

**NEWCOM**

New qualification schemes  
to build high quality

# Deliverable D5.3

## European database of certified professionals

Public document –  
European database of  
certified professionals

Date: 30 September 2020

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ISSO



This project received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 754148

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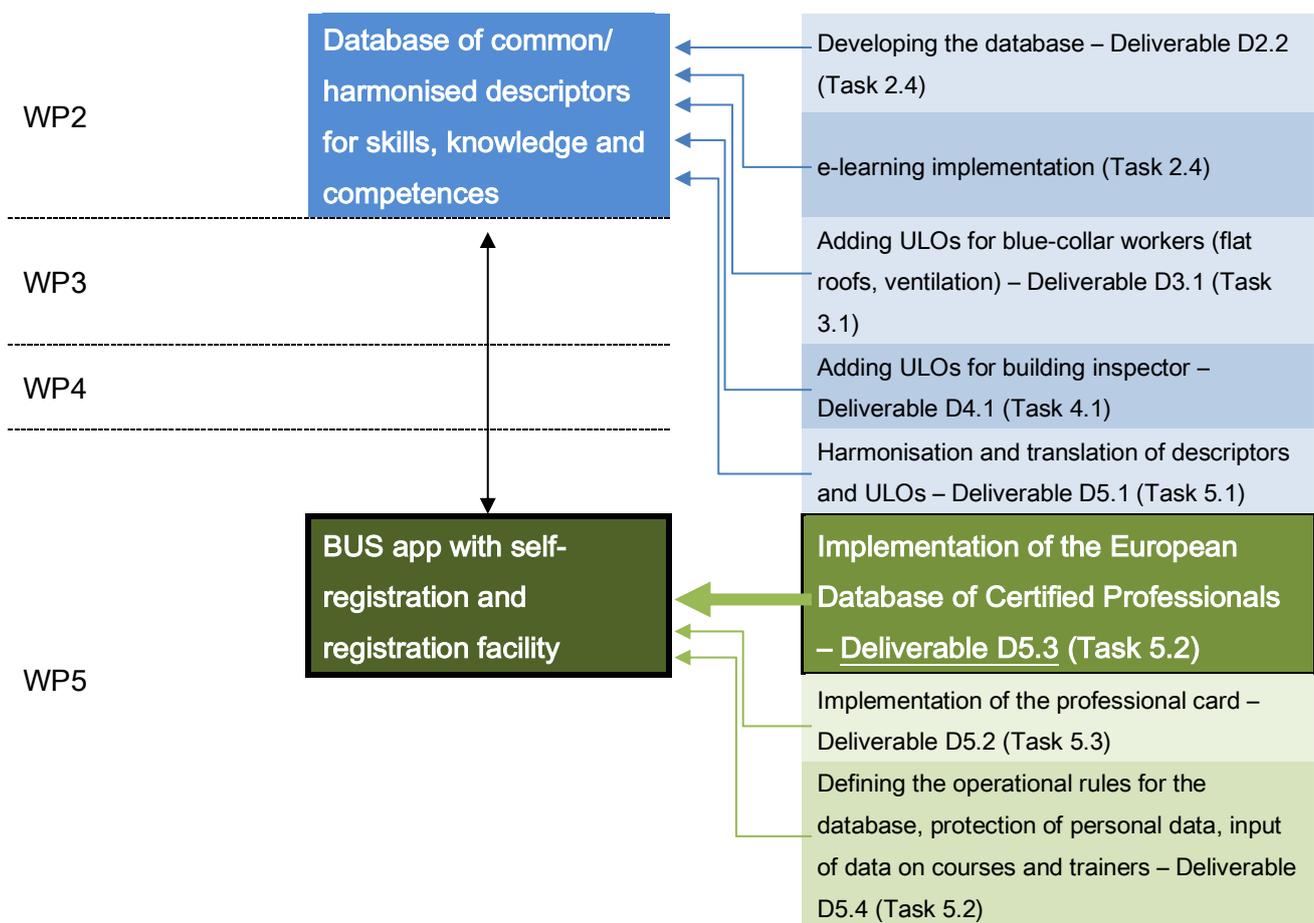
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## 1. Introduction

The EU project NEWCOM emerged from the BUILD UP Skills Initiative and provides solutions to improve and maintain energy efficiency in the building sector. NEWCOM project supports the professional execution of nearly zero- energy buildings (nZEB) on the one hand by developing new training modules for professionals, and on the other hand by preparing a basis for mutual (EU-wide) recognition of competences by making them visible and comparable in a database by describing the qualifications and concepts of implementation.

## 2. Development of the project IT tools

The IT tools have been developed in WP2 through WP5. In the attached Figure 1, the development of the tools is illustrated:



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### 3. Register

In task 5.2. a mock-up for the needed IT-functionality was created 'WP5 Functional specifications ULO-database and personal registrations V2' also a design for the professional card was made. After a decision-making process within the consortium the IT-work was done and delivered. Within this deliverable D5.3 some example screenshots of the functionality and as reference document the complete manual is included as an Annex.

Participants can be registered to an exam either by course providers or by themselves through self-registration.

Screenshot 1/2: Registration of participants for an exam by a course provider

Type	Name	Institute
	NEWCOM airtightness test	NEWCOM
	NEWCOM nZEB Building inspection	NEWCOM
	nZEB flatroofing exam	NEWCOM

Screenshot 2/2: Registration of participants for an exam by a course provider

Name	E-mail	Date	Approval	Overall rating
Jan Cromwijk	j.cromwijk@isso.nl	May 8, 2020	+ -	



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Screenshot 2: Participant approved by the course provider

The screenshot shows a web interface for managing participants. On the left is a blue sidebar with 'Courses' and 'Users' options. The top navigation bar includes 'Notifications' and 'Courses'. Below the navigation, there are buttons for 'Back', 'Add new participant', and 'Import Excel'. A table displays the following data:

Name	E-mail	Date	Approval	Overall rating
Jan Cromwijk	j.cromwijk@isso.nl	May 8, 2020	Approved	★★★★★

Back-end:

Screenshot 4: Back-end of registration processes

The screenshot shows the back-end registration process. The top navigation bar includes 'Region: NL-NL'. Below the navigation, there are buttons for '← BN training', 'add new participant', and 'import CSV'. A table displays the following data:

Name	Email	Company	Date	Approval	Overall rating	Card
Jan Cromwijk	j.cromwijk@isso.nl	ISSO	3 april 2018	✓ -		📄
Jan Cromwijk	j.cromwijk@otib.nl	ISSO	3 april 2018	Approved	★★★★★	📄
Jan Cromwijk	j.cromwijk@otib.nl	ISSO	3 april 2018	Approved	-	📄

Screenshot 4: Add participant to BN training

The screenshot shows a form titled 'Add participant to BN training'. The form includes the following fields:

- Name: Matthijs Bierman
- E-mail: matthijs.bierman@geckotech.nl
- Company: Geckotech
- Date: 20/04/2018
- Grade: 9

At the bottom of the form are 'Cancel' and 'Add' buttons.



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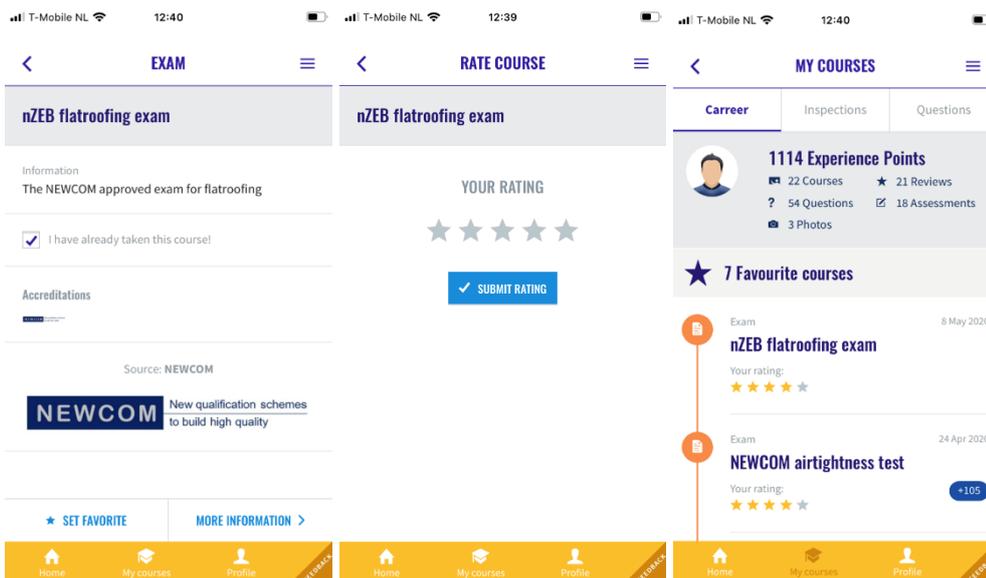
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Screenshot 5: Professional card for successfully assessed professional



