Organics Case Study: Use Case Briefs

Veracity Spearhead — Judith Perera and Camila Costa Silva

August 2022

1 Introduction

The Organic Supply Chain comprises of **8 stages** which include; *Inputs for Organics, Farming and Growing, Transport, Processing, Packaging, Warehousing, Shipping and Retail.* There are multiple **Stakeholders** involved in these stages. They include; *Primary Producers (i.e., Farmers or Growers), Non-Primary Producers (i.e., Manufacturers or Processors, Distributors), Retailers as well as the Consumer.* Ensuring '**Veracity'- Trust, Truthfulness and Authenticity within the Organics Supply Chain** is ensuring that, for example, the integrity of a product is maintained throughout all the stages of the supply chain.

This documentation illustrates the *business processes identified within the organics domain.* In particular, we attempt to identify and study the **workflows pertaining to the certification of Organic products and processes identified within the Organics Supply Chain** in order to understand the *Actors, Entities, and the Actions and Transactions that take place among those Actors and Entities.*

Currently, certification of organic products and processes is performed by multiple different certification agencies within New Zealand; some specialized in certifying products for the *national i.e., domestic market* and some specialized in certifying products for both *national and international markets.* The certification is performed for either one or more stages of the supply chain depending on the product and the processes involved. Depending on the certification that takes place, different workflows are followed to issue certification. These workflows include: **Certification Workflow for Primary Producers, Certification Workflow for Non-Primary Producers, Certification Workflow for Retailers, Certification Workflow for Inputs**. Table 1 shows the relation between the Organic Supply Chain stages and the Certification Workflows and Certification Programs for the different types of certification identified within the organics domain.

The organics domain comprises of a vast variety of products including; Orchard, Livestock, Aquaculture, Honey and Bee products, Wild and Natural products, Viticulture and Wine making. Out of these, we selected **'Viticulture and Wine making'** as our **pilot product** for studying the Certification Workflows. Below we created a *hypothetical storyline template* for Viticulture and Wine making with Actors and Contexts. We will reuse this template in the rest of this document.

- Actors
  - Actor name starts with **P** - a producer (Applicant / Licensee)
  - Actor name starts with **C** - a certification agent of a Certification Agency
  - Actor name starts with **A** - an auditor from a Certification Agency who performs on-site inspections

Table 1: Mapping between Supply Chain Stages and Certification Workflows

Supply Chain Stage	**Certification Workflow**	**Certification Program**
1 Inputs for Organics	Certification Workflow for Inputs	Inputs for Organics, Cert. Programs for Export Markets
2 Farmers and Growers	Certification Workflow for Primary Producers	Organic Certification, Cert. Programs for Export Markets
3 Transport	Certification Workflow for Primary Producers	
4 Processing	Certification Workflow for Non-Primary Producers	
5 Packaging	Certification Workflow for Non-Primary Producers	
6 Warehousing	Certification Workflow for Non-Primary Producers	
7 Shipping	Certification Workflow for Non-Primary Producers	
8 Retail	Certification Workflow for Retailers	[To be decided/ done (TBD)]

  - Actor (entity) name starts with **S** - standard and rules for the organic certification (Organic Market)

- Contexts
  - Starts with **Ctxt** e.g., Ctxt1 - a context describing a background story
  - Highlights in yellow - first step where the exception is identified by an Actor.
  - Highlights with underline - first step where the data that will generate the exception in the system.

The rest of this document is organized as follows; Sections 2-5 describe the Certification Workflows with Subsections describing Use Case Briefs. Within each use case brief, we describe a hypothetical scenario which describes the use case. Then we describe specific use cases within that with respect to a *blue sky scenario — an ideal or perfect scenario and two exception scenarios.* The exception scenarios illustrate possibilities where 'Veracity' could be compromised — potential veracity instances. Table 2 shows the level of granularity with respect to the information presented in this documentation. Section 6 provides a glossary of terms that helps better understand this document.

Table 2: Level of Granularity: 1 - High level, 3 - Detailed

Heading	**Level of Granularity**	**Description**
Certification Workflow	1	Business processes for the different types of certification.
Use Case	2	Interactions between different actors and systems to accomplish the Certification Workflows. Use Cases are presented in a Use Case diagram in this document. The heading of a Use Case Brief refers to a Use Case illustrated in the Use Case Diagram.
Use Case Brief	3	Describes example scenarios for each Use Case centered around the tasks performed by actors. Contains a 'blue sky (perfect scenario)' and two exception scenarios where the steps could deviate from the blue sky. The heading format would be [Use Case ID].[Description], e.g. UC03. Describe ingredients of product(s)

2 Certification Workflow for Inputs

Inputs i.e., Input Products (pertains to Stage 1 of the supply chain), are used in the process of organic farming; they are the ingredients used for growing or manufacturing organic products. For example, products such as fertilisers, animal treatments, products used in pest and disease management and plant nutrition products. These products will be certified for use in certified organic production.

The certification workflow for Inputs is a 4 step submitting process. First, the client (i.e., to-be-licensee) has to submit a description of the ingredients that will be used in the production with percentages. Then, the recipe with breakdown of formulations, thereafter the Organic Management Plan (OMP) and lastly, the Packaging.

The first two steps of submission are considered to be belonging to the sub-process, *Pre-Assessment* where the client has to provide the following information about organic and non-organic ingredients being used in the Inputs. The Pre-Assessment involves checking that the client would be compliant for certification before they go through the more rigorous processes. During this process, the certification agency will analyze all facets of the product including all ingredients, additives and processing aids and manufacturing procedures. The process can take a minimum of two hours per product. The duration can span from 5 working days to a maximum of 40 working days. Costs include the pre-assessment that will be deducted from the certification fee if the client decides to proceed with certification.

Information to be provided for each non-organic ingredient;

- A specification sheet outlining the full composition of the ingredient
- A GMO declaration
- A list of importers, suppliers and manufacturers
- A detailed description of the manufacturing process
- A copy of the product label(s)

Information to be provided for each organic ingredient;

- Valid organic certificates

During the Pre-Assessment, the certification agency will also assess the product for compliance to all relevant organic markets that affect organic growers in New Zealand, including:

- Certification Agency's Organic Standards (NZ)
- Organics International (IFOAM) Norms — a global membership based organization for Organics
- MPI-OOAP Technical Rules (EU, Taiwan)
- USDA-National Organic Programme (USA)
- Japan Agricultural Standard - JAS (Japan)
- Canada Organic Regime - COR (Canada)

The second two steps of submission are considered to be belonging to the sub-process, *Initial-Assessment* where the actual assessment happens. If the results of the pre-assessment are compliant, and the client is still interested in certification, this is the phase where the client has to fully commit to their organic journey.

The Initial-Assessment involves few steps. The client first completes a short Application Form, then the certification agency will send an invoice, set-up a personal log-in for the client and ask the client to fill out the online forms. Once the certification fee has been paid, the certification agency will assess the client's application.

Whilst assessing the application an auditor will visit the client's operation to carry out an on-site inspection. Following a satisfactory audit report, the certification agency will issue the client with the certification and supply them with a recognised certification logo. The certification agency will then assess the product label(s) and approve them for printing. The time frame will be at a minimum, 40 working days. Costs include; the annual cost of certification, ingredient fees, auditor fees and G.S.T. (auditor fee calculated on region).

However, for the Pre-Assessment or the Initial Assessment to begin, firstly, the client has to submit an Expression of Interest. In case the client is new to the organics domain, an initial contact meeting can be arranged for a one-on-one consultation about whether certification is right for the particular client.

2.1 Use Case Briefs for Inputs

Figure 4 shows the use cases identified in the Certification Workflow for Inputs. To describe these use cases as short stories, we created a hypothetical background. In this background we have **Actors** and a **Context**:

- **P**enelope, a producer (Applicant / licensee) of organic fertilizers for viticulture.
- **C**harlotte, a certification agent of BioGro.
- **S**tandards, a black box of all relevant organic markets that affect organic growers in New Zealand.
- **A**lana, an auditor from BioGro that performs on-site inspections.

Ctxt1: Inputs Certification: Penelope produces organic fertilizers for viticulture since 2000, when she started her business. She tried to apply for the BioGro Input Certification in 2020

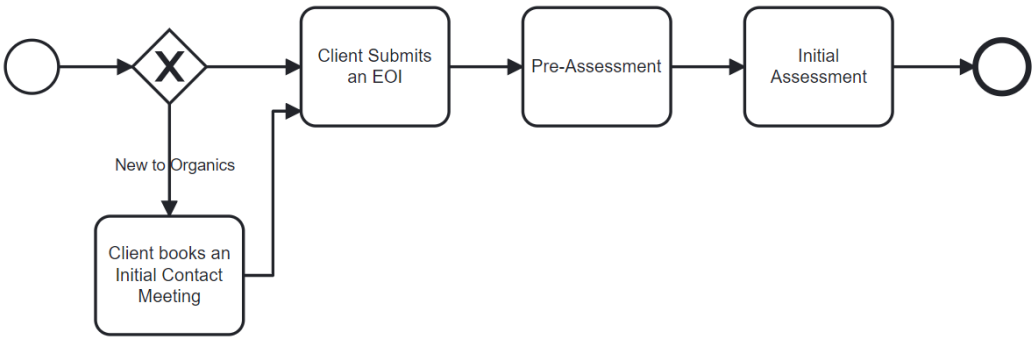

Figure 1: [BPMN Diagram] Certification Workflow for Inputs, includes sub-processes Pre-Assessment and Initial-Assessment

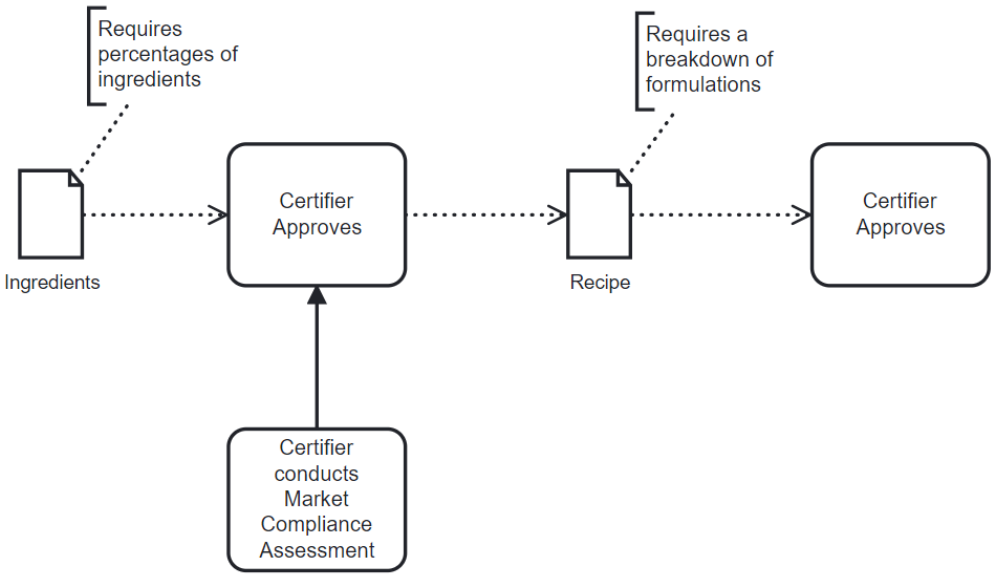

Figure 2: [BPMN Diagram] Pre-Assessment

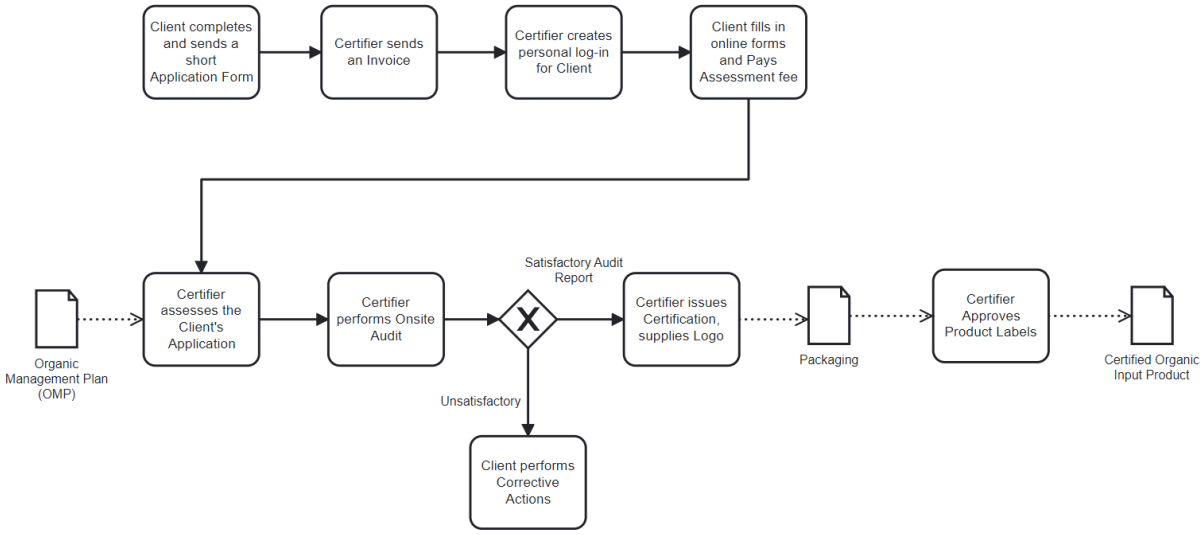

Figure 3: [BPMN Diagram] Initial-Assessment

but the application was unsuccessful due to lack of necessary documentation. This year, she is re-applying for this certification.

