show up where the user/insurer can select desired parameter). The results of each index are visualized on the top of a map along with a dynamic legend in order to provide guidelines of this visualization. In addition, the user/ insurer is able to view whether an extreme weather event might occur during the next seven days as well as whether there is a possibility of occurrence of pest and disease (in the table "Forecast").

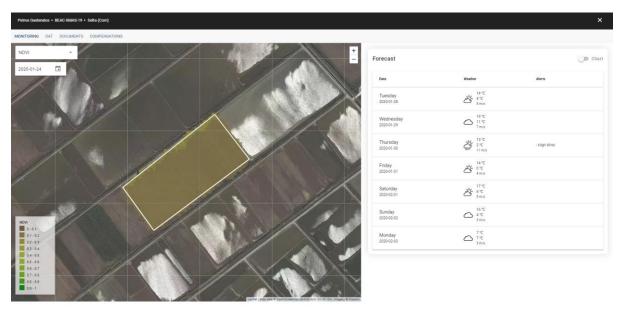


Figure 14: Crop monitoring

The user/ insurer is able to view previously available remote sensing images, by selecting the respective date from the calendar.



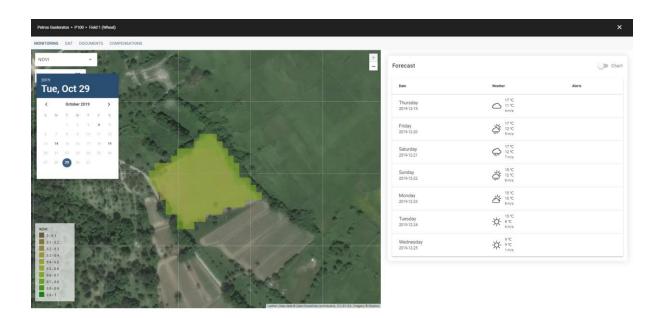


Figure 15: Selection of previously available images

The user/ insurer is able to view the damage estimation for a field caused by flood, fire, drought and hailstorm (by clicking on "Flood" the drop-down menu will show up where the user/insurer can select desired parameter). This estimation is provided to the user/ insurer through a map along with a legend as well as a table with the results of the indicator as a summary of the field's condition. In addition, the user/ insurer is able to view for a certain time all the confirmed extreme weather events that have taken place in the field, so as to have a complete overview of the type of disaster. The user/ insurer can also choose to display the index results in older images form the available time-series for the particular field, using the calendar.





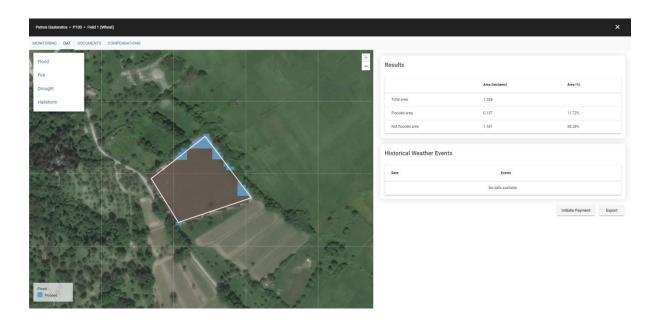


Figure 16: Damage Assessment Calculator



The user/ insurer is also able to export this information in a pdf format.

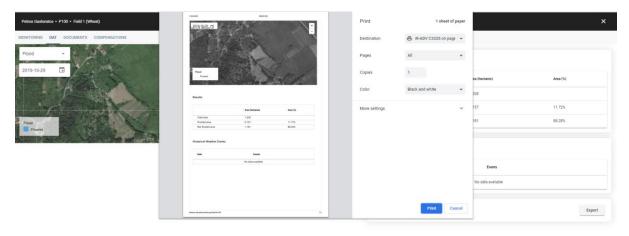


Figure 17: Export damage information

The user/ insurer can upload of the relative documents for the specific field, such as on-the-spot inspection results, images, etc. in order to support their estimation.



Figure 18: Field documents



In the Field Compensations section, the user/ insurer can insert the history of the specific field in order to keep a record of what has happened on this field.

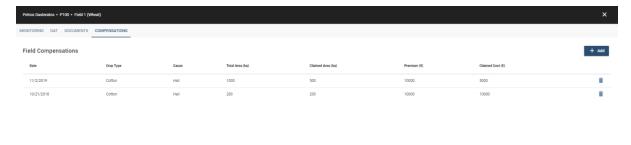


Figure 19: Field Compensations

Once a claim is triggered from the blockchain, based on the thresholds set on the smart contracts and the checks performed, the user/ insurer is informed from the Claims section. This section includes all the records of the claims (accepted, not accepted and also once that are in status of pending) and keep track of the records. Of course, these records are also kept in the blockchain.

Once the user/insurer click on the "Accept" button the platform sends the notification to blockchain to pay out. If the user/insurer click on the "Reject" the payment won't be performed.



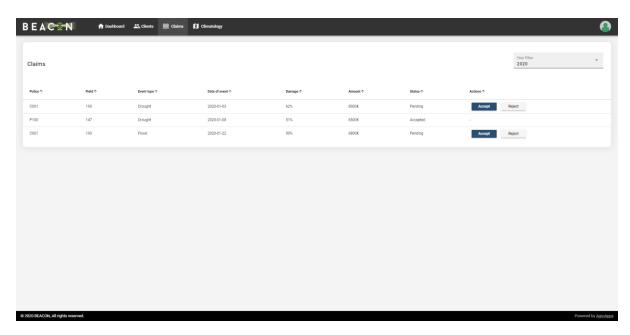


Figure 20: Claims

BEACON offers to the users/ insurers the Climatology interface as well, where they can see historical meteorological data (**up to 30 years back**) for the area of interest. The results are presented on the top of a map or on tables.

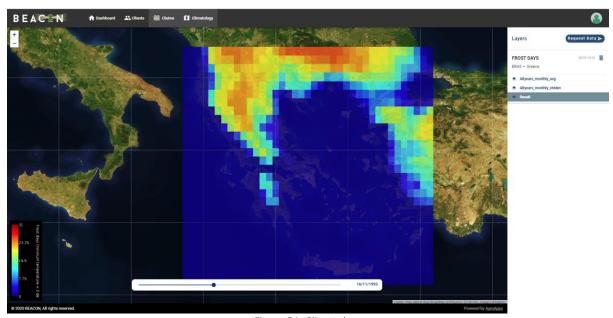
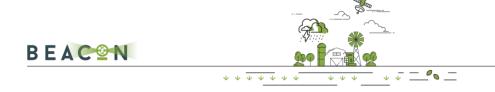
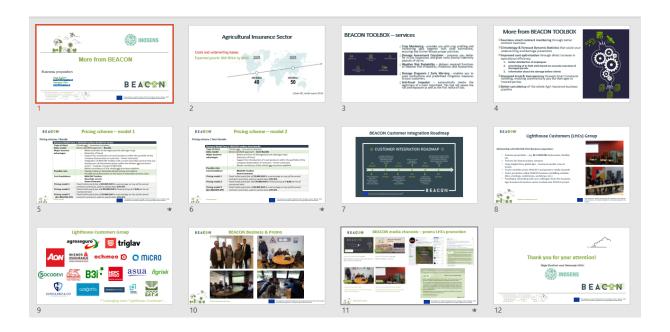


Figure 21: Climatology



Annex 2 – Business presentation







Annex 3 – Pilot monitoring sheet via google doc