4. BUS app

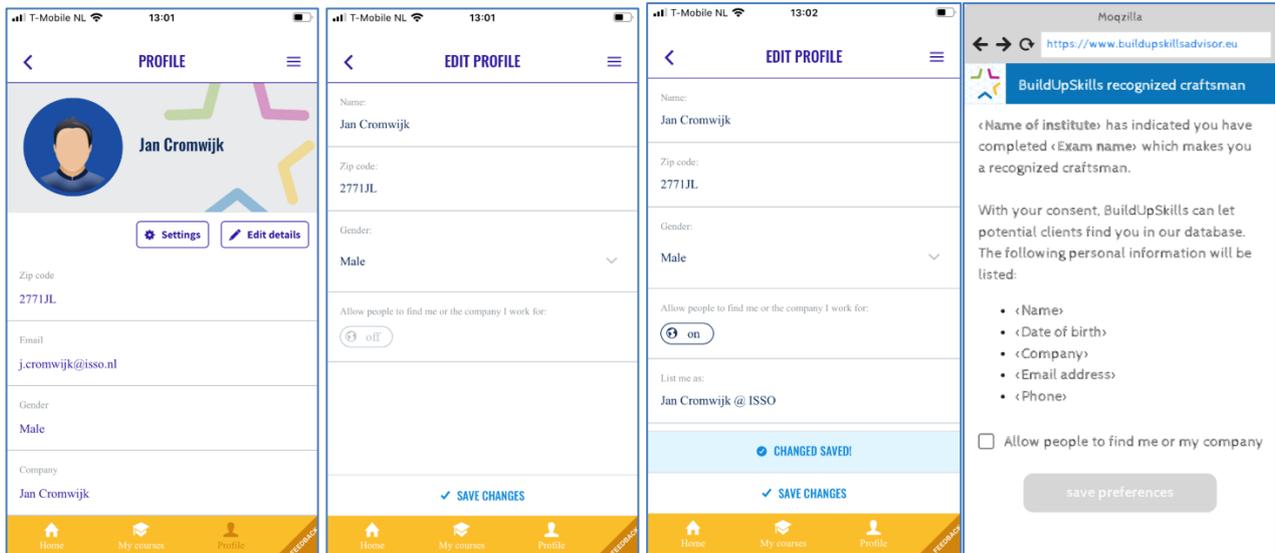
Screenshot 6: Self-registration of participants through BUS app



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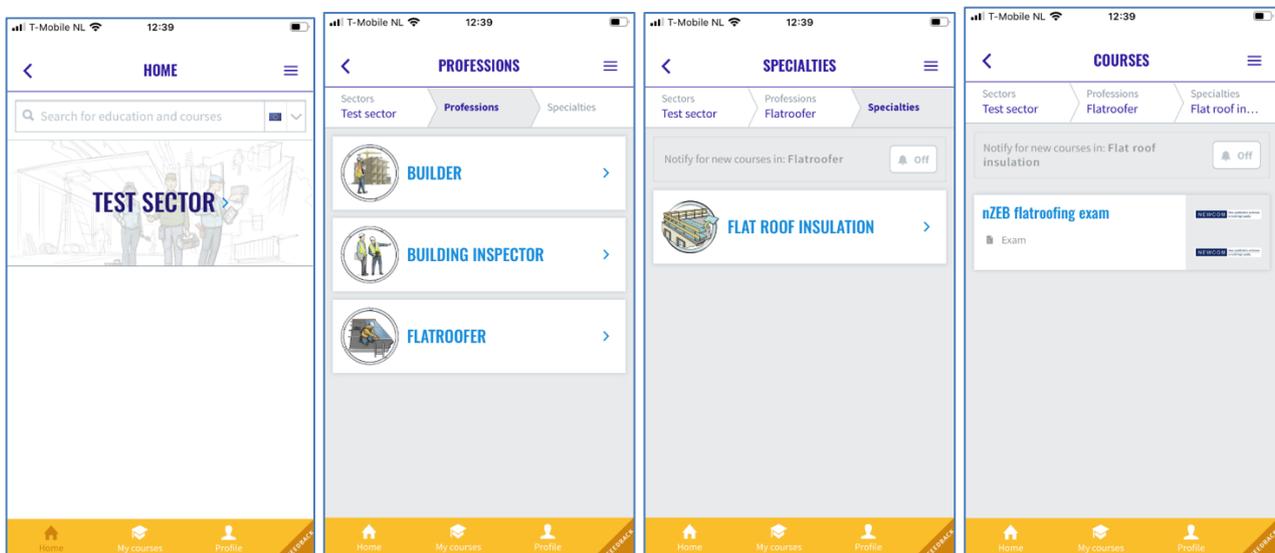
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## Screenshot 7: Giving personal consent for access to qualification data of professional by employer/contracting party



The registered professional can undo the consent and make his/her data not visible without giving any specific reason, as required by GDPR.

## Screenshot 8: Self-registration for exam



We assume that persons added by exam institutes have given their consent to be added to the register & to be found to the exam-institute.



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All registered persons get an email with instructions on changing this consent if needed. The possibility to change consent is facilitated in the BUILD UP Skills advisor-app.

## 5. Administrative Tools

### 5.1. Manage users

#### Screenshot 9: Editing user information

Email	Name	Roles	Institute
[Redacted]	Ronald Setznagel	ULOs	
[Redacted]	Jacco Putman	Questions (edit)	BDA dak- en gevel opleidingen
[Redacted]	Georg Trnka	ULOs	
[Redacted]	Jan Cromwijk Regio	Regions	

By clicking on the email-address of a user, the user role can be modified (in the screen above only Jacco Putman can edit questions). A screen for assigning roles opens. In the example below, you can see that Jacco can edit questions.

#### Screenshot 10: Example – editing question set

**Edit user**

Authorities

Admin  Questions (edit)  Questions (publish)  Courses  Regions  ULOs

ULOs (view)

Institute: BDA dak- en gevel opleidingen

Name: Jacco Putman

Username \* [Redacted]

Email [Redacted]

#### Explanations to Screenshot 7:

Admin = Systems admin (only visible for admins)

Questions (edit) = Being able to edit question sets (cannot be combined with publish)

Questions (publish) = Being able to edit and publish a question set (cannot be combined with edit)

Courses = Being able to add and modify courses in the course-catalog for one institute



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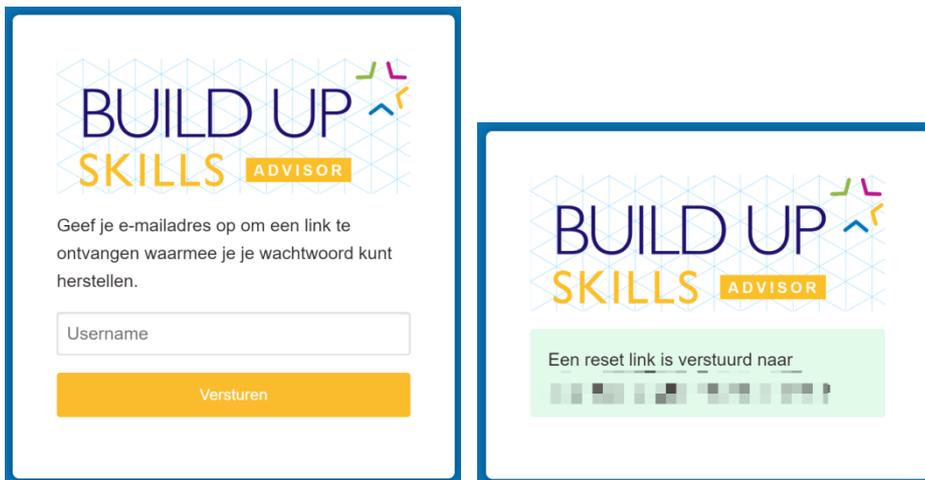
## 5.2. Reset user password

To reset a user's password, this link can be used:

<https://api.buildupskillsadvisor.eu/registration/forgotPassword>

The interface asks for the email address to resend.

### Screenshot 11: Resetting the password



## 6. Annex: Instructions Guide for Implementation of the Build Up Skills advisor-app

The guide in Annex provides detailed description of the BUS advisor app through which the European database of certified professionals has been implemented.

You can download more recent version of the guide at:

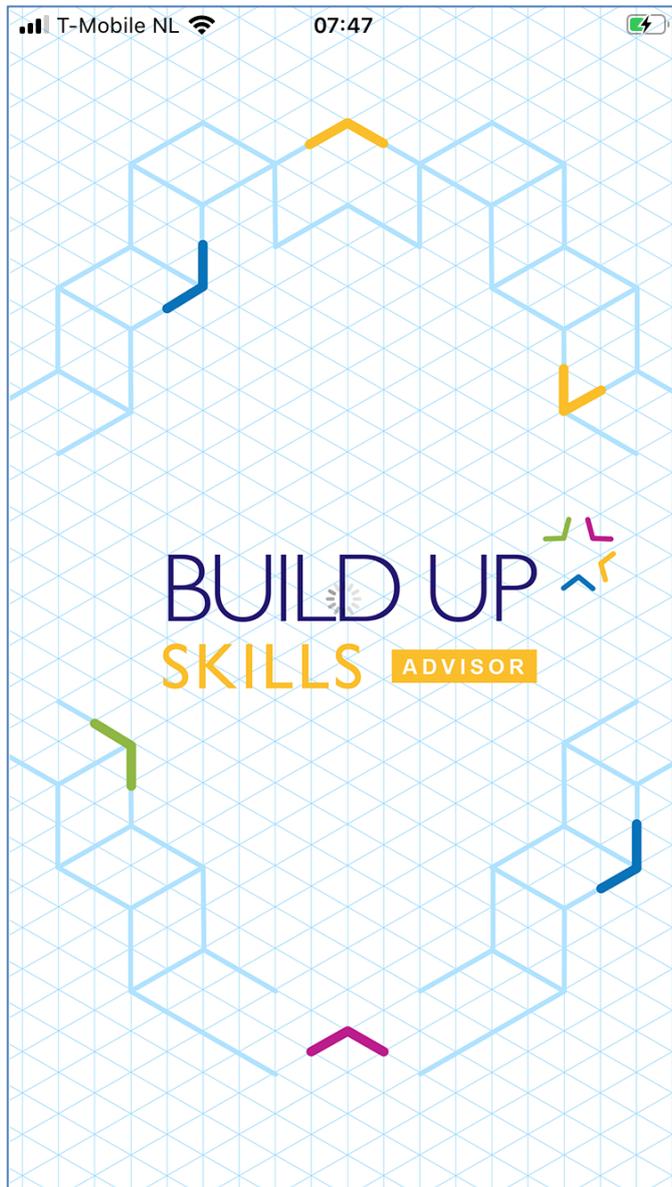
<https://www.dropbox.com/s/2gismfg2nn6x8x5/INSTRUCTION%20GUIDE%20FOR%20BUILD%20UP%20Skills%20advisor-app%20maintenance.docx?dl=0>



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# INSTRUCTION GUIDE FOR IMPLEMENTATION OF THE BUILD UP Skills advisor-app



Rotterdam, March 2020

Jan Cromwijk

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# 1 INTRODUCTION

The BUILD UP Skills advisor app is developed with the purpose to inform and advise craftsmen and professionals working in the building sector; about upskilling opportunities around sustaining of the built environment.