2.1.1 UC03. Describe ingredients of product(s)

In a **ideal or blue sky** scenario for **Ctxt1: Inputs Certification**, Penelope will successfully describe all the ingredients (organic and non-organic) of her fertiliser. Therefore:

0. Penelope prepares a specification sheet to describe the ingredients of her fertiliser.

    1. Penelope creates a spreadsheet to describe the ingredients of her fertilizer.

    2. Penelope lists all non-organic ingredients and their full compositions in a tab of her spreadsheet.

    3. Penelope lists all organic ingredients in another tab of her spreadsheet.

    4. Penelope prints both tabs of her spreadsheet.

    5. Penelope attaches copies of documents regarding the non-organic ingredients to the prints of her spreadsheet. Penelope attaches a Genetically Modified Organism (GMO) declarations and the list of suppliers for each ingredient listed in her spreadsheet.

    6. Penelope attaches copies of valid organic certificates for all organic ingredients listed in her spreadsheet.

    7. Penelope puts the prints of her spreadsheet and the attached copies of documents in an envelope.

    8. Penelope writes her contact information on the envelope.

    9. Penelope sends her envelope to BioGro.

    10. Charlotte at BioGro receives Penelope's envelope.

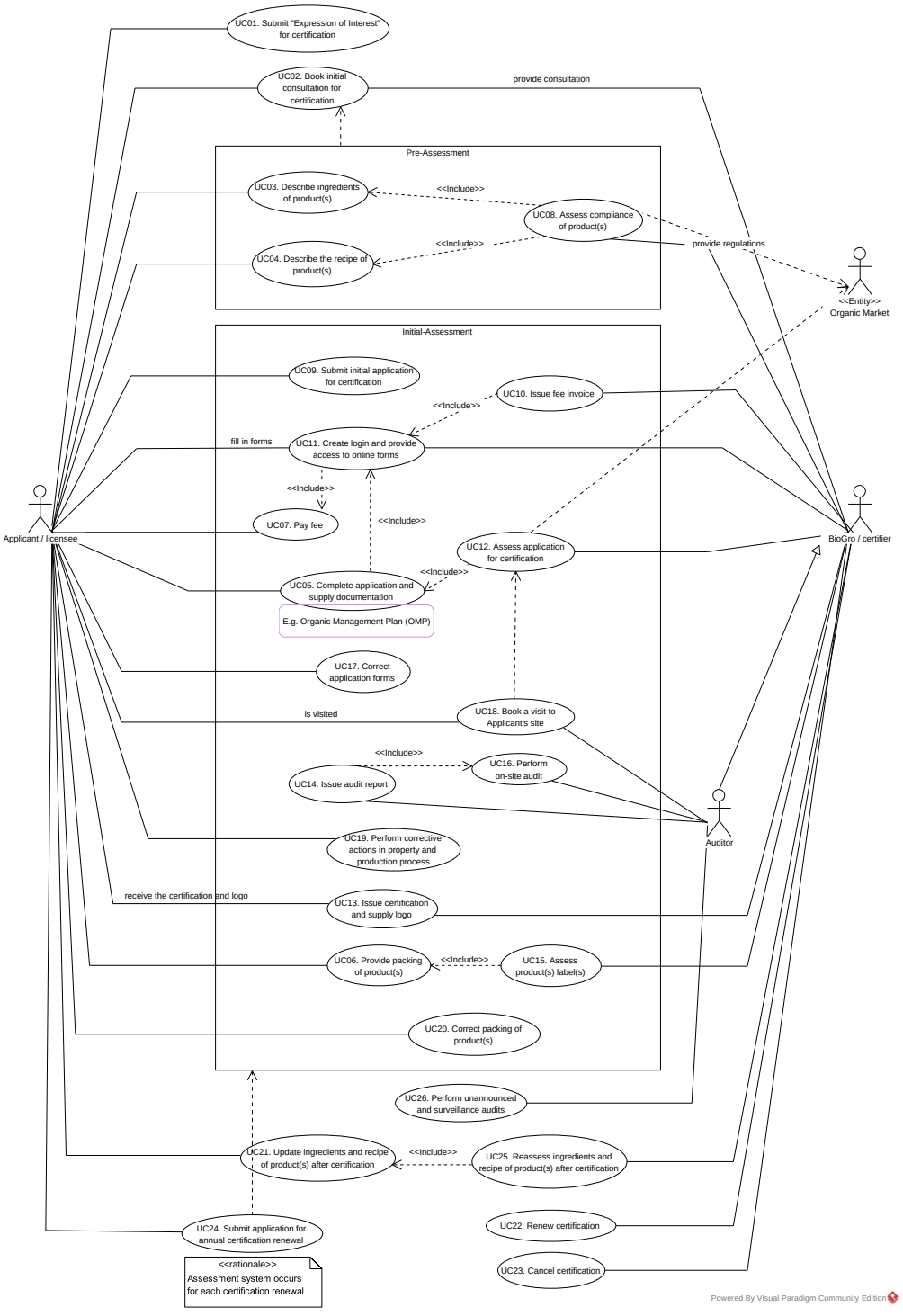

Figure 4: [UML Use Case Diagram] Certification Workflow for Inputs

11. Charlotte checks that the sheet outlining ingredients was complete and the necessary documents were attached.

In an **exception scenario 01** for **Ctxt1: Inputs Certification**, Penelope prepares a specification sheet to describe the ingredients of her fertiliser. However, she does not have all the documents requested for non-organic ingredients. Therefore:

0. Penelope prepares a specification sheet to describe the ingredients of her fertiliser.

1. Penelope creates a spreadsheet to describe the ingredients of her fertilizer.
2. Penelope lists all non-organic ingredients and their full compositions in a tab of her spreadsheet.
3. Penelope lists all organic ingredients in another tab of her spreadsheet.
4. Penelope prints both tabs of her spreadsheet.
5. Penelope attaches copies of documents regarding the non-organic ingredients to the prints of her spreadsheet. Penelope attaches the list of suppliers for each ingredient listed in her spreadsheet. However, Penelope misses attaching genetically modified organism (GMO) declarations.
6. Penelope attaches copies of valid organic certificates for all organic ingredients listed in her spreadsheet.
7. Penelope puts the prints of her spreadsheet and the attached copies of documents in an envelope.
8. Penelope writes her contact information on the envelope.
9. Penelope sends her envelope to BioGro.
10. Charlotte at BioGro receives Penelope's envelope.
11. Charlotte checks that the sheet outlining ingredients was complete. However, the GMO declaration was not attached for three of the ingredients listed.
12. Charlotte reaches out to Penelope by phone.
13. Penelope picks up the phone.
14. Charlotte informs Penelope that the GMO declarations were not provided for three of the non-organic ingredients listed in Penelope's ingredients spreadsheet.
15. Charlotte informs Penelope that she has 30 days to send the GMO declarations, so the Pre-Assessment may proceed.
16. Penelope understands Charlotte's request and hangs up the phone.
17. Charlotte prepares a formal letter for this request and sends it to the address that Penelope provided.
18. Penelope checks that she is not able to get the GMO declaration for one of her non-organic ingredients.
19. Penelope decides to not go ahead with the Inputs Certification as she cannot get the GMO declaration.

20. Charlotte does not receive any news from Penelope.

In an **exception scenario 02** for **Ctxt1: Inputs Certification**, Penelope prepares a specification sheet to describe the ingredients of her fertiliser. However, the organic certificates of some of her organic ingredients are not valid. Therefore:

0. Penelope prepares a specification sheet to describe the ingredients of her fertiliser.

1. Penelope creates a spreadsheet to describe the ingredients of her fertilizer.

2. Penelope lists all non-organic ingredients and their full compositions in a tab of her spreadsheet.

3. Penelope lists all organic ingredients in another tab of her spreadsheet.

4. Penelope prints both tabs of her spreadsheet.

5. Penelope attaches copies of documents regarding the non-organic ingredients to the prints of her spreadsheet. Penelope attaches a genetically modified organism (GMO) declarations and the list of suppliers for each ingredient listed in her spreadsheet.

6. Penelope attaches copies of organic certificates for all organic ingredients listed in her spreadsheet.

7. Penelope puts the prints of her spreadsheet and the attached copies of documents in an envelope.

8. Penelope writes her contact information on the envelope.

9. Penelope sends her envelope to BioGro.

10. Charlotte at BioGro receives Penelope's envelope.

11. Charlotte checks that the sheet outlining ingredients was complete. However, Charlotte notices that the organic certificates of two ingredients outlined in the spreadsheet are not valid.

12. Charlotte reaches out to Penelope by phone.

13. Penelope picks up the phone.

14. Charlotte informs Penelope that the organic certificates provided for two of the organic ingredients listed in Penelope's ingredients spreadsheet were not valid.

15. Charlotte informs Penelope that she has 30 days to send valid certificates, so the Pre-Assessment may proceed.

16. Penelope understands Charlotte's request and hangs up the phone.

17. Charlotte prepares a formal letter for this request and sends it to the addresses that Penelope provided.

18. Penelope gets valid organic certificates for the two ingredients.

19. Penelope writes a letter to Charlotte requesting an update in the description of her fertiliser's ingredients now that she possesses valid organic certificates.

20. Penelope puts the letter and a copy of the valid organic certificates in an envelope.

21. Penelope writes her contact information on the envelope.

22. Penelope sends the envelope to BioGro.

23. Charlotte receives Penelope's envelope.

24. Charlotte checks that the organic certificates sent are valid.

2.1.2 UC17. Correct application forms

In a **ideal or blue sky** scenario for **Ctxt1: Inputs Certification**, Charlotte assessed Penelope's application (UC12) and corrective actions were required. Penelope will successfully correct her certification application as requested by Charlotte. Therefore:

0. Penelope receives an e-mail from Charlotte requesting corrective actions regarding her certification application.

1. Penelope checks the e-mail from Charlotte about her application.

2. Penelope understands that she has to implement corrective actions regarding the description of her fertilizer manufacturing process and packing and labeling details.

3. Penelope prepares a more detailed description of the manufacturing process of her fertilizer, including pictures of the machinery used.

4. Penelope prepares a more detailed description of the packing and labeling of her fertilizer, including pictures of labels and packaging.

5. Penelope logs in the BioGro system.

6. The system alerts Penelope that her application needs to be updated.

7. Penelope access the functionality "Update Application".

8. Penelope fills in the forms regarding fertilizer manufacturing process and uploads the detailed descriptions that she prepared.

9. Penelope fills in the forms regarding packing and labeling, and uploads the detailed descriptions that she prepared.

10. Penelope saves her application in the system.

11. The system confirms that the data was saved.

12. Penelope rechecks the data saved and submit her application.

13. The system confirms the submission of Penelope's application.

14. Charlotte assesses Penelope's application, confirms that the CARs have been completed accurately and does not request new corrective actions.

In a **exception scenario 01** for **Ctxt1: Inputs Certification**, Charlotte assessed Penelope's application (UC12) and corrective actions were required. However, Penelope cannot correct her certification application as requested by Charlotte. Therefore:

0. Penelope receives an e-mail from Charlotte requesting corrective actions regarding her certification application.

1. Penelope checks the e-mail from Charlotte about her application.
2. Penelope understands that she has to implement corrective actions regarding the description of her fertilizer manufacturing process and packing and labeling details.
3. Penelope prepares a more detailed description of the manufacturing process of her fertilizer, including pictures of the machinery used.
4. Penelope prepares a more detailed description of the packing and labeling of her fertilizer, including pictures of labels and packaging.
5. Penelope logs in the BioGro system.
6. The system alerts Penelope that her application needs to be updated.
7. Penelope access the functionality "Update Application".
8. Penelope fills in the forms regarding fertilizer manufacturing process and uploads the detailed descriptions that she prepared.
9. Penelope fills in the forms regarding packing and labeling, and uploads the detailed descriptions that she prepared.
10. Penelope saves her application in the system.
11. The system confirms that the data was saved.
12. Penelope rechecks the data saved and submit her application.
13. The system confirms the submission of Penelope's application.
14. Charlotte assesses Penelope's application and finds issues with the manufacturing process of her fertilizer.
15. Charlotte sends an e-mail to Penelope requesting corrections in her application regarding the fertilizer manufacturing process.
16. Penelope checks the e-mail from Charlotte about her application.
17. Penelope understands that she has to implement corrective actions regarding the description of her fertilizer manufacturing process.
18. Penelope checks that she cannot implement the corrections requested.
19. Penelope decides to not go ahead with the Inputs Certification as she cannot correct her fertilizer manufacturing process.
20. Charlotte does not receive any news from Penelope.

In a **exception scenario 02** for **Ctxt1: Inputs Certification**, Charlotte assessed Penelope's application (UC12) and corrective actions were required. However, Penelope cannot update her certification application in the system. Therefore:

0. Penelope receives an e-mail from Charlotte requesting corrective actions regarding her certification application.

1. Penelope checks the e-mail from Charlotte about her application.

2. Penelope understands that she has to implement corrective actions regarding the description of her fertilizer manufacturing process and packing and labeling details.

3. Penelope prepares a more detailed description of the manufacturing process of her fertilizer, including pictures of the machinery used.

4. Penelope prepares a more detailed description of the packing and labeling of her fertilizer, including pictures of labels and packaging.

5. Penelope logs in the BioGro system.

6. The system alerts Penelope that her application needs to be updated.

7. Penelope clicks on the functionality "Update Application" but it does not open her application. The system shows an error.

8. Penelope sends an e-mail to Charlotte informing the system error and that she could not update her certification application.

9. Charlotte reads Penelope's e-mail.

10. Charlotte asks the Information Technology (IT) department to check Penelope's application in the system. Charlotte informs the system error and that Penelope could not update her application.

11. IT department identifies the cause of the system error.

12. IT department implements the necessary corrections to the system in around 15 days.

13. IT department checks Penelope's application in the system and verifies that it can be accessed and modified.

14. IT department informs Charlotte that the issue with Penelope's application was resolved.

15. Charlotte sends an e-mail to Penelope informing her that she will be able to update her application.

16. Penelope checks the e-mail from Charlotte about her application.

17. Penelope logs in the BioGro system.

18. The system alerts Penelope that her application needs to be updated.

19. Penelope access the functionality "Correct Application".

20. Penelope fills in the forms regarding fertilizer manufacturing process and uploads the detailed descriptions that she prepared.

21. Penelope fills in the forms regarding packing and labeling, and uploads the detailed descriptions that she prepared.

22. Penelope saves her application in the system.

23. The system confirms that the data was saved.

24. Penelope rechecks the data saved and submit her application.

25. The system confirms the submission of Penelope's application.

26. Charlotte assesses Penelope's application, confirms that the CARs have been completed accurately and does not request new corrective actions.

3 Certification Workflow for Primary Producers

Certification Workflow for Primary Producers (i.e., Farmers or Growers) pertains to the generic Supply Chain Stages 'Farmers and Growers' (Stage 2) and 'Transport' (Stage 3)—see Table 1. Considering our *pilot* product 'Viticulture and Wine making', these two stages are called 'Viticulture' and 'Transport'. Organic Standards that have to be met by the licensee for these supply chain stages are; the 'Viticulture and Wine making Standard' (for both stages 2 and 3) and the 'Distribution Standard' (for stage 3). Therefore, the certification must ensure the compliance to these standards, in particular, the requirements for Organic Viticulture and the requirements for Grape processing and Wine making for these standards must be met.

Few examples of meeting requirements for Organic Viticulture are; meeting soil and fertility management requirements such as, Soil testing (tests should be carried out under ISO 17205 accredited laboratory tests)—regular soil testing to ensure maintain the overall fertility of the vineyard, Herbage/ Foliar testing—to evaluate the need for nutrients such as minerals, permitted use of biological activators and the permitted use of fertilizers. All these requirements apply to grape growers.

An example of meeting requirements for Grape Processing and Wine making that apply to the 'Transport' stage of the supply chain is, segregation of certified and non-certified or lesser certified produce during transportation. The licensee must make sure that the certified organic produce does not co-mingle with other types of produce, for example, non-certified or conventional produce.

It takes 3 years for a licensee to fully convert to a certified primary producer i.e., a certified grape grower. Therefore, the Certification Workflow for Primary Producers can take up to 3 years from the registration date to the date of being able to be certified for export market programs. These 3 years are labelled as; *C0 or R - Registration year*, *C1 - Conversion year 1*, *C2 - Conversion year 2*. Once the licensee is fully certified an annual assessment will take place to ensure that the certification can be continued.

When an applicant is interested in applying for organic certification as a primary producer, they are first asked to submit an Expression of Interest (EOI). An initial contact meting will be scheduled between the applicant and the certification agency. Thereafter, an initial Assessment takes place. During the initial assessment the applicant is asked to complete and send a short Application Form. Then the certification agency will create a personal login for the applicant and ask them to fill some online forms. Once the certification fee is paid the application will be assessed by the certification agency. Meanwhile, an auditor from the certification agency will visit the farm or vineyard to carry out an onsite audit. Following a satisfactory audit report, the certification agency will determine the registration start date of the property. In order be fully certified, the grower has to move through each stage of conversion i.e., conversion years demonstrating the compliance with the Organic Standards in the annual renewal applications and audits. Upon satisfactory audit report, the certification agency issues the Producer with the relevant certification and supplies the logo depending on the certification level e.g., "in conversion" or "certified". The certification agency assesses and approves product label(s) before printed by the Producer. An applicant could also apply for retrospective registration up to a maximum of two years backdating the the registration start date if they could prove that they had been following the Organic Standards before applying for certification.

Listed below are the main steps to be traversed in the certification Workflow for Primary Producers during the 3 years of conversion for a producer to become a "certified primary producer". Figure x illustrates the process. Figure y illustrates the Use Case Diagram.

1. **Submission of the Expression of Interest (EOI)** An applicant who is interested in getting certified as a primary producer submits and EOI.

2. **Initial Contact Meeting** The initial contact meeting which takes place between the applicant and the certification agency is booked by the applicant.

3. **Initial Application** The applicant obtains the Standards and Applicants' Pack. The applicant then completes the Applicants' Pack and supplies it with all the required documentation to the Certification Agency. The Certification Agency assesses the OMP for compliance with the Standards, and completes an Application Assessment Report. If necessary, extra information is requested from the applicant. The Certifier then issues the application and assessment report to an auditor. Information that should be provided by the applicant (required documentation):

    - Property maps - area to be certified, storage and processing areas, nature of internal and external boundaries, water features and natural drainage patterns etc
    - OMP - History of prohibited inputs, Soil tests, History and ownership/management structure, Environmental Management Plan for the whole property
    - Sector OMP

    Applicants should submit their initial application for registration in time for their audit to be carried out and finalized:

    - prior to their last conventional harvest for crops and orchards; or
    - prior to the start of their registration year production season for meat and dairy

4. **Create Personal Login/ Fill online forms** The certification agency creates a personal login for the applicant. The applicant is required to fill in online forms.

5. **Initial Application Audit** The application will be assessed for compliance with the Standards, then issued to an auditor. The auditor will first conduct a document review and will contact the applicant if any further information is required before the onsite audit. The auditor then arranges to visit the property to interview the applicant, inspect the operation and examine any necessary documents and paperwork. At the completion of the audit, the auditor provides the applicant with copies of any Corrective Action Requests (CARs) detailing recommended corrective actions. The auditor will also inform the applicant of the recommendations that will be made to the Certification Panel. The Audit Record Sheet and any CARs will be signed by the applicant to confirm their accuracy.

6. **Verify Compliance**

    - Review by the Certification Panel: The auditor's report and recommendation for certification are reviewed by the Certification Panel.

7. **Perform/ Close Corrective Actions** Once the applicant has performed the corrective actions they are Closed after verification by the Certification Panel.

8. **C0 (or R) — Registered with the certification agency** The Certification Panel advises the applicant of its decision in writing. Once approved, the applicant is registered with the Certifier.

    - Registration date: The registration start-date will usually be the date that the initial audit is finalized to the Certifier's satisfaction.
    - Licence Agreement: The applicant will receive the Licence Agreement and a copy of the Certifier's Code of Practice. The Licence Agreement must be signed and returned to the Certifier before the registration letter can be issued.

9. **Labelling of C0 Produce** No claims of organic or certified organic status may be made for any products during the C0 Registration year. The Certifier's trademarks/logos can not be used in any way as a description of any products. The registered producer may refer to the certifier on products and in promotional information as part of their contact details using wording such as "Registered with Certifier to commence conversion to certified organic production". Such references must be significantly less prominent than any associated product description. All such use of the word must be approved in writing by the Certifier prior to printing.

10. Execute Changes to the Organic Management Plan (OMP) Following issuing of registration, any proposed changes to the OMP, including use of input products not listed in the current OMP, must be approved by the Certifier in writing prior to those changes being made.

11. **Renewal Application and Audit for C1**

    - Application: Three months before the expiry date of the registration year (C0) the producer will be sent an application to apply for conversion year 1 (C1). The producer must complete this and return it to the Certifier.The certifier must receive it at least two months before the expiry date of the C0 year to ensure there is adequate time to carry out the audit. Application documentation for conversion year 1 (C1) must include:

      – An update to the information submitted in the previous Organic Management Plan (OMP) and supporting information.

      – New sector OMP information for each sector of production (crops, orchard, livestock etc) specifying the previous twelve months management and the Forward Work Plan for the next twelve months.

      – All other required information, such as:

        * Animal Treatment Record Sheets;

        * Brought-in Stock Quarantine Records;

        * Application for Use of Restricted Inputs, etc

    - Audit: On receipt of the application and fees the certifier assesses the OMP for compliance with the Standards, and completes an Application Assessment Report. If necessary extra information is requested from the applicant.The certifier then issues the application and assessment report to an auditor who then arranges the renewal audit with the applicant. The audit is carried out to assess the applicant's operation of their OMP, and to address any issues arising from this and from the application assessment report.The auditor conducts a document review on the updated and new information and contacts the applicant if any other information is required. The auditor arranges the time for the on-site audit. At the completion of the audit, the auditor provides the applicant with copies of any Corrective Action Requests (CARs) detailing recommended corrective actions.The auditor also informs the applicant of the recommendation that will be made to the Certification Panel.The Audit Record Sheet and any CARs are signed by the applicant to confirm their accuracy.

12. **Verify Compliance for C1**

13. **Perform/ Close Corrective Actions for C1**

14. **C1 — Certified in conversion to Certified Organic Production** On satisfactory review by the Certification Panel the applicant is issued with certification as "in conversion

to certified organic production" and "having met the requirements of the Organic Standards for a minimum of 12 months".