The BUILD UP Skills advisor app and its maintenance environment are built as Software as a Service. Each project and/or region/country using it, receives a dedicated part of the environment. Some essential data is shared with the purpose of mutual recognition. Examples of these are occupations, specialisms and Unit of Learning Outcomes.

Together with ISSO, Bouwradius and involved EU projects are developing a sustainable business model for sharing hosting and SLA-costs. Ensuring both a business model for organisations implementing the BUILD UP Skills advisor-app and covering of development, hosting and SLA costs.

In this document our approach and the main functions of the BUILD UP Skills advisor app and its maintenance environment are explained.

The BUILD UP Skills advisor app was conceived in a project that has received funding from the European Union's Intelligent Energy – Europe (IEE) under grant agreement no IEE/12/BWI/335/SI2.659666 BUS\_N@W



The BUILD UP Skills advisor app is used and extended in projects that received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No's 649737 (BUStoB), 649473 (PROF/TRAC), 754148 (NEWCOM), 745510 (BIMplement), 784972 (TripleA-reno).



Development was co-financed by a Dutch education and training fund (OTIB).  
The developer is Geckotech [www.geckotech.nl](http://www.geckotech.nl)



## 2 THE BUILD UP SKILLS INFRASTRUCTURE

### 2.1 OVERVIEW OF THE BUILD UP SKILLS-APP INFRASTRUCTURE

The BUILD UP Skills advisor-app infrastructure consists of several parts.

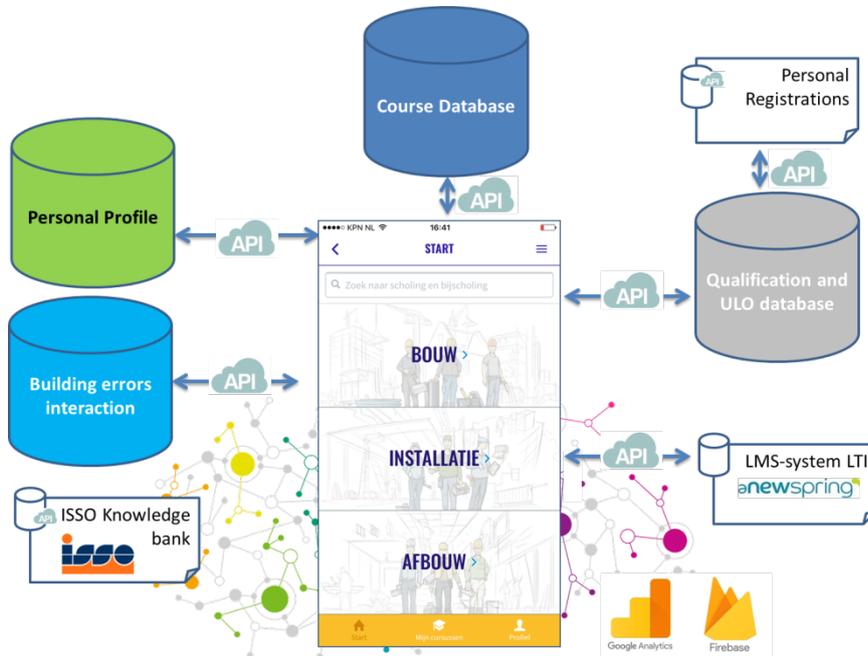


Image 1: Overview of the BUILDUP Skills app infrastructure

#### Course database

The course database consists of a flexible maintenance environment in which regions, sectors, occupations, specialisations, accreditations, training institutes and qualification descriptors.

Type	Name	Institute
	3D ontwerpen met Solid Works	HAN
	Aanbestedingen en inkoop	HAN
	Aanbrengen Tonzon Thermokussens	Tonzon
	Aanbrengen van bevestigingsmaterialen	BouwCirkel
	ACK algemeen	Opleidingscentrum GO°
	ACK Algemeen	NCOI Techniek en veiligheid
	ACK ammoniak basis	Opleidingscentrum GO°
	ACK Ammoniak Basis	NCOI Techniek en veiligheid

Image 2: Maintenance site for the Course-database.

It also is equipped with functionality for training providers to maintain their own courses and to approve course attendance for the social rating participants can give to trainings they have attended.

This database is communicating with the BUS-app using API.

For developing the right structure of professions, specialisms and so on, the in BUILD UP Skills and PROF/TRAC developed methodology for skillsmapping is applied.

<http://profrac.eu/nzeb-skills-and-qualification-scheme/overview.html>

### Personal Profile

For each user that logs into the BUS-app a Personal profile is created. This profile is maintained by the user itself and concerning progress automatically. It consists of:

- Name
- Photo (if social login is used retrieved from the social network)
- Postal code (if filled in by the user)
- Email-address
- Gender (if filled in by the user)
- Company (if filled in by the user)
- Course-ratings
- Course-favourites
- Earned experience points and the context they are earned in (connected to the specialism(s))
- A track-record / personal portfolio / breadcrumb-path
- Notification settings

The storage and use of personal data is fully GDPR compliant.

### Building Errors Interaction

For the Building Errors Interaction a maintenance environment is available. In this environment course providers can create their own building error question-sets. This as a tool for branding their own quality.