15. **Labelling of C1 Produce** Any labelling of C1 produce which refers to the Certifier in any way requires written approval from the Certifier, and must comply with the following requirements.

    - Approved labels - Products produced from the property at this stage can be labelled only as:
        - "Certifier certified conversion"; and/or
        - "product under conversion to organic farming certified by X"; and/or
        - "having met the requirements of the Organic Standards for a minimum of 12 months".
        - C1 products cannot be labelled with the Certifier's organic logo, but can use the trademark word as part of the above phrases and can use the conversion logo.
    - Format - No words in the phrase above must be more prominent, e.g., by the use of bold letters, colour or size etc., than the other words in the phrase. The phrase must appear in a colour, size and style of lettering that is no more prominent than the sales description of the product.
    - Ingredients of agricultural origin - In-conversion products can contain only one ingredient of agricultural origin.
    - Other labelling requirements - All other labelling requirements as specified in the Standards must be complied with.
    - Certifier's written approval for use of the trademark or conversion logo - Any use of or reference to the trademark or the conversion logo on labels or other printed material must be approved in writing by the Certifier prior to printing.

16. **Execute Changes to the OMP following C1** Following issuing of conversion certification, any proposed changes to the OMP, including use of input products not listed in the current OMP, must be approved by the certifier in writing prior to those changes being made.

17. **Renewal Application and Audit for C2** Three months before the expiry date of the first conversion year 1 (C1) the licensee will be sent an application to apply for conversion year 2 (C2). This must be completed and received by the Certifier at least two months before the expiry date of the C1 year to ensure there is adequate time to carry out the audit. Application documentation for conversion year 2 (C2) must include:

    - An update to the information submitted in the previous Organic Management Plan (OMP) and supporting information.
    - New sector OMP information for each sector of production (crops, orchard, livestock etc) specifying the previous twelve months management and the Forward Work Plan for the next twelve months.
    - All other required information, such as:
        - Animal Treatment Record Sheets;

- Brought-in Stock Quarantine Records;
- Application for Use of Restricted Inputs, etc

18. **Verify Compliance for C2**

19. **Perform/ Close Corrective Actions for C2**

20. **C2 — Certified in conversion to Certified Organic Production** On satisfactory review by the Certification Panel the operation will be issued with certification as "in conversion to certified organic production" and "having met the requirements of the Organic Standards for a minimum of 24 months".

21. **Labelling of C2 Produce** Products produced from the property at the C2 stage can be labelled only as:

    - "X certified conversion"; and/or
    - "product under conversion to organic farming certified by X"; and/or
    - "having met the requirements of the Organic Standards for a minimum of 24 months". C2 products cannot be labelled with the certifier's logo, but can use the trademark word as part of the above phrases, subject to written approval and can use the certifier's conversion logo. Labelling must comply with all the other requirements.

22. **Execute Changes to the OMP following C2** Following issuing of conversion certification, any proposed changes to the OMP, including use of input products not listed in the current OMP, must be approved by the certifier in writing prior to those changes being made.

23. **Renewal Application and Audit for "Certification"**

    - Application: Three months before the expiry date of the conversion year 2 (C2) the licensee will be sent an application to apply for certification. This must be received by BioGro at least two months before the expiry date of the C2 year to ensure there is adequate time to carry out the audit. Application documentation for certification must include:
      - An update to the information submitted in the previous Organic Management Plan (OMP) and supporting information.
      - New sector OMP information for each sector of production (crops, orchard, livestock etc) specifying the previous twelve months management and the Forward Work Plan for the next twelve months.
      - All other required information, such as:
        * Animal Treatment Record Sheets;
        * Brought-in Stock Quarantine Records;
        * Application for Use of Restricted Inputs, etc.
    - Audit: On receipt of the application and fees the certifier assesses the OMP for compliance with the Standards, and completes an Application Assessment Report. If necessary extra information is requested from the applicant. The certifier then issues the application and assessment report to an auditor who then arranges the renewal audit with the applicant. The audit is carried out to assess the applicant's operation

of their OMP, and to address any issues arising from this and from the application assessment report. The auditor conducts a document review on the updated and new information and contacts the applicant if any other information is required. The auditor arranges the time for the on-site audit. At the completion of the audit, the auditor will provide the licensee with copies of any Corrective Action Requests (CARs) detailing recommended corrective actions. The auditor will also inform the licensee of the recommendation that will be made to the Certification Panel. The Audit Record Sheet and any CARs will be signed by the applicant to confirm their accuracy.

24. **Verify Compliance for "Certification"**

25. **Perform/ Close Corrective Actions for "Certification"**

26. **Certified Primary Producer** On satisfactory review by the Certification Panel, the licensee will be issued with the certification and is then licensed to apply and direct the application of the certifier's trademark and Certification logo.

27. **Execute Changes to the OMP (after certified)** Following issuing of the certification, any proposed changes to the OMP, including use of input products not listed in the current OMP, must be approved by the certifier in writing prior to those changes being made.

28. **Annual renewal application and audit (continuation)**

    - Application: Three months before the expiry date of the certificate each year, the licensee will be sent an application to apply for renewal of the certification. The completed pack must be received by the certifier at least two months before the expiry date to ensure there is adequate time to carry out the audit. Applications for renewal of certification must update the OMP and information sent with the previous year's application. The update may be either a new set of documentation, or a clear outline of the changes that have occurred since the last application. On receipt of the application and fees the certifier assesses the OMP for compliance with the Standards, and completes an Application Assessment Report. If necessary extra information is requested from the applicant. The certifier then issues the application and assessment report to an auditor who then arranges the renewal audit with the applicant. The audit is carried out to assess the applicant's operation of their OMP, and to address any issues arising from this and from the application assessment report.

    - Audit: The auditor conducts a document review on the updated and new information and contacts the applicant if any other information is required. The auditor arranges the time for the on-site audit. the auditor will conduct a document review on the updated information and will contact the licensee if any other information is required. The auditor will then arrange a time for the on-site audit. At the completion of each renewal audit, the auditor will provide the licensee with copies of any Corrective Action Requests (CARs) detailing recommended corrective actions. The auditor will also inform the licensee of the recommendation that will be made to the Certification Panel. The Audit Record Sheet and any CARs will be signed by the applicant to confirm their accuracy.

29. **Verify Compliance (continuation)** On satisfactory review by the Certification Panel, the licensee will be issued with a renewed certification and will be able to continue to apply and direct the application of the certifier's trademark and logo.

30. **Perform/ Close Corrective Actions (continuation)**

31. **Execute Changes to the OMP (continuation)** Following issuing of the certification, any proposed changes to the OMP, including use of input products not listed in the current

OMP, must be approved by the certifier in writing prior to those changes being made.

32. **Unannounced audits** In addition to the annual audit, each licensee may receive unannounced random audit(s) or surveillance audit(s) during the year. Unannounced audits will be carried out without forewarning, and samples of produce may be taken for residue testing where contamination is a concern, e.g., where there may be spray drift from neighbouring properties, or to follow up on complaints. The certifier reserves the right that any such tests may be at the expense of the licensee. Any findings of concern and the need for the audit or tests will be discussed with the licensee at the time.

3.1 Use Case Briefs for Primary Producers

Figure 5 shows the use cases identified in the Certification Workflow for Primary Producers. To describe these use cases as short stories, we created a hypothetical background. In this background we have **Actors** and a **Context**:

- **P**eter, a producer (Applicant / licensee) of the wine using the grape variety *Sauvignon blanc*.
- **C**onnor, a certification agent of BioGro.
- **C**ertification-Panel, a group of certification agents of BioGro.
- **S**tandards, a black box of all relevant organic markets that affect organic growers in New Zealand.
- **A**dam, an auditor from BioGro that perform on-site inspections.

Ctxt1: Organics Certification (Primary Producer): Peter is a farmer producing wine from his own crops of grape. He owns a farm of 10 hectares and a wine production site divided into four buildings. In contact with other farmers, he identified the opportunity of increasing his income by investing in the production of organic wine. After implementing changes to his viticulture for a year, he feels ready to apply for the Organic Product certification.

Ctxt2: Organics Certification Renewal (Primary Producer): Peter has already received the Certification C0 for his wine. As his certification will be expiring in the next three months, BioGro sent Peter a reminder about the annual certification renewal. Peter decides to proceed with the certification renewal.

Ctxt3: Fully Certified Organic (Primary Producer): Peter is finishing the third year of C2 conversion for the Organic Certification of his wine. BioGro has already sent Peter a reminder that he can now apply for the Fully Certified Organic certification. Peter decides to proceed with the final step for his wine certification.

3.1.1 UC05. Complete application and supply documentation

In an **ideal or blue sky** scenario for **Ctxt1: Organics Certification (Primary Producer)**, Peter will successfully provide all the documents (Property Maps; Organic Management Plan (OMP) and Sector OMP) necessary for his certification application when filling in online forms (which access was provided in UC11 by Connor). Therefore:

0. Peter gets access to the online application forms.

1. Peter successfully logs in the BioGro website for the certification application.

2. Peter starts by filling in information about his Property Maps:

   (a) Peter uploads pictures of the maps of the areas of his farm to be certified. Peter

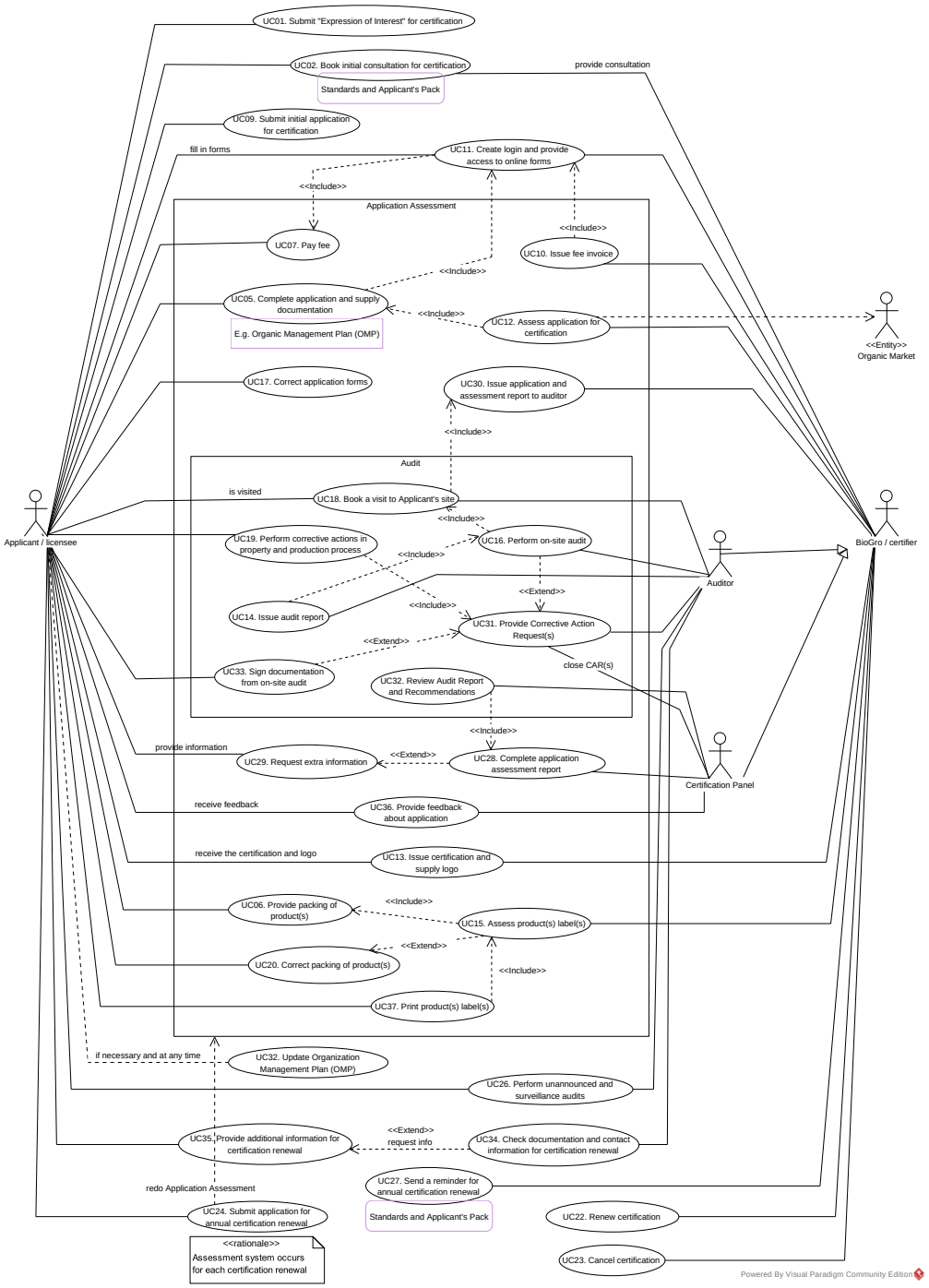

Figure 5: [UML Use Case Diagram] Certification Workflow for Primary Producers

identified all portions of his farmer areas (including amenity areas) with their full names for easy reference.