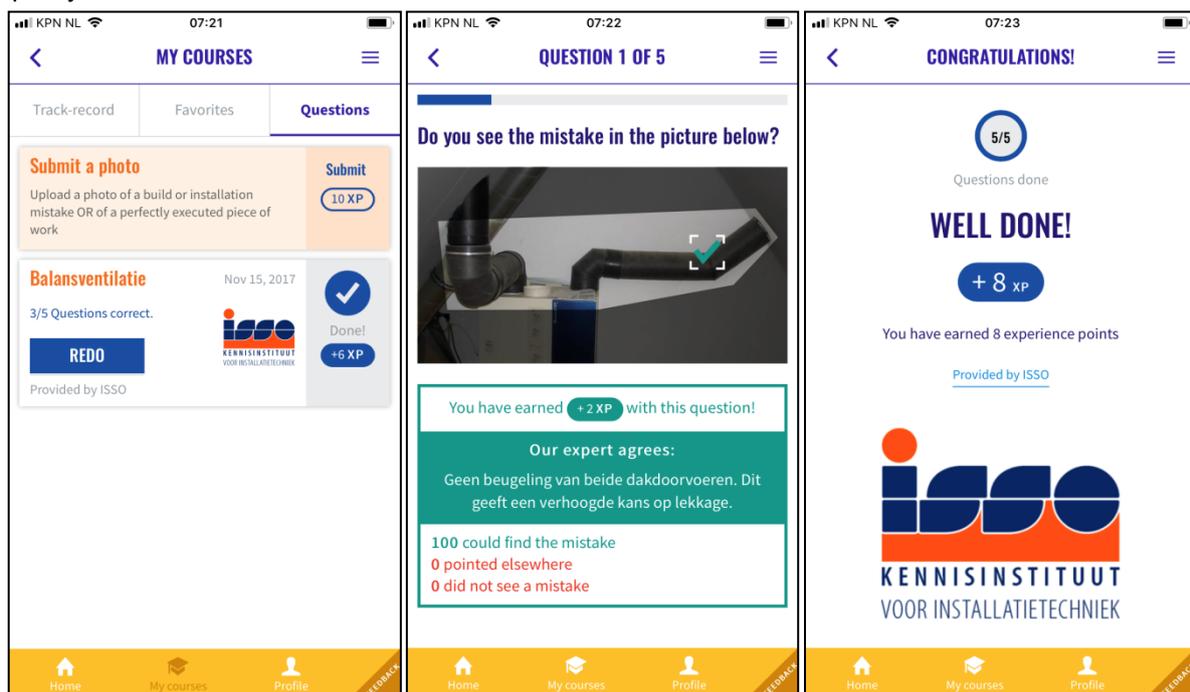


Image 3: Impression of the Building Errors Interaction

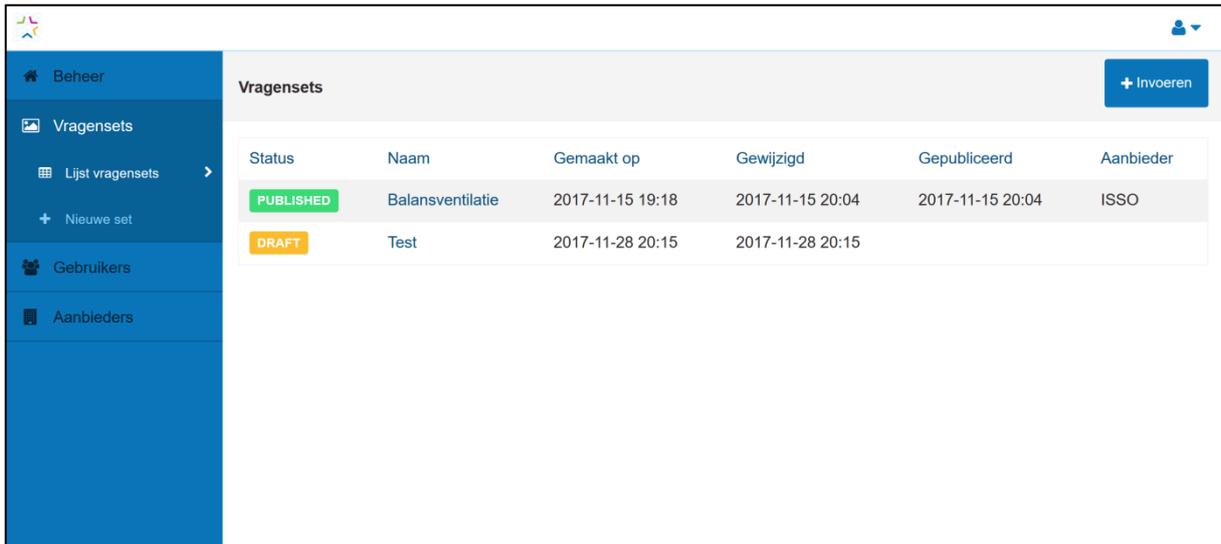


Image 4: Maintenance environment Building Errors Interaction

### Self-check or inspection interaction

For the Building Errors Interaction a maintenance environment is available. In this environment course providers can create their own building error question-sets. This as a tool for branding their own quality.

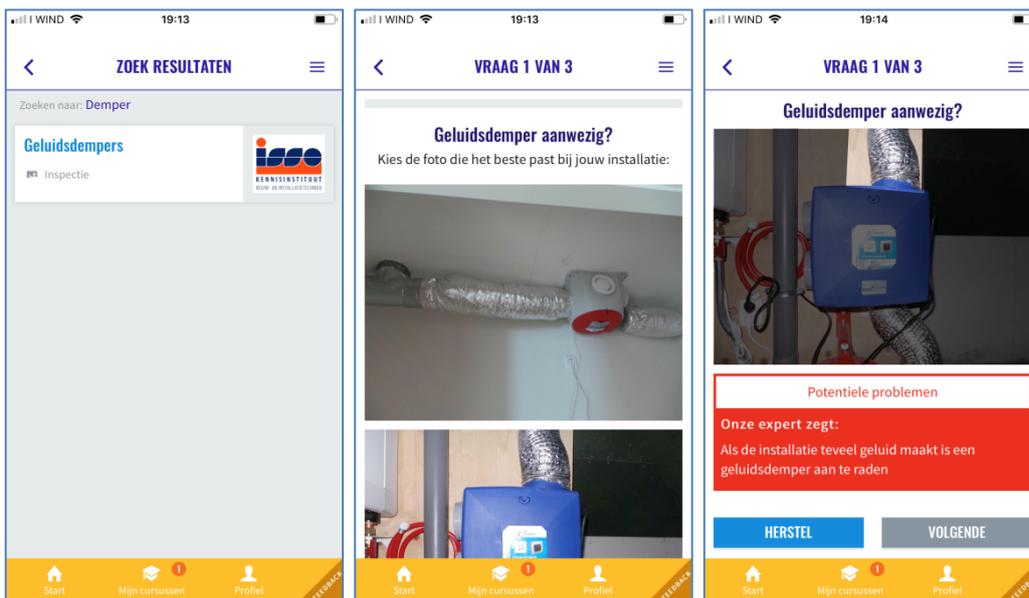


Image 5: Impression of the 'Inspection Interaction'

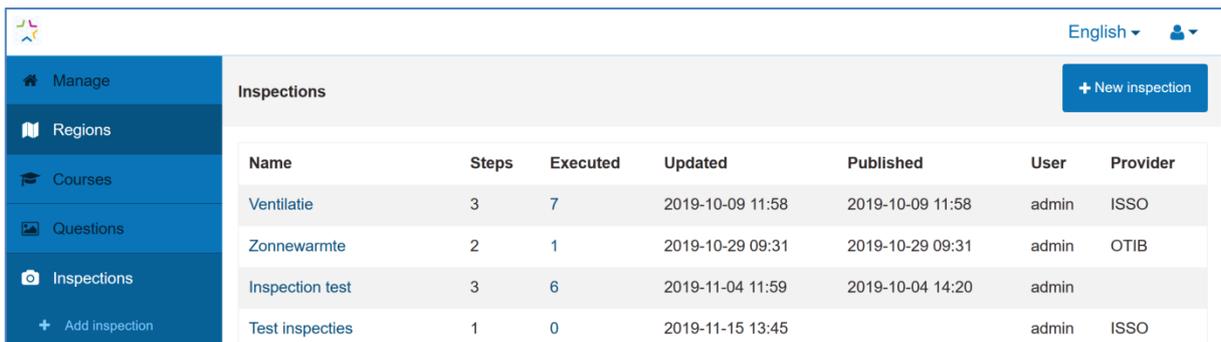


Image 6: Maintenance environment for the 'Inspection interaction'

## Registering and finding personal recognitions

For course, exam and recognition providers it is possible to add formal and informal personal recognitions. The individual users of the BUILD UP Skills advisor-app can give their consent to be found when people, employers or clients are searching for persons in the area that are formally or informally recognised.

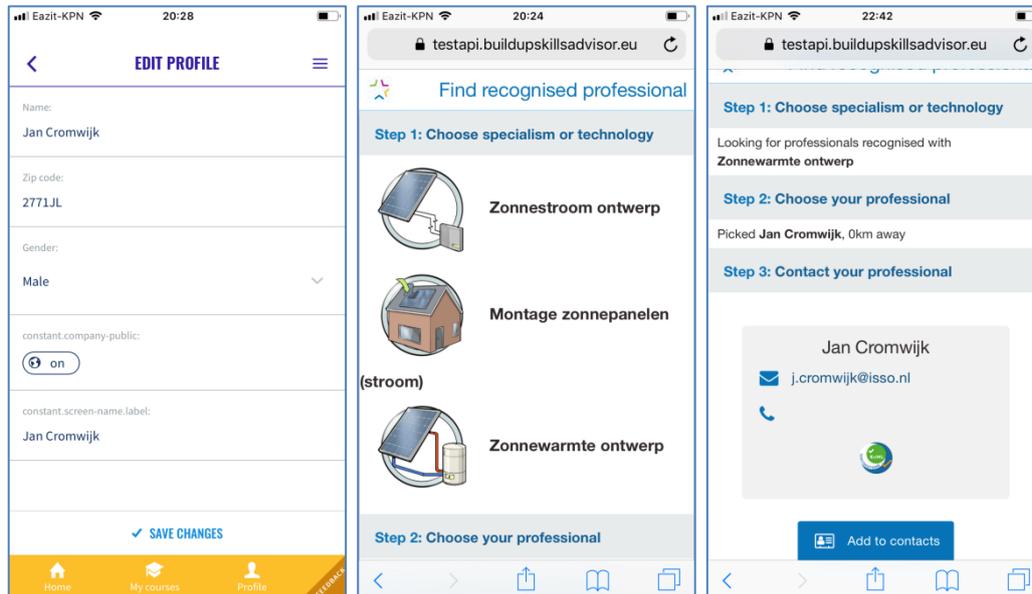


Image 7: giving consent – find specialists – and contact them

## E-learning / LMS integration

For seamless integration of e-learning Application Programming Interfaces (API) and Learning Tools Interoperability (LTI) is used. All e-learning environments that support those standards can be connected. The first integration is made with the aNewSpring LMS.

For development of the e-learning we mainly use [www.aNewSpring.nl](http://www.aNewSpring.nl) and an easy to use method and template. In aNewSpring license sharing is possible.

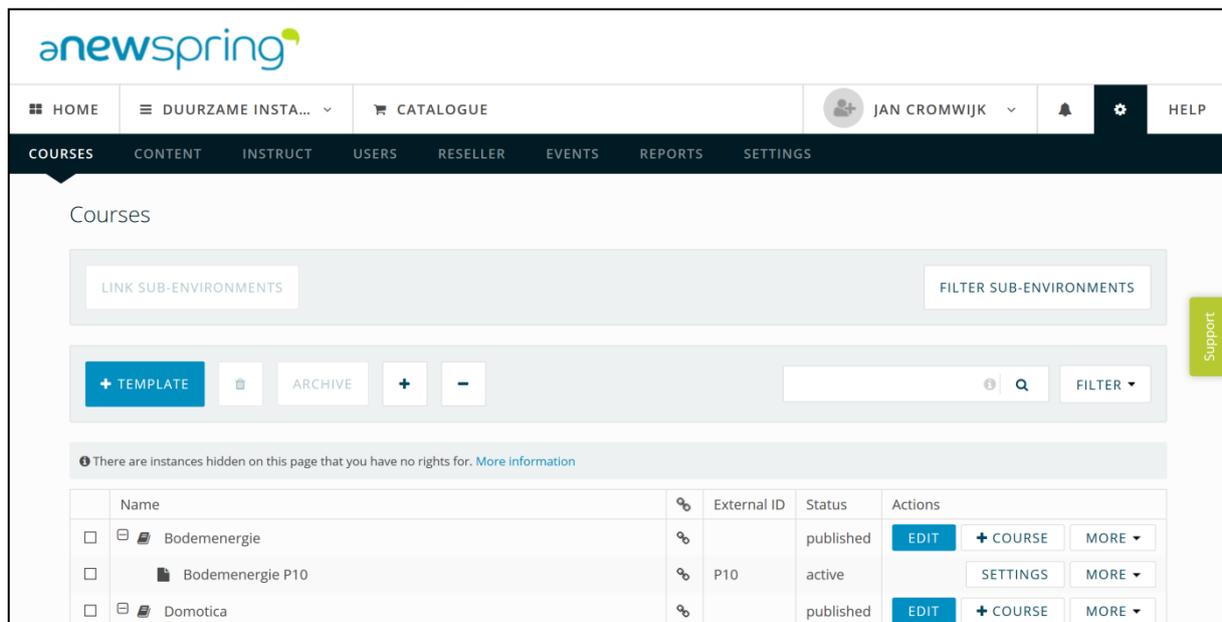


Image 8: Snapshot of the aNewSpring LMS

If required for it is possible to integrate also with Moodle or other e-learning environments.



Image 9: Logo of Moodle

### Google Analytics and Firebase

For statistics and analytics an integration with Google Analytics and Firebase is in place. Both for ingoing and outgoing traffic. Course providers that also use Firebase and UTM coding are able to track conversion from the BUS-app, this is an enabler for future businessmodels.

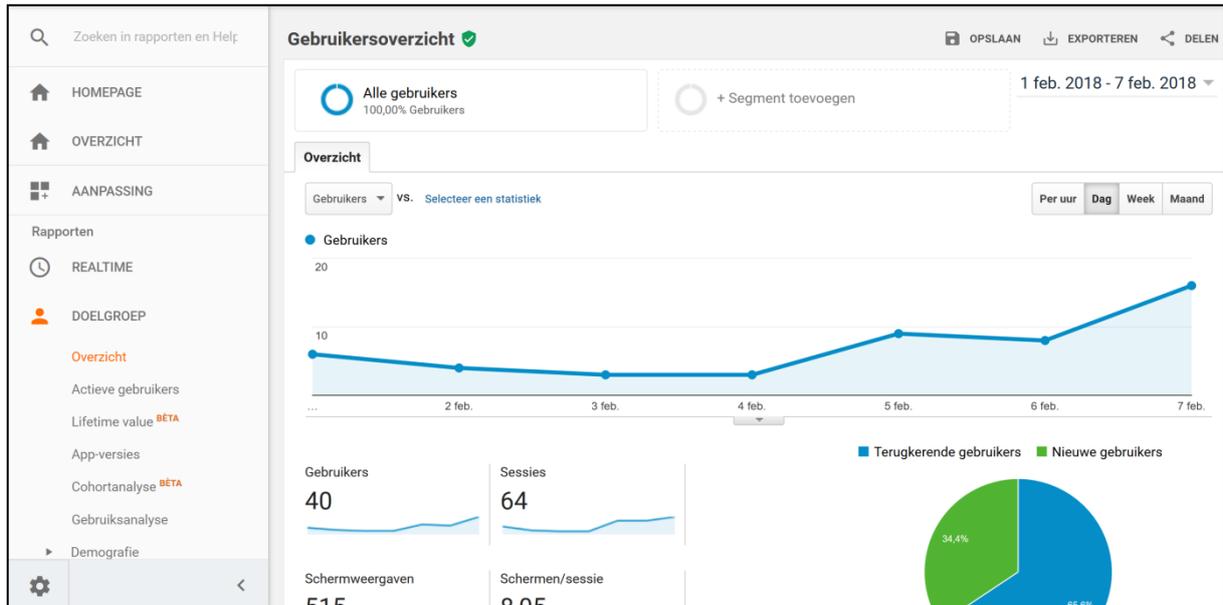
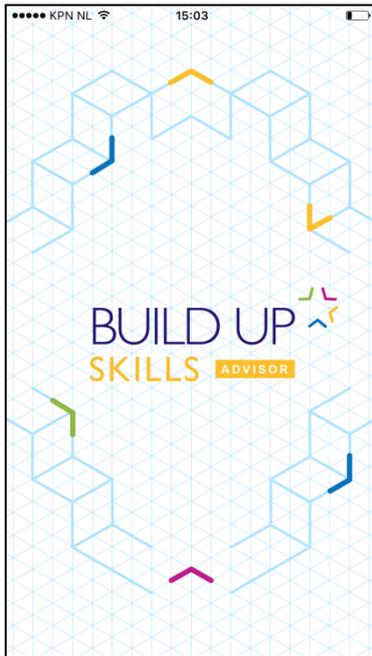


Image 10: Screenshot of the Google Analytics integration

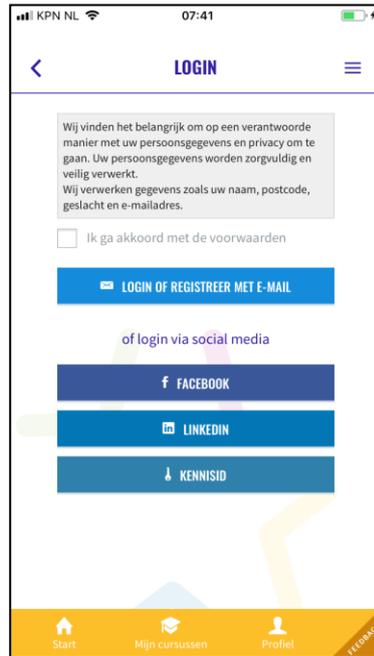
## 2.2 TOUR OF THE BUILD UP SKILLS ADVISOR-APP

The for end-users free-to-use app is a handy tool that quickly maps out the relevant training opportunities for sustaining of the built environment. By linking these possibilities to specific techniques and professions, the app provides you with an appropriate training advice that matches your situation. By turning on the app notifications for the specific techniques you want to follow, you will automatically receive updates on the most current course offers and question sets about practical situations.

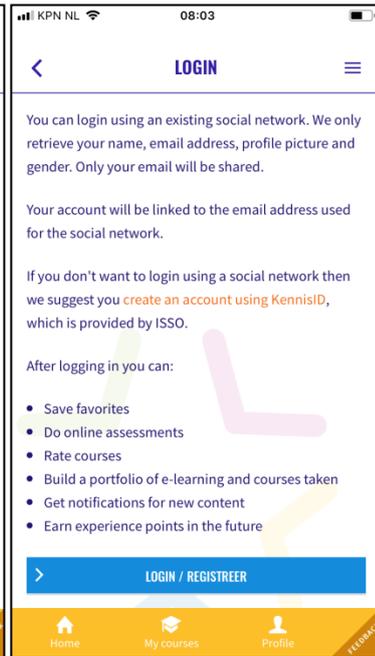
Note: some of the images are a mix between Dutch and English. There the language EN is used for viewing Dutch content.