(b) Peter uploads pictures of the maps of the storage, packing and processing areas where his grapes are stored and where his wine is manufactured and stored.

(c) Peter uploads pictures of maps showing the nature of all internal boundaries, such as his crops' lanes and fences.

(d) Peter uploads pictures of maps showing the nature and condition of all external boundaries and the surrounding land uses.

(e) Peter uploads pictures of maps showing the extent and nature of buffer zones (which are non-harvested areas) between to-be-certified areas and neighbours.

(f) Peter uploads pictures of maps showing the presence and composition of natural areas in his farm.

(g) Peter uploads pictures of the maps with the location of any sustainability issues.

(h) Peter uploads pictures of maps showing water features and natural drainage patterns across his farm.

(i) Peter uploads pictures of maps showing all sources of water for his crops' irrigation and wine making.

3. Peter saves the form regarding Property Maps.

4. Peter proceeds to the next form.

5. Peter fills in the information about his Organic Management Plan (OMP):

(a) Peter starts filling in the section regarding the *history of prohibited inputs* to his crops and wine making.

(b) In the *history of prohibited inputs* section, Peter uploads copies of all spray and fertiliser diaries of his crops for the last year. The copies of these diaries were signed by the day-to-day manager(s) of spraying and fertilizing operations.

(c) Peter proceeds to the next section of the form.

(d) Peter fills in the section regarding *soil testing*.

(e) In the *soil testing* section, Peter uploads a copy of the last year's fertility analysis of the soil of his crops.

(f) In the *soil testing* section, Peter uploads a copy of this year's pesticide residue analysis of the soil of his crops.

(g) Peter proceeds to the next section of the form.

(h) Peter fills in the section regarding *history and ownership/management structure*.

(i) In the *history and ownership/management structure* section, Peter describes the history of his property and its historical use.

(j) In the *history and ownership/management structure* section, Peter describes his manager and his history and involvement in the property and in the production of his

wine.

(k) In the *history and ownership/management structure* section, Peter describes the legal definition of his property.

(l) In the *history and ownership/management structure* section, Peter describes the management structure of his farm. Peter also attaches copies of any property-related documents.

(m) In the *history and ownership/management structure* section, Peter describes that his entire farm and wine production have never been certified before. Peter also explains that farmers around him are organic certified for grape crops.

(n) In the *history and ownership/management structure* section, Peter describes the overall aims and objectives for his property.

(o) In the *history and ownership/management structure* section, Peter describes the structure of the staff of his farm and wine production.

(p) Peter proceeds to the next section of the form.

(q) Peter fills in the section regarding *environmental management plan* for the whole property.

(r) In the *environmental management plan* section, Peter describes his plans on maintaining soil structure and fertility, including planned crop rotations.

(s) In the *environmental management plan* section, Peter describes his plans on water use for his farm and wine production.

(t) In the *environmental management plan* section, Peter describes his plans on his whole property boundaries.

(u) In the *environmental management plan* section, Peter describes his plans on (a) controlling possible pollution/contamination from outside of his property, and (b) controlling possible pollution/contamination from within his property.

(v) In the *environmental management plan* section, Peter describes his plans on the enhancement of biodiversity within his property.

(w) In the *environmental management plan* section, Peter describes his plans on managing any sustainable issues related to his property.

(x) In the *environmental management plan* section, Peter describes his plans on addressing compulsory pest control measures by Government and Regional Councils.

(y) In the *environmental management plan* section, Peter describes his plans on enhancing environment in and around his property.

6. Peter saves the form regarding OMP.

7. Peter proceeds to the next form.

8. Peter fills in the information about each Sector of production provided in his OMP (Section OMP):

   (a) Peter describes the previous twelve months' management information and the Forward Work Plan for the next twelve months for his crops.

(b) Peter describes the previous twelve months' management information and the Forward Work Plan for the next twelve months for his wine production.

9. Peter saves his certification application.

10. Peter checks that all required forms were completed by him.

11. Peter submits his certification application.

12. The system confirms that the application was successfully submitted.

13. Connor receives the forms from Peter's application.

14. Connor checks Peter's application and identifies that it is correct.

In an **exception scenario 01** for **Ctxt1: Organics Certification (Primary Producer)**, Peter will provide the documents regarding Property Maps and Sector OMP, but not all necessary information for his OMP. This information will be filled in online forms (which access was provided in UC11 by Connor). Therefore:

0. Peter gets access to the online application forms.

1. Peter successfully logs in the BioGro website for the certification application.

2. Peter starts by filling in information about his Property Maps:

   (a) Peter uploads pictures of the maps of the areas of his farm to be certified. Peter identified all portions of his farmer areas (including amenity areas) with their full names for easy reference.

   (b) Peter uploads pictures of the maps of the storage, packing and processing areas where his grapes are stored and where his wine is manufactured and stored.

   (c) Peter uploads pictures of maps showing the nature of all internal boundaries, such as his crops' lanes and fences.

   (d) Peter uploads pictures of maps showing the nature and condition of all external boundaries and the surrounding land uses.

   (e) Peter uploads pictures of maps showing the extent and nature of buffer zones (which are non-harvested areas) between to-be-certified areas and neighbours.

   (f) Peter uploads pictures of maps showing the presence and composition of natural areas in his farm.

   (g) Peter uploads pictures of the maps with the location of any sustainability issues.

   (h) Peter uploads pictures of maps showing water features and natural drainage patterns across his farm.

   (i) Peter uploads pictures of maps showing all sources of water for his crops' irrigation and wine making.

3. Peter saves the form regarding Property Maps.

4. Peter proceeds to the next form.

5. Peter fills in the information about his Organic Management Plan (OMP):

(a) Peter starts filling in the section regarding the *history of prohibited inputs* to his crops and wine making.

(b) In the *history of prohibited inputs* section, Peter uploads copies of all spray and fertiliser diaries of his crops for the last year. The copies of these diaries were signed by the day-to-day manager(s) of spraying and fertilizing operations.

(c) Peter proceeds to the next section of the form.

(d) Peter fills in the section regarding *soil testing*.

(e) In the *soil testing* section, Peter uploads a copy of the last year's fertility analysis of the soil of his crops.

(f) In the *soil testing* section, Peter uploads a copy of this year's pesticide residue analysis of the soil of his crops.

(g) Peter proceeds to the next section of the form.

(h) Peter fills in the section regarding *history and ownership/management structure*.

(i) In the *history and ownership/management structure* section, Peter describes the history of his property and its historical use.

(j) In the *history and ownership/management structure* section, Peter describes his manager and his history and involvement in the property and in the production of his wine.

(k) In the *history and ownership/management structure* section, Peter describes the legal definition of his property.

(l) In the *history and ownership/management structure* section, Peter describes the management structure of his farm. Peter also attaches copies of any property-related documents.

(m) In the *history and ownership/management structure* section, Peter describes that his entire farm and wine production have never been certified before. Peter also explains that farmers around him are organic certified for grape crops.

(n) In the *history and ownership/management structure* section, Peter describes the overall aims and objectives for his property.

(o) In the *history and ownership/management structure* section, Peter describes the structure of the staff of his farm and wine production.

(p) Peter proceeds to the next section of the form.

(q) Peter fills in the section regarding *environmental management plan* for the whole property.

(r) Peter checks that he has to fill in the *environmental management plan* for his whole property. However, Peter has only prepared an environmental management plan for the use of water in his wine production.

(s) In the *environmental management plan* section, Peter describes his plans on water use for his wine production.

6. Peter saves the form regarding OMP.

7. Peter proceeds to the next form.
8. Peter fills in the information about each Sector of production provided in his OMP (Section OMP):
   (a) Peter describes the previous twelve months' management information and the Forward Work Plan for the next twelve months for his crops.
   (b) Peter describes the previous twelve months' management information and the Forward Work Plan for the next twelve months for his wine production.
9. Peter saves his certification application.
10. Peter checks that all required forms were completed by him.
11. Peter submits his certification application.
12. The system confirms that the application was successfully submitted.
13. Connor receives the forms from Peter's application.
14. Connor checks that the information expected for the OMP, section Environmental Management Plan, is incomplete regarding the grape crops.
15. Connor calls Peter to inform about the incomplete section in his OMP.
16. Connor asks Peter to provide a environmental management plan considering water, soil and pollution management, so his application can proceed.
17. Peter understands Connor's request and hangs out the phone call.
18. Peter prepares an environmental management plan as suggested by Connor.
19. Peter successfully logs in the BioGro website to update his certification application.
20. Peter navigates to the form regarding his Organic Management Plan (OMP):
21. Peter fills in the section regarding *environmental management plan* for the whole property.
22. In the *environmental management plan* section, Peter describes his plans on maintaining soil structure and fertility, including planned crop rotations.
23. In the *environmental management plan* section, Peter keeps his plans on water use for his wine production and adds plans on water use for his farm.
24. In the *environmental management plan* section, Peter describes his plans on his whole property boundaries.
25. In the *environmental management plan* section, Peter describes his plans on (a) controlling possible pollution/contamination from outside of his property, and (b) controlling possible pollution/contamination from within his property.
26. In the *environmental management plan* section, Peter describes his plans on the enhancement of biodiversity within his property.
27. In the *environmental management plan* section, Peter describes his plans on managing any sustainable issues related to his property.

28. In the *environmental management plan* section, Peter describes his plans on addressing compulsory pest control measures by Government and Regional Councils.

29. In the *environmental management plan* section, Peter describes his plans on enhancing environment in and around his property.

30. Peter saves the form regarding OMP.

31. Peter saves his certification application.

32. Peter checks that all required forms were completed by him.

33. Peter submits his certification application.

34. The system confirms that the application was successfully submitted.

35. Connor receives the forms from Peter's application.

36. Connor checks Peter's application and identifies that it is correct.

In an **exception scenario 02** for **Ctxt1: Organics Certification (Primary Producer)**, Peter will provide the documents regarding Property Maps and Sector OMP; however the soil tests made in his property were forged by one of the managers of his farm. This information will be filled in online forms (which access was provided in UC11 by Connor). Therefore:

0. Peter gets access to the online application forms.

1. Peter successfully logs in the BioGro website for the certification application.

2. Peter starts by filling in information about his Property Maps:

   (a) Peter uploads pictures of the maps of the areas of his farm to be certified. Peter identified all portions of his farmer areas (including amenity areas) with their full names for easy reference.

   (b) Peter uploads pictures of the maps of the storage, packing and processing areas where his grapes are stored and where his wine is manufactured and stored.

   (c) Peter uploads pictures of maps showing the nature of all internal boundaries, such as his crops' lanes and fences.

   (d) Peter uploads pictures of maps showing the nature and condition of all external boundaries and the surrounding land uses.

   (e) Peter uploads pictures of maps showing the extent and nature of buffer zones (which are non-harvested areas) between to-be certified areas and neighbours.

   (f) Peter uploads pictures of maps showing the presence and composition of natural areas in his farm.

   (g) Peter uploads pictures of the maps with the location of any sustainability issues.

   (h) Peter uploads pictures of maps showing water features and natural drainage patterns across his farm.

   (i) Peter uploads pictures of maps showing all sources of water for his crops' irrigation and wine making.