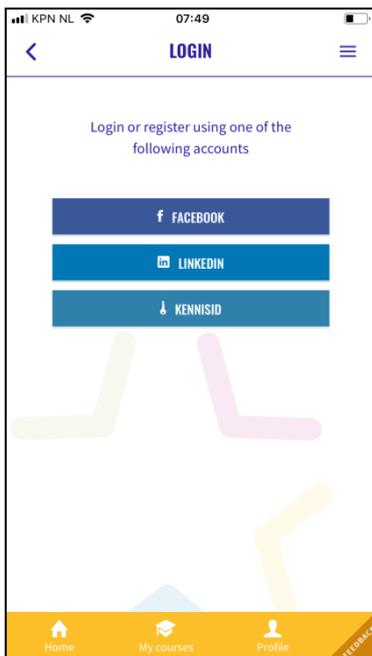
Splash screen



Accept EULA



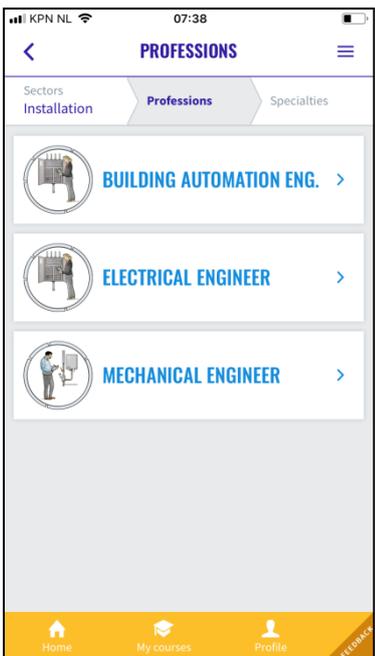
Before login



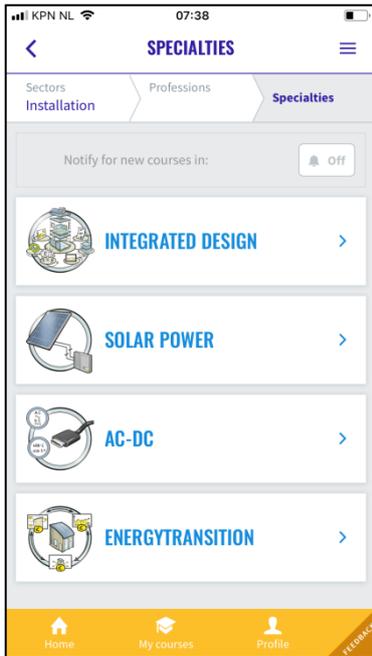
Login 2



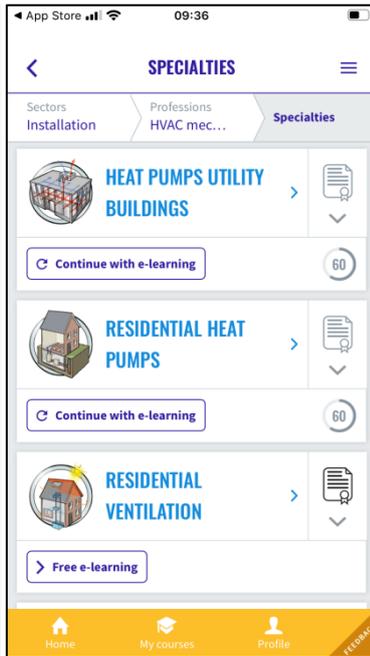
Select a sector



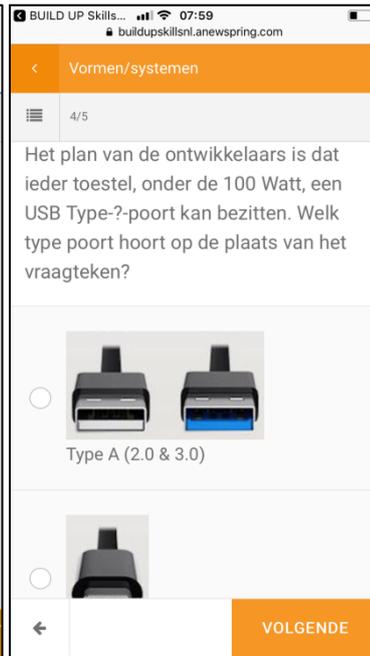
Select your profession



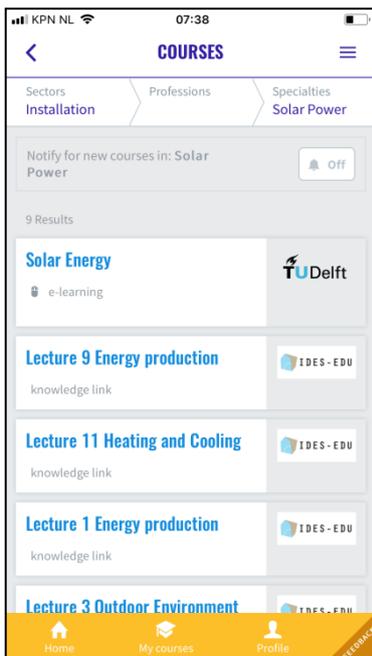
Select the technology



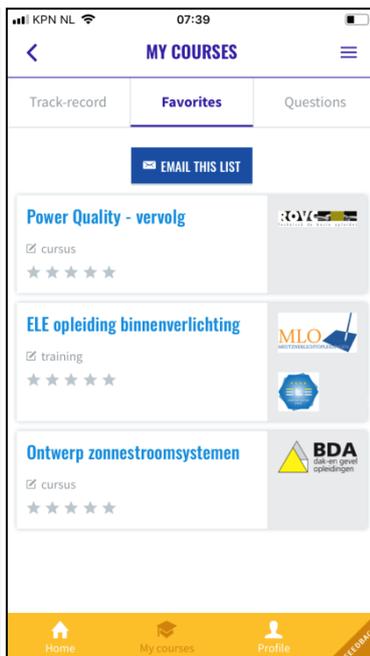
Select e-learning (NL)



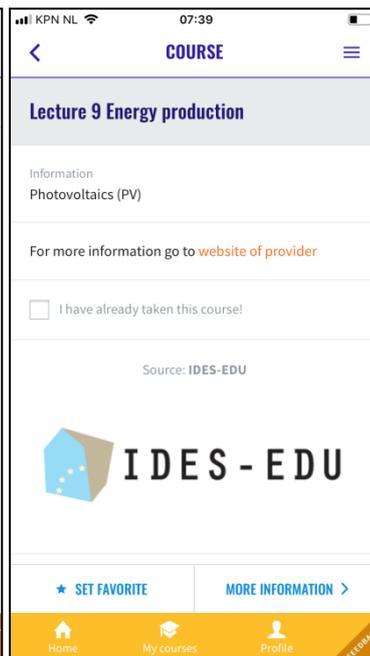
Follow e-learning (NL)



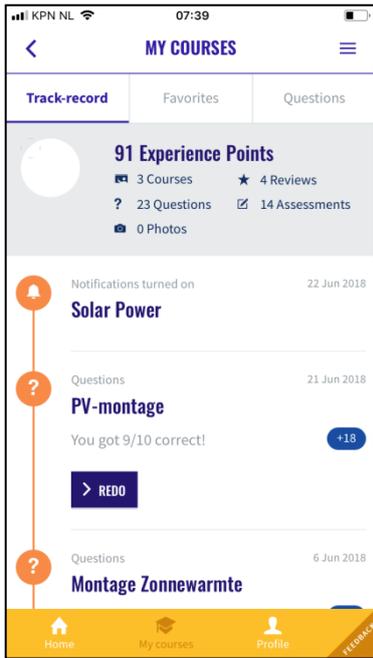
See available courses



Add course to favorites



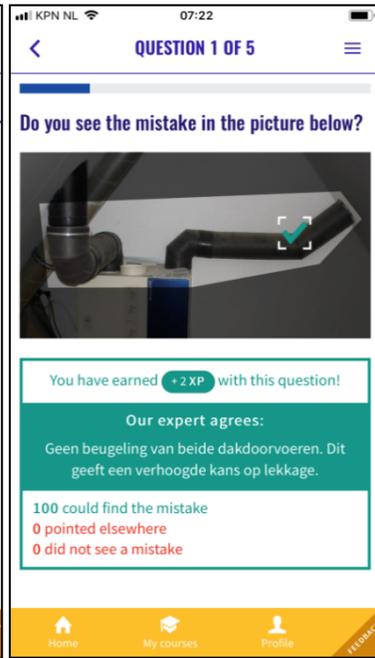
View course details



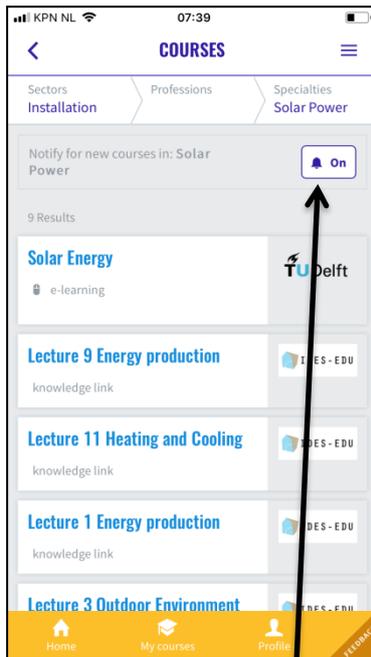
See personal track



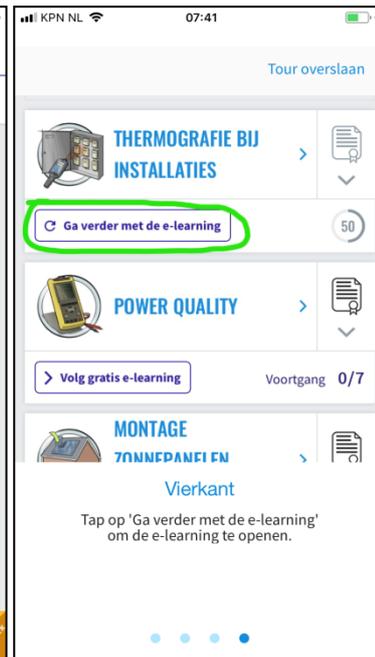
Select assessments



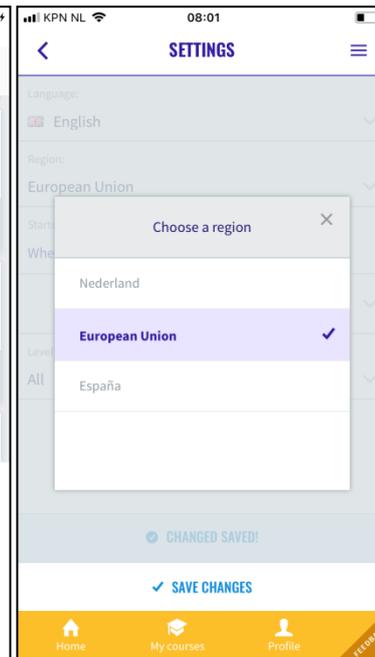
Practical assessments (NL)



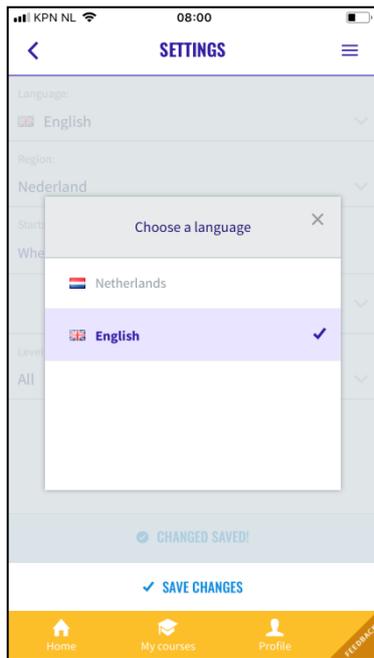
Personal notifications



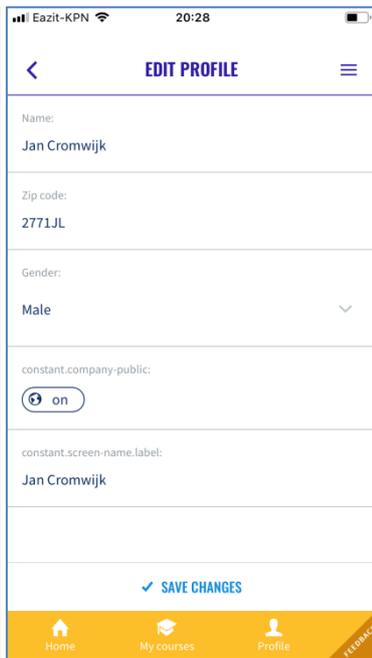
Follow the tour



Select region



Change language



Give consent to be found / not



Search and find



Find an Inspection



Perform Inspection



Get feedback and improve

# 3 ADMINISTRATION TOOLS

## 3.1 MANAGE USERS

Email	Name	Roles	Institute
[redacted]	Ronald Setznagel	ULOs	
[redacted]	Jacco Putman	Questions (edit)	BDA dak- en gevel opleidingen
[redacted]	Georg Trnka	ULOs	
[redacted]	Jan Cromwijk Regio	Regions	