3. Peter saves the form regarding Property Maps.

4. Peter proceeds to the next form.

5. Peter fills in the information about his Organic Management Plan (OMP):

   (a) Peter starts filling in the section regarding the *history of prohibited inputs* to his crops and wine making.

   (b) In the *history of prohibited inputs* section, Peter uploads copies of all spray and fertiliser diaries of his crops for the last year. The copies of these diaries were signed by the day-to-day manager(s) of spraying and fertilizing operations.

   (c) Peter proceeds to the next section of the form.

   (d) Peter fills in the section regarding *soil testing*.

   (e) In the *soil testing* section, Peter uploads a copy of this year's fertility analysis of the soil of his crops.

   (f) In the *soil testing* section, Peter uploads a copy of this year's pesticide residue analysis of the soil of his crops.

   (g) Peter proceeds to the next section of the form.

   (h) Peter fills in the section regarding *history and ownership/management structure*.

   (i) In the *history and ownership/management structure* section, Peter describes the history of his property and its historical use.

   (j) In the *history and ownership/management structure* section, Peter describes his manager and his history and involvement in the property and in the production of his wine.

   (k) In the *history and ownership/management structure* section, Peter describes the legal definition of his property.

   (l) In the *history and ownership/management structure* section, Peter describes the management structure of his farm. Peter also attaches copies of any property-related documents.

   (m) In the *history and ownership/management structure* section, Peter describes that his entire farm and wine production have never been certified before. Peter also explains that farmers around him are organic certified for grape crops.

   (n) In the *history and ownership/management structure* section, Peter describes the overall aims and objectives for his property.

   (o) In the *history and ownership/management structure* section, Peter describes the structure of the staff of his farm and wine production.

   (p) Peter proceeds to the next section of the form.

   (q) Peter fills in the section regarding *environmental management plan* for the whole property.

   (r) In the *environmental management plan* section, Peter describes his plans on maintaining soil structure and fertility, including planned crop rotations.

(s) In the *environmental management plan* section, Peter describes his plans on water use for his farm and wine production.

(t) In the *environmental management plan* section, Peter describes his plans on his whole property boundaries.

(u) In the *environmental management plan* section, Peter describes his plans on (a) controlling possible pollution/contamination from outside of his property, and (b) controlling possible pollution/contamination from within his property.

(v) In the *environmental management plan* section, Peter describes his plans on the enhancement of biodiversity within his property.

(w) In the *environmental management plan* section, Peter describes his plans on managing any sustainable issues related to his property.

(x) In the *environmental management plan* section, Peter describes his plans on addressing compulsory pest control measures by Government and Regional Councils.

(y) In the *environmental management plan* section, Peter describes his plans on enhancing environment in and around his property.

6. Peter saves the form regarding OMP.
7. Peter proceeds to the next form.
8. Peter fills in the information about each Sector of production provided in his OMP (Section OMP):

   (a) Peter describes the previous twelve months' management information and the Forward Work Plan for the next twelve months for his crops.

   (b) Peter describes the previous twelve months' management information and the Forward Work Plan for the next twelve months for his wine production.

9. Peter saves his certification application.
10. Peter checks that all required forms were completed by him.
11. Peter submits his certification application.
12. The system confirms that the application was successfully submitted.
13. Connor receives the forms from Peter's application.
14. Connor checks that the documents uploaded regarding Soil Testing in Peter's OMP are fake.
15. Connor calls Peter to inform this issue in his OMP.
16. Connor asks Peter to provide valid soil testing certificates, so his application can proceed.
17. Peter understands Connor's request and hangs out the phone call.
18. Peter books an appointment with a trustworthy agency for his soil testing.
19. Peter finds out that the soil of his farm still has residues of a pesticide not approved for the Organics Certification.

20. Peter calls Connor to inform him about the soil testing results.

21. Connor understands and explains to Peter that his application for the Organics certification cannot proceed.

22. Connor informs Peter that the fees paid for the certification will be refunded in 7 days.

23. Peter understands, agrees and hangs out the phone call.

24. Connor updates the system and cancel Peter's certification application, issuing refunding.

3.1.2 UC12. Assess application for certification

In a **ideal or blue sky** scenario for **Ctxt1: Organics Certification (Primary Producer)**, Peter completed his online application and provided the requested documentation. Connor has access to Peter's application and can verify the documentation provided. Therefore:

0. Connor is logged in the BioGro certification application system.

    1. Connor checks the list of applications that need to be assessed.

    2. Connor finds and opens Peter's wine application.

    3. Connor checks that all required information has been submitted in Peter's application (e.g., OMP was provided).

    4. Connor opens the information about Peter's Property Maps:

        (a) Connor evaluates the maps of Peter's farm to be certified. Connor does not have any issues to identify these areas.

        (b) Connor evaluates the maps of the storage, packing and processing areas of Peter's property. Connor does not find any issues in these areas.

        (c) Connor evaluates the maps showing the nature of all internal boundaries in Peter's property. Connor does not find any issues regarding the property boundaries.

        (d) Connor evaluates the maps showing the nature and condition of all external boundaries and the surrounding land uses of Peter's property. Connor does not find any issues in these areas.

        (e) Connor evaluates the maps showing the extent and nature of buffer zones (which are non-harvested areas) between to-be certified areas and neighbours of Peter's property. Connor does not find any issues in these areas.

        (f) Connor evaluates the maps showing the presence and composition of natural areas in Peter's farm. Connor does not find any issues in these natural areas.

        (g) Connor evaluates the maps with the location of any sustainability issues in Peter's property. Connor does not find any issues in these locations.

        (h) Connor evaluates the maps showing water features and natural drainage patterns across Peter's farm. Connor does not find any issues in these areas.

        (i) Connor evaluates the maps showing all sources of water for Peter's crops' irrigation and wine making. Connor does not find any issues in these sources of water.

    5. Connor fills in the system that the Property Maps of Peter's property are correct.

6. Connor saves his evaluation of this part of Peter's application and moves on to the next.

7. Connor opens the information about Peter's Organic Management Plan (OMP):

   (a) Connor evaluates the *history of prohibited inputs* of Peter's crops and wine making. Connor checks the documents attached and he does not find any issues.

   (b) Connor evaluates the documents attached regarding Peter's property *soil testing*. Connor does not find any issues.

   (c) Connor evaluates the *history and ownership/management structure* of Peter's property. Connor checks the documents attached and he does not find any issues.

   (d) Connor evaluates the *environmental management plan* for Peter's property. Connor checks the documents attached and he does not find any issues.

8. Connor fills in the system that the OMP for Peter's property are correct and meet the requirements of Standards.

9. Connor saves his evaluation of this part of Peter's application and moves on to the next.

10. Connor opens the Sector of production provided in Peter's OMP (Section OMP):

    (a) Connor evaluates the previous twelve months' management information and the Forward Work Plan for the next twelve months for Peter's crops. Connor does not find issues in these plans.

    (b) Connor evaluates the previous twelve months' management information and the Forward Work Plan for the next twelve months for Peter's wine production. Connor does not find issues in these plans.

11. Connor fills in the system that the Sector OMP of Peter's property is correct.

12. Connor saves his evaluation of this part of Peter's application.

13. Connor verifies that Peter's application can now be forwarded to an Auditor who will perform on-site audits.

14. Connor clicks on the functionality "Issue application to onsite auditor" and sends Peter's application to Adam.

15. Adam receives Peter's application as an on-site Auditor and proceeds with the on-site audit (UC16).

16. The system updates the status of Peter's application to "Pending" regarding on-site audit reports.

In an **exception scenario 01** for **Ctxt1: Organics Certification (Primary Producer)**, Peter completed his online application and provided the requested documentation. Connor has access to Peter's application and can verify the documentation provided. However, the documents regarding soil testing do not comply to Standards. Therefore:

0. Connor is logged in the BioGro certification application system.

1. Connor checks the list of applications that need to be assessed.

2. Connor finds and opens Peter's wine application.

3. Connor checks that all required information has been submitted in Peter's application (e.g., OMP was provided).

4. Connor opens the information about Peter's Property Maps:

   (a) Connor evaluates the maps of Peter's farm to be certified. Connor does not have any issues to identify these areas.

   (b) Connor evaluates the maps of the storage, packing and processing areas of Peter's property. Connor does not find any issues in these areas.

   (c) Connor evaluates the maps showing the nature of all internal boundaries in Peter's property. Connor does not find any issues regarding the property boundaries.

   (d) Connor evaluates the maps showing the nature and condition of all external boundaries and the surrounding land uses of Peter's property. Connor does not find any issues in these areas.

   (e) Connor evaluates the maps showing the extent and nature of buffer zones (which are non-harvested areas) between to-be certified areas and neighbours of Peter's property. Connor does not find any issues in these areas.

   (f) Connor evaluates the maps showing the presence and composition of natural areas in Peter's farm. Connor does not find any issues in these natural areas.

   (g) Connor evaluates the maps with the location of any sustainability issues in Peter's property. Connor does not find any issues in these locations.

   (h) Connor evaluates the maps showing water features and natural drainage patterns across Peter's farm. Connor does not find any issues in these areas.

   (i) Connor evaluates the maps showing all sources of water for Peter's crops' irrigation and wine making. Connor does not find any issues in these sources of water.

5. Connor fills in the system that the Property Maps of Peter's property are correct.

6. Connor saves his evaluation of this part of Peter's application and moves on to the next.

7. Connor opens the information about Peter's Organic Management Plan (OMP):

   (a) Connor evaluates the *history of prohibited inputs* of Peter's crops and wine making. Connor checks the documents attached and he does not find any issues.

   (b) Connor evaluates the documents attached regarding Peter's property *soil testing*. Connor finds out that the soil testing reports are not issue by a ISO 17205 accredited laboratory.

   (c) Connor evaluates the *history and ownership/management structure* of Peter's property. Connor checks the documents attached and he does not find any issues.

   (d) Connor evaluates the *environmental management plan* for Peter's property. Connor checks the documents attached and he does not find any issues.

8. Connor fills in the system which sections of the OMP for Peter's property are correct and meet the requirements of Standards.

9. Connor fills in the system that the soil testings provided by Peter are not valid.

10. Connor saves his evaluation of this part of Peter's application and moves on to the next.

11. Connor opens the Sector of production provided in Peter's OMP (Section OMP):

    (a) Connor evaluates the previous twelve months' management information and the Forward Work Plan for the next twelve months for Peter's crops. Connor does not find issues in these plans.

    (b) Connor evaluates the previous twelve months' management information and the Forward Work Plan for the next twelve months for Peter's wine production. Connor does not find issues in these plans.