**Click** on the email-address of a user **to modify** the user role (in the screen above only Jacco Putman can edit questions)

A screen for assigning roles opens. In the example below you can see that Jacco can edit questions

**Edit user**

Authorities:  Admin  Questions (edit)  Questions (publish)  Courses  Regions  ULOs  
 ULOs (view)

Institute: BDA dak- en gevel opleidingen

Name: Jacco Putman

Username \* [redacted]

Email [redacted]

Admin = Systems admin (only visible for admins)

Questions (edit) = Being able to edit questionsets (cannot be combined with publish)

Questions (publish) = Being able to edit and publish a questionset (cannot be combined with edit)

Courses = Being able to add and modify courses in the course-catalog for one institute

**Add user**

Authorities:  Admin  Questions (edit)  Questions (publish)  Courses  Regions  ULOs  
 ULOs (view)

Institute: [dropdown]

Name: [input]

Username \* [input]

Email [input]

Regions = Region manager (only visible for admins and region managers)  
 A region manager can manage all content in one or more region(s)  
 A region manager has to confirm new publications

ULO's = Able to create Qualifications and ULO's  
 ULO's (view) = can only view Qualifications and export them to Excel

Press 'Update' when ready with assigning roles

### 3.2 RESET USER PASSWORD

To reset a user's password use this link <https://api.buildupskillsadvisor.eu/registration/forgotPassword>  
 The interface asks for the emailaddress you want to reset. Then click 'Versturen' or 'Send'.  
 Then a link for reset will be send to the user.

## 4 COURSE DATABASE

The BUILD UP Skills course database consists of a flexible maintenance environment in which regions, sectors, occupations, specialisations, accreditations, training institutes and qualification descriptors. In this guide an overview on how to implement and use this database.

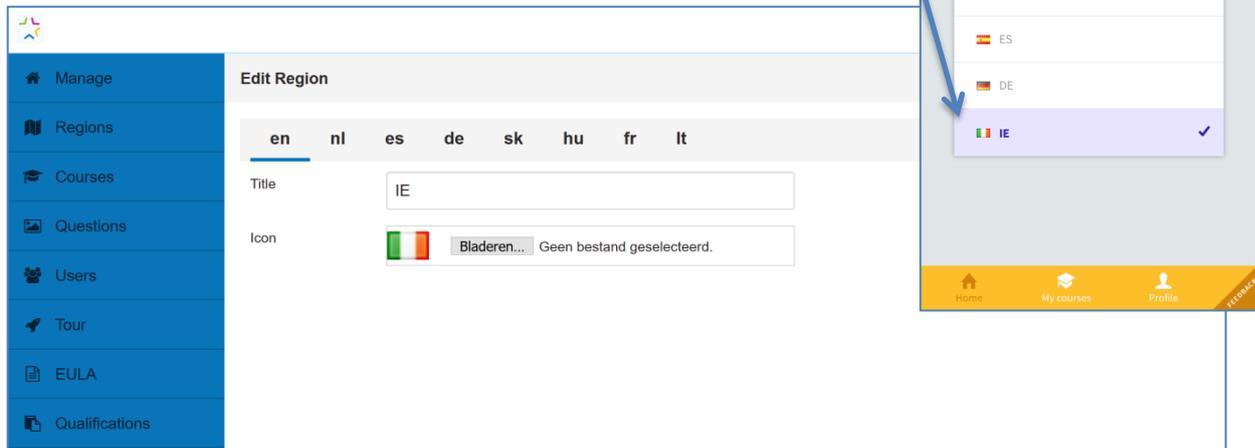
### 4.1 REGIO ADMIN: CREATE A REGION

Use of the BUILD UP Skills infrastructure starts in general with the creation of a new region. In general we see each EU memberstate as a region. If needed also provinces or parts of a kingdom can be added as regions.



Click on '+ New Region' to add a new region.

Result in the app



Give the region a name (in general we use the ISO3166-1 alpha-2' country codes and flags)  
Upload a flag icon (Dropbox: BUILD UP Skills advisor-app implementations\Visualisations\Flags\png)  
Save the new region

## 4.2 REGIO ADMIN: CREATE A SPECIALISM

When a region is created, the region is empty.

As next step at least one specialism needs to be added.

To do so, it is possible to use the list of already available specialism and the visualisations available on Dropbox

Type the specialism name in English to check if it is already in the database. If it is in the database, it will pop-up, select it and the next screen opens.

Please do not use this button

Will be removed in next release

If it is not in the database, then complete the name and hit 'Enter' or the button 'Add a new Specialism'. The next screen opens.

### 4.3 REGIO ADMIN: CREATE A PROFESSION

Next step in setting up a region is the creation of a profession / occupation

Please do not use this button

The screenshot shows the top navigation bar with a dropdown menu set to 'IE'. A blue button labeled 'New profession +' is highlighted with a red box and an arrow pointing to it from the text 'Please do not use this button'.

Type the name of the profession in English to check if it already exists in the database.

- ✓ If the profession is already in the database, it will pop-up, select it and the next screen opens.
- If not, then complete the name of the profession and hit 'Enter' or the button 'Add a new profession'.

The next screen opens.

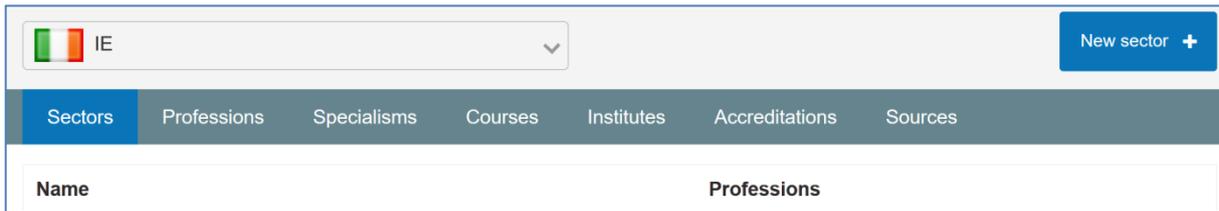
The screenshot shows the 'Create a profession' form. The 'Name' field contains 'Service Mechanic E-installation'. The 'Picture' section shows two circular images of a technician working on a solar panel. The 'Assessments' section has 'Theoretical' and 'Practical' fields, both with 'aNewSpring' dropdown menus. The 'Linked specialisms' section has a search bar with 'sola' and a list of results including 'Mounting solar panels (power)'. Annotations include:

- A blue box pointing to the 'Theoretical' assessment field: "If e-learning is available add the Id here (see chapter 6 for more info)".
- A blue box pointing to the 'Linked specialisms' section: "Here you can link with Specialisms by typing the specialism names and selecting the specialism".
- A red box with white text: "REMARK: please do not create new specialisms here".

This close-up shows the 'Linked specialisms' section. It features a search bar with 'Mounting solar panels (power)' selected. Below the search bar is a red 'unlink' icon. A blue box annotation says: "Linked specialism are shown like this You can unlink by hitting the unlink icon". Below the search bar is the text: "Type here to search for a specialism or create a new one."

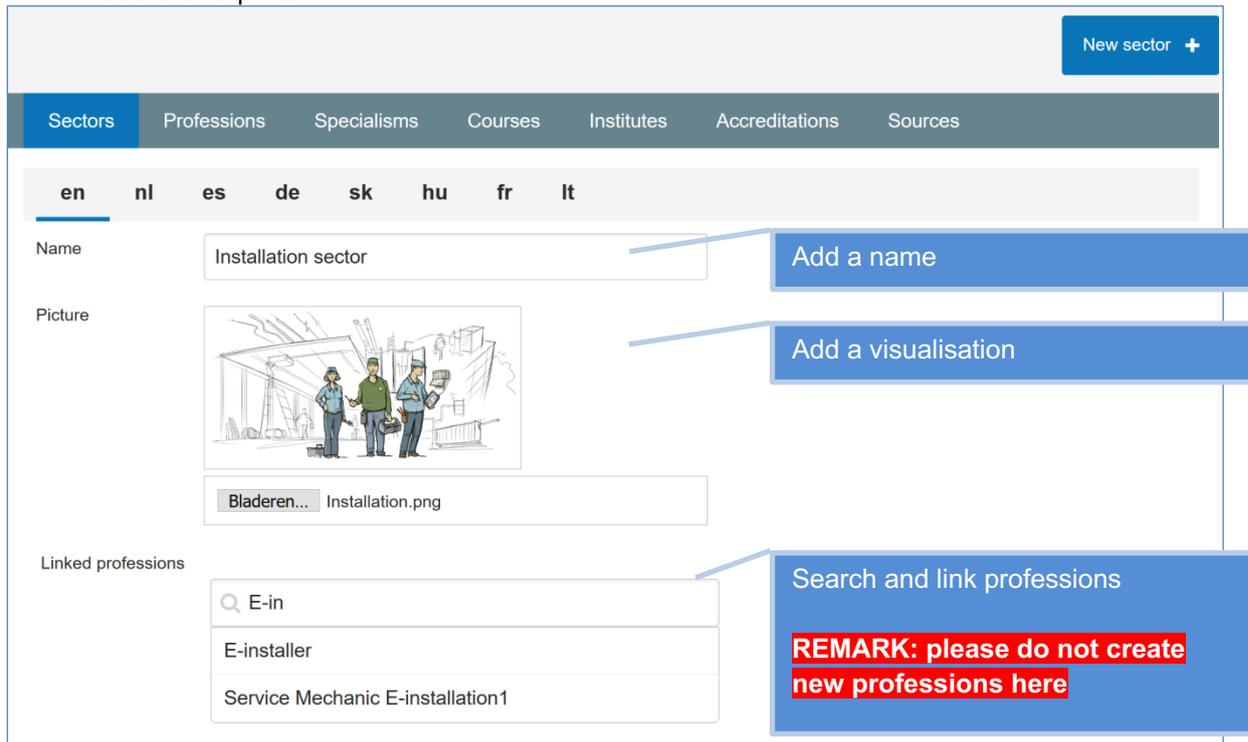
#### 4.4 REGIO ADMIN: CREATE A SECTOR

In the BUILD UP Skills advisor-app professions are linked to sectors. Before that can be done a sector needs to be added.