12. Connor fills in the system that the Sector OMP of Peter's property is correct.

13. Connor saves his evaluation of this part of Peter's application.

14. Connor rechecks Peter's application and decides to ask Peter to provide valid soil testing reports.

15. Connor clicks on the functionality "Request corrective actions".

16. Connor sends an e-mail to Peter requesting valid soil testing reports.

17. The system updates the status of Peter's application to "Pending" regarding corrective actions.

18. Peter uploads valid soil testings in the system.

19. Connor checks that Peter's application was updated with the information about the corrective actions requested.

20. Connor opens Peter's application regarding his OMP, section *soil testing*.

21. Connor evaluates the documents attached regarding Peter's property *soil testing*. Connor does not find any issues.

22. Connor fills in the system that the OMP for Peter's property are correct and meet the requirements of Standards.

23. Connor saves his evaluation of this part of Peter's application.

24. Connor verifies that Peter's application can now be forwarded to an Auditor who will perform on-site audits.

25. Connor clicks on the functionality "Issue application to onsite auditor" and sends Peter's application to Adam.

26. Adam receives Peter's application as an on-site Auditor and proceeds with the on-site audit (UC16).

27. The system updates the status of Peter's application to "Pending" regarding on-site audit reports.

In an **exception scenario 02** for **Ctxt1: Organics Certification (Primary Producer)**, Peter completed his online application and provided the requested documentation. However, Connor cannot find Peter's application in the system to verify the documentation provided. Therefore:

0. Connor is logged in the BioGro certification application system.

1. Connor checks the list of applications that need to be assessed.
2. Connor receives an e-mail from Peter complaining that he did not hear from BioGro since the completion of his application, more than 40 days ago.
3. Connor responds to Peter that he is going to check what happened.
4. Connor rechecks the system and finds Peter's initial application, but not the complete application.
5. Connor asks the IT department to check Peter's application in the system. Connor informs that he cannot find Peter's complete application, only his initial application.
6. IT department checks that Peter's complete application was not saved in their database.
7. IT department sends an e-mail to Peter asking him to fill in his application again in BioGro's system. IT department asks Peter to let them know when he finishes it.
8. Peters logs in the system and registers his application again.
9. Peter sends an e-mail to IT department informing that he completed his application.
10. IT department verifies that Peter's application was saved in their database.
11. IT department informs Connor that the issue with Peter's application was resolved.
12. Connor searches and finds Peter's complete application and documents.
13. Connor opens the information about Peter's Property Maps:
    (a) Connor evaluates the maps of Peter's farm to be certified. Connor does not have any issues to identify these areas.
    (b) Connor evaluates the maps of the storage, packing and processing areas of Peter's property. Connor does not find any issues in these areas.
    (c) Connor evaluates the maps showing the nature of all internal boundaries in Peter's property. Connor does not find any issues regarding the property boundaries.
    (d) Connor evaluates the maps showing the nature and condition of all external boundaries and the surrounding land uses of Peter's property. Connor does not find any issues in these areas.
    (e) Connor evaluates the maps showing the extent and nature of buffer zones (which are non-harvested areas) between to-be certified areas and neighbours of Peter's property. Connor does not find any issues in these areas.
    (f) Connor evaluates the maps showing the presence and composition of natural areas in Peter's farm. Connor does not find any issues in these natural areas.
    (g) Connor evaluates the maps with the location of any sustainability issues in Peter's property. Connor does not find any issues in these locations.
    (h) Connor evaluates the maps showing water features and natural drainage patterns across Peter's farm. Connor does not find any issues in these areas.
    (i) Connor evaluates the maps showing all sources of water for Peter's crops' irrigation and wine making. Connor does not find any issues in these sources of water.

14. Connor fills in the system that the Property Maps of Peter's property are correct.

15. Connor saves his evaluation of this part of Peter's application and moves on to the next.

16. Connor opens the information about Peter's Organic Management Plan (OMP):

    (a) Connor evaluates the *history of prohibited inputs* of Peter's crops and wine making. Connor checks the documents attached and he does not find any issues.

    (b) Connor evaluates the documents attached regarding Peter's property *soil testing*. Connor does not find any issues.

    (c) Connor evaluates the *history and ownership/management structure* of Peter's property. Connor checks the documents attached and he does not find any issues.

    (d) Connor evaluates the *environmental management plan* for Peter's property. Connor checks the documents attached and he does not find any issues.

17. Connor fills in the system that the OMP for Peter's property are correct and meet the requirements of Standards.

18. Connor saves his evaluation of this part of Peter's application and moves on to the next.

19. Connor opens the Sector of production provided in Peter's OMP (Section OMP):

    (a) Connor evaluates the previous twelve months' management information and the Forward Work Plan for the next twelve months for Peter's crops. Connor does not find issues in these plans.

    (b) Connor evaluates the previous twelve months' management information and the Forward Work Plan for the next twelve months for Peter's wine production. Connor does not find issues in these plans.

20. Connor fills in the system that the Sector OMP of Peter's property is correct.

21. Connor saves his evaluation of this part of Peter's application.

22. Connor verifies that Peter's application can now be forwarded to an Auditor who will perform on-site audits.

23. Connor clicks on the functionality "Issue application to onsite auditor" and sends Peter's application to Adam.

24. Adam receives Peter's application as an on-site Auditor and proceeds with the on-site audit (UC16).

25. The system updates the status of Peter's application to "Pending" regarding on-site audit reports.

3.1.3 UC13. Issue certification and supply logo

In a **ideal or blue sky** scenario for **Ctxt3: Fully Certified Organic (Primary Producer)**, Peter successfully provided all documents for his certification application. Peter's property has already been audited and no corrective actions were necessary. The BioGro system used to manage Peter's application has all information necessary to issue him the Fully Certified Organic certification. Therefore:

0. Connor is logged in the BioGro certification application system.

1. Connor checks the list of applications that need to be proceeded.
2. Connor finds and opens Peter's wine application.
3. Connor checks that Peter's application was successfully approved by the Certification Panel and no additional documentation is necessary.
4. Connor clicks on the functionality "Issue certification".
5. Connor checks if the certification generated by the system is correct.
6. Connor does not find any misspelling or incorrect information in the generated certification.
7. Connor clicks on the functionality "Approve certification".
8. The system confirms that the certification of Peter's wine was approved.
9. The system shows Connor the certification logo granted to Peter's wine.
10. Connor checks that the generated logo is correct.
11. Connor sends Peter an e-mail with the logo and the certification.
12. The system updates the status of Peter's application to "Completed".

In an **exception scenario 01** for **Ctxt3: Fully Certified Organic (Primary Producer)**, Peter successfully provided all documents for his certification application. Peter's property has already been audited and no corrective actions were necessary. However, the BioGro system used to manage Peter's application does not have this information. Therefore:

0. Connor is logged in the BioGro certification application system.
1. Connor checks the list of applications that need to be proceeded.
2. Connor finds and opens Peter's wine application.
3. Connor sees that Peter's application, has the status "Pending". However, Peter had already provided all necessary documentation.
4. Connor checks that Peter's application misses the resolution of CARs.
5. Connor calls Peter to inform that his application may proceed when he provides the resolution of the CARs issued in the last on-site audit.
6. Peter tells Connor that Adam, the auditor, did not request any CARs in the last on-site audit of his property.
7. Connor tells Peter that he is going to check that with Adam and that he is going to come back to him later.
8. Connor hangs out the phone call.
9. Connor sends an e-mail to Adam asking him about Peter's application. Connor explains that the application has the status "Pending" in the system and that the resolutions of CARs are missing.
10. Adam responds to Connor informing that he did not request CARs to Peter's property in his last on-site audit. Adam attaches the related audit report sheet.

11. Connor checks Adam's response and identifies that the information provided by Adam and Peter match.

12. Connor asks the Information Technology (IT) department to check Peter's application in the system. Connor informs the status of the application and that it is conflicting with the information provided by the auditor and the applicant.

13. IT department checks that Peter's application data was corrupted in the system's database.

14. IT department recovers part of the data corrupted from Peter's application data. IT department cannot recover the data inputted by the Certification Panel.

15. IT department sends an e-mail to Connor informing that the data inputted by the Certification Panel, responsible for Peter's application, was not saved in the database. IT department asks Connor to let them know when the Certification Panel finishes registering their data in the system again.

16. Connor talks to the Certification Panel for Peter's application and asks them to register their evaluation in the system again.

17. The Certification Panel registers their evaluation in the system and informs Connor about it.

18. Connor sends an e-mail to the IT department informing that the Certification Panel registered their evaluation for Peter's application.

19. IT department checks that Peter's application was indeed updated in the system by the Certification Panel and has the correct status.

20. IT department informs Connor that the issue with Peter's application was resolved.

21. Connor searches Peter's application and checks that it status is no longer "Pending".

22. Connor checks that Peter's application was successfully approved by the Certification Panel and no additional documentation is necessary.

23. Connor clicks on the functionality "Issue certification".

24. Connor checks if the certification generated by the system is correct.

25. Connor does not find any misspelling or incorrect information in the generated certification.

26. Connor clicks on the functionality "Approve certification".

27. The system confirms that the certification of Peter's wine was approved.

28. The system shows Connor the certification logo granted to Peter's wine.

29. Connor checks that the generated logo is correct.

30. Connor clicks on the functionality "Send certification and logo to Applicant".

31. Connor sends Peter an e-mail with the logo and the certification.

32. The system updates the status of Peter's application to "Completed".

In an **exception scenario 02** for **Ctxt3: Fully Certified Organic (Primary Producer)**, Peter successfully provided all documents for his certification application. Peter's property has

already been audited and no corrective actions were necessary. However, the Certification Panel did not finish assessing Peter's application. Therefore:

0. Connor is logged in the BioGro certification application system.

    1. Connor checks the list of applications that need to be proceeded.

    2. Connor finds and opens Peter's wine application.

    3. Connor sees that Peter's application, has the status "Pending". However, Peter had already provided all necessary documentation and there were no issues with the resolution of CARs.

    4. Connor sees that Peter's application misses the Certification Panel's final assessment.

    5. Connor sends an e-mail to the Certification Panel inquiring about their assessment of Peter's application.

    6. Certification Panel responds that they have already saved their assessment.

    7. Connor asks the Information Technology (IT) department to check Peter's application in the system. Connor informs that the Certification Panel have saved their assessment but the status of the application is still "Pending".

    8. IT department checks that the Certification Panel saved their assessment but not submitted it (which updates the application status).

    9. IT department informs Connor that the issue with Peter's application will be resolved when the Certification Panel submit their assessment.

    10. Connor sends an e-mail to the Certification Panel and asks them to "submit" their assessment in the system.

    11. Certification Panel submits their assessment for Peter's application in the system and informs Connor about that.

    12. Connor searches Peter's application and checks that it status is no longer "Pending".

    13. Connor checks that Peter's application was successfully approved by the Certification Panel and no additional documentation is necessary.

    14. Connor clicks on the functionality "Issue certification".

    15. Connor checks if the certification generated by the system is correct.

    16. Connor does not find any misspelling or incorrect information in the generated certification.

    17. Connor clicks on the functionality "Approve certification".

    18. The system confirms that the certification of Peter's wine was approved.

    19. The system shows Connor the certification logo granted to Peter's wine.

    20. Connor checks that the generated logo is correct.

    21. Connor clicks on the functionality "Send certification and logo to Applicant".

    22. Connor sends Peter an e-mail with the logo and the certification.

    23. The system updates the status of Peter's application to "Completed".

3.1.4 UC14. Issue audit report

In a **ideal or blue sky** scenario for **Ctxt2: Organics Certification Renewal (Primary Producer)**, Adam performed a on-site audit of Peter's property and did not request any corrective actions for the certification renewal. Therefore:

0. Adam has the audit record sheet of Peter's property on-site audit.
    1. Adam logs in the BioGro system for Auditors.
    2. Adam searches and select the renewal application of Peter.
    3. Adam entries the information from his audit record sheet in the BioGro system.
    4. Adam saves his entries.
    5. The system confirms that the entries were saved.
    6. Adam submit his entries.
    7. The system confirms the submission and updates the status of Peter's certification renewal application.

In an **exception scenario 01** for **Ctxt2: Organics Certification Renewal (Primary Producer)**, Adam performed a on-site audit of Peter's property and requested corrective actions for the certification renewal. Peter does not resolve the CARs within the specified period of 30 days. Therefore:

0. Adam has the audit record sheet of Peter's property on-site audit.
    1. Adam logs in the BioGro system for Auditors.
    2. Adam searches and select the renewal application of Peter.
    3. Adam entries the information from his audit record sheet (first on-site audit) in the BioGro system.
    4. Adam saves his entries.
    5. Adam registers the CARs issued in the first on-site audit of Peter's property.
    6. Adam saves his entries.
    7. The system confirms that the entries were saved.
    8. System status is changed to "Pending resolution of CARs".
    9. Adam calls and checks with Peter if the CARs have been resolved.
    10. Peter has not yet resolved CARs during the specified period which is 30 days.
    11. Adam cannot mark Peter's property as passed the on-site audit before all CARs are resolved by Peter.
    12. After only 40 days Peter informs that Adam could revisit the property to confirm the resolution of CARs.
    13. Adam makes a visit to Peter's property and confirms that the CARs have been resolved.

14. Adam logs in the BioGro system for Auditors.
15. Adam enters the information from his new audit record sheet (second on-site audit) in the BioGro system.
16. Adam saves his entries.
17. Adam registers that Peter resolved the last CAR issued (from the second on-site audit).
18. The system confirms that the entries were saved.
19. Adam submits his entries in the system now that Peter resolved all CARs generated.
20. The system confirms the submission and updates the status of Peter's certification renewal application.

In an **exception scenario 02** for **Ctxt2: Organics Certification Renewal (Primary Producer)**, Adam performed a on-site audit of Peter's property and requested corrective actions for the certification renewal. However, Peter does not perform the corrective actions requested. Therefore:

0. Adam has the audit record sheet of Peter's property on-site audit.
1. Adam logs in the BioGro system for Auditors.
2. Adam searches and select the renewal application of Peter.
3. Adam entries the information from his audit record sheet (first on-site audit) in the BioGro system.
4. Adam saves his entries.
5. Adam registers the CARs issued in the first on-site audit of Peter's property.
6. Adam saves the CARs issued.
7. The system confirms that the CARs were saved.
8. System status is changed to "Pending resolution of CARs".
9. Adam calls and checks with Peter if the CARs have been resolved.
10. Adam does not hear from Peter.
11. Adam logs in the BioGro system for Auditors.
12. Adam records that Peter did not yet resolve the CAR issued.
13. Adam updates the status of Peter's certification renewal application as "On hold".

3.1.5 UC16. Perform on-site audit

In a **ideal or blue sky** scenario for **Ctxt2: Organics Certification Renewal (Primary Producer)**, Connor received the application forms of Peter and the information provided was compliant to Standards. Connor hands the application to Adam, who is going to perform on-site audit of Peter's property. The on-site audit becomes successful. Therefore:

0. Adam has access to the application of Peter for the on-site audit.

1. Adam checks if the documentation provided in Peter's application is updated.
2. Adam identifies that the application is indeed updated, and he does not need to request additional information.
3. Adam calls Peter to book the on-site audit visit.
4. Peter agrees that next Monday at 10:00 am would it be a good time for the visit.
5. Adam agrees and hangs out the phone call.
6. Adam registers the time and date of the first on-site audit for Peter's certification renewal in the system.
7. Adam arrives at Peter's property at the day and time booked for the audit.
8. Peter welcomes Adam and shows him his farm, specially crops and buildings where his wine is produced and stored.
9. Adam fills in the audit record sheet while visiting each site of Peter's property.
10. Adam does not find any irregularities in Peter's property.
11. Adam informs Peter that he is going to issue the audit report and that his property is compliant and may proceed in the certification renewal process.
12. Peter signs the audit report sheet and gives it back to Adam.
13. Adam thanks Peter for guiding him around the property and leaves.

In an **exception scenario 01** for **Ctxt2: Organics Certification Renewal (Primary Producer)**, Adam realizes that Peter has non-compliant areas in his property during the on-site audit. Therefore:

0. Adam has access to the application of Peter for the on-site audit.
1. Adam checks if the documentation provided in Peter's application is updated.
2. Adam identifies that the application is indeed updated, and he does not need to request additional information.
3. Adam calls Peter to book the on-site audit visit.
4. Peter agrees that next Monday at 10:00 am would it be a good time for the visit.
5. Adam agrees and hangs out the phone call.
6. Adam registers the time and date of the first on-site audit for Peter's certification renewal in the system.
7. Adam arrives at Peter's property at the day and time booked for the audit.
8. Peter welcomes Adam and shows him his farm, specially crops and buildings where his wine is produced and stored.
9. Adam fills in the audit record sheet while visiting each site of Peter's property.
10. Adam finds irregularities in Peter's property regarding (a) wine storage, and (b) water use in the irrigation of grape crops.

11. Adam writes Corrective Action Requests (CARs) of each irregularity, i.e. (a) and (b) before he leaves Peter's property.

12. Adam logs into the BioGro system and registers the CARs generated in his audit report sheet for Peter's property.

13. Adam informs Peter that he is going to issue the audit report and that Peter's property will be audited again once Peter makes the corrections requested in the CARs. Adam informs Peter that his certification renewal will proceed once his property is full compliant to the Standards.

14. Peter signs the audit report sheet and CARs and gives them back to Adam.

15. Adam gives a copy of the CARs to Peter.

16. Adam thanks Peter for guiding him around the property and leaves.

17. Peter implements improvements to his wine storage and crops irrigation.

18. Peter calls Adam to inform him that he addressed the CARs from the previous on-site audit.

19. Adam and Peter agree to a second on-site audit next Friday at 9 am.

20. Adam arrives at Peter's property at the day and time booked for the second audit.

21. Peter welcomes Adam and shows the areas of his farm related to the CARs received in the first audit for the certification renewal.

22. Adam fills in the audit record sheet while visiting each site of Peter's property.

23. Adam still finds irregularities in Peter's property regarding (a) wine storage.

24. Adam writes a CAR regarding Peter's wine storage, i.e. (a).

25. Adam registers in the BioGro system, the CAR generated in his audit report sheet.

26. Adam informs Peter that he is going to issue the audit report and that Peter's property will be audited again once Peter makes the corrections requested in the CAR. Adam reinforces to Peter that his certification renewal will proceed once his property is full compliant to the Standards.

27. Peter signs the audit report sheet and CAR and gives them back to Adam.

28. Adam gives a copy of the CARs to Peter.

29. Adam thanks Peter for guiding him around the property and leaves.

30. Peter implements improvements to his wine storage.

31. Peter calls Adam to inform him that he addressed the CAR from the previous on-site audit.

32. Adam and Peter agree to a third on-site audit next Tuesday at 9:30 am.

33. Adam arrives at Peter's property at the day and time booked for the second audit.

34. Peter welcomes Adam and shows the areas of his farm related to the CAR received in the second audit for the certification renewal.

35. Adam fills in the audit record sheet while visiting each site of Peter's property.

36. Adam does not find any irregularities in Peter's property.

37. Adam informs Peter that he is going to issue the audit report and that his property is compliant and may proceed in the certification renewal process.

38. Peter signs the audit report sheet and gives it back to Adam.

39. Adam thanks Peter for guiding him around the property and leaves.

In an **exception scenario 02** for **Ctxt2: Organics Certification Renewal (Primary Producer)**, Adam realizes that Peter has non-compliant areas in his property during the on-site audit. However, Peter cannot perform the corrective actions requested by Adam. Therefore:

0. Adam has access to the application of Peter for the on-site audit.

1. Adam checks if the documentation provided in Peter's application is updated.

2. Adam identifies that the application is indeed updated, and he does not need to request additional information.

3. Adam calls Peter to book the on-site audit visit.

4. Peter agrees that next Monday at 10:00 am would it be a good time for the visit.

5. Adam agrees and hangs out the phone call.

6. Adam registers the time and date of the first on-site audit for Peter's certification renewal in the system.

7. Adam arrives at Peter's property at the day and time booked for the audit.

8. Peter welcomes Adam and shows him his farm, specially crops and buildings where his wine is produced and stored.

9. Adam fills in the audit record sheet while visiting each site of Peter's property.

10. Adam finds irregularities in Peter's property regarding (a) wine storage, and (b) water use in the irrigation of grape crops.

11. Adam writes Corrective Action Requests (CARs) of each irregularity, i.e. (a) and (b).

12. Adam registers in the system the CARs generated in his audit report sheet.

13. Adam informs Peter that he is going to issue the audit report and that Peter's property will be audited again once Peter makes the corrections requested in the CARs. Adam informs Peter that his certification renewal will proceed once his property is full compliant to the Standards.

14. Peter signs the audit report sheet and CARs and gives them back to Adam.

15. Adam gives a copy of the CARs to Peter.

16. Adam thanks Peter for guiding him around the property and leaves.

17. Peter implements improvements to the storage of his wine as requested by Adam.

18. Peter has some issues with water leak in the irrigation system of his grape crops. Peter implements some improvements to deal with this leak.

19. Peter calls Adam to inform him that he addressed the CARs from the previous on-site audit.

20. Adam and Peter agree to a second on-site audit next Friday at 9 am.

21. Adam arrives at Peter's property at the day and time booked for the second audit.

22. Peter welcomes Adam and shows the areas of his farm related to the CARs received in the first audit for the certification renewal.

23. Adam fills in the audit record sheet while visiting each site of Peter's property.

24. Adam still finds irregularities in Peter's property regarding (b) water use in the irrigation of grape crops.

25. Adam writes a CAR regarding Peter's water use in the irrigation of grape crops, i.e. (b).

26. Adam registers in the system the CARs generated in his audit report sheet.

27. Adam informs Peter that he is going to issue the audit report and that Peter's property will be audited again once Peter makes the corrections requested in the CAR. Adam reinforces to Peter that his certification renewal will proceed once his property is full compliant to the Standards.

28. Peter signs the audit report sheet and CAR and gives them back to Adam.

29. Adam gives a copy of the CAR to Peter.

30. Adam thanks Peter for guiding him around the property and leaves.

31. Peter cannot resolve the issues with the water use in the irrigation of his grape crops. Peter was able to fix the leaking, but the solution does not comply with the Standards for the certification renewal.

32. Peter tries to hide the parts of his irrigation system that do not comply with the Standards.

33. Peter calls Adam to inform him that he addressed the CAR from the previous on-site audit.

34. Adam and Peter agree to a third on-site audit next Tuesday at 9:30 am.

35. Adam arrives at Peter's property at the day and time booked for the second audit.

36. Peter welcomes Adam and shows the areas of his farm related to the CAR received in the second audit for the certification renewal.

37. Adam fills in the audit record sheet while visiting each site of Peter's property.

38. Adam discovers that Peter was hiding the issues in his crops' irrigation system.

39. Adam informs Peter that he is going to issue the audit report and that Peter's property will be audited again once Peter makes the corrections requested in the previous CAR. Adam reinforces to Peter that his certification renewal will only proceed once his property is full compliant to the Standards and that if he fails to perform the CARs successfully his certification will be cancelled.

40. Peter understands and signs the audit report sheet and CAR and gives them back to Adam.

41. Adam gives Peter another copy of the last CAR (the same from the second on-site audit).

42. Adam thanks Peter for guiding him around the property and leaves.

4 Certification Workflow for Non-Primary Producers

[Judith says: In progress]

Certification Workflow for Non-Primary Producers (i.e., Manufacturers or Manufacturing plants, Packaging facilities, Warehouses, Distributors and Exporters) pertains to the generic Supply Chain Stages Stage 3-7 — see Table 1. Considering our *pilot* product 'Viticulture and Wine making', these stages are called 'Wine making', "Packaging', 'Warehousing' and 'Shipping' respectively. Organic Standards that have to be met by the licensee for these supply chain stages are; the 'Viticulture and Wine making Standard' (for all stages), the 'Processing Standard' (for stages 4, 5) and the 'Distribution Standard' (for stages 6, 7). Therefore, the certification workflow must ensure the compliance to all these standards — the requirements for these standards must be met. These requirements include; requirements for Grape processing and Wine making, requirements for ingredient specifications and processing methods, requirements for packaging, requirements for labelling and requirements for Transport, storage and distribution. However, for the common standards Processing and Distribution there can be specific requirements for products such as Meat, Dairy, Vegetables and Fruit, Beer and Seafood which we do not discuss in this document as we focus on 'Viticulture and Wine making' — these requirements come under requirements for Grape processing and Wine making.

Few examples of meeting requirements for Grape processing and Wine making are; requirements for the management of processing facilities such as, Food Safety requirements — certified processors and winemakers must be in compliance with all relevant national and local body regulations and have a food safety program in place when required by regulatory bodies, requirements for Parallel processing — adequate identification and separation systems must be in place for certified and non-certified or conventional products, requirements for bottling, corking/capping, and packaging and requirements for labelling.

5 Certification Workflow for Retailers

[Judith says: TODO]

6 Glossary of Terms

Technical terms for software and process documentation:

- Task: a piece of work to be done or undertaken.
- Business Process: sequence of repeatable tasks that realize a business objective.
- Use Case: a set of interactions between a system and and one or more actors.
- Use Case Brief: a usage scenario of a system. The usage scenario is written from the point of view of the user.
- Workflow: a system that manages a sequence of repeatable tasks to produce a specific result. A workflow is a partially automated Business Process.
- Actors: users, entities and external software that interact with the system.
- Transactions: group of system actions that should be performed as a single pack.