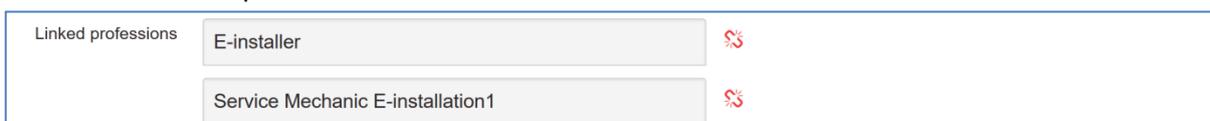


Click the 'New sector +' button

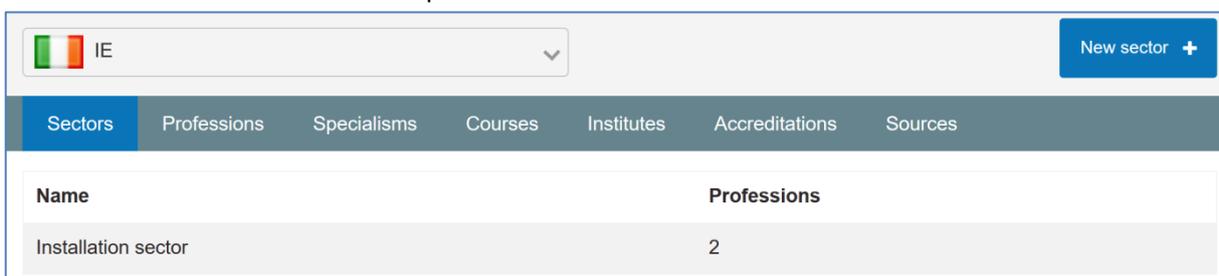
Fill in the details required



Result: of the linked professions

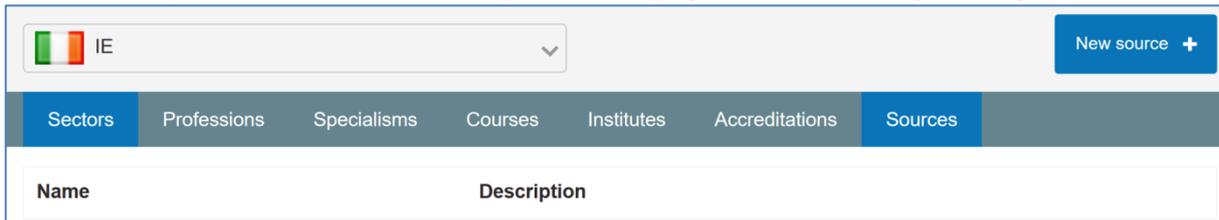


The final result: a sector with linked professions



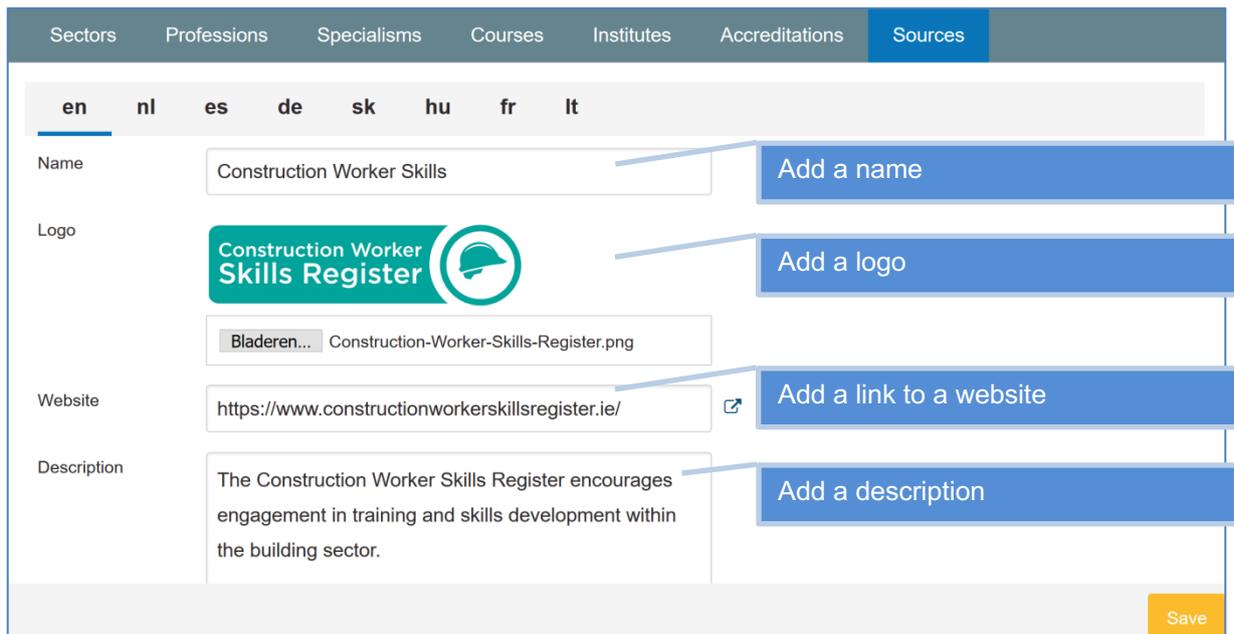
#### 4.5 REGIO ADMIN: CREATE A SOURCE

In the Course catalogue it is possible to create subsets of courses. For example all courses for blue collar workers, or all courses related to a specific skills-project. This is done by working with 'sources'



Name	Description
------	-------------

Click the 'New source +' button



Name: Construction Worker Skills

Logo: Construction Worker Skills Register

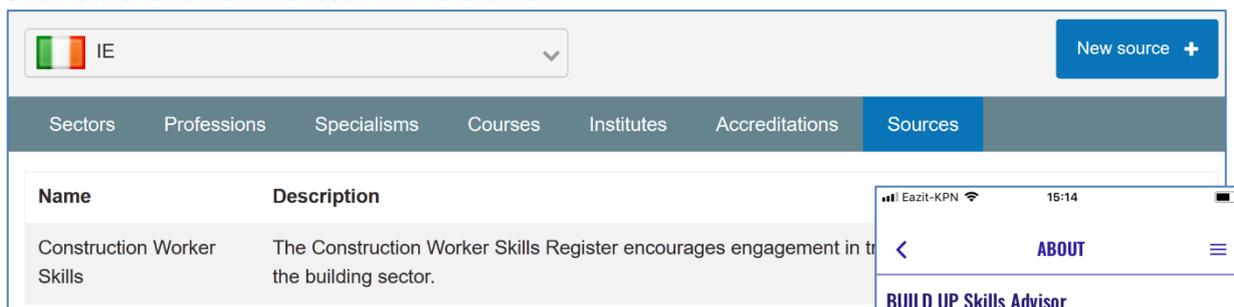
Website: <https://www.constructionworkerskillsregister.ie/>

Description: The Construction Worker Skills Register encourages engagement in training and skills development within the building sector.

Save

Fill in the information required

Click 'Save' and then the result will be showed.



Name	Description
Construction Worker Skills	The Construction Worker Skills Register encourages engagement in the building sector.

**BUILD UP Skills Advisor**

With this app you quickly get insight into the available retraining and education supply for sustaining the built environment. This app has been developed by the Dutch BUILD UP Skills consortium, BuildUpSkillsNL. [www.buildupskills.nl](http://www.buildupskills.nl)

For IE, the content of this app is maintained by:

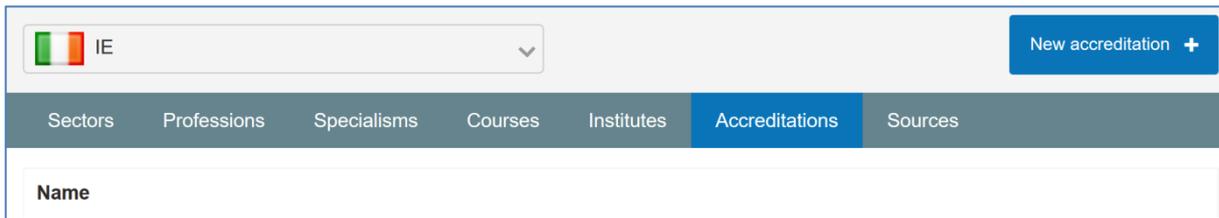
Construction Worker Skills

The development of this app has been made possible by:

In the BUILD UP Skills advisor app the sources are shown in the ABOUT screen

#### 4.6 REGIO ADMIN: CREATE AN ACCREDITATION

If accreditations or recognitions for courses or course providers are available, they can be added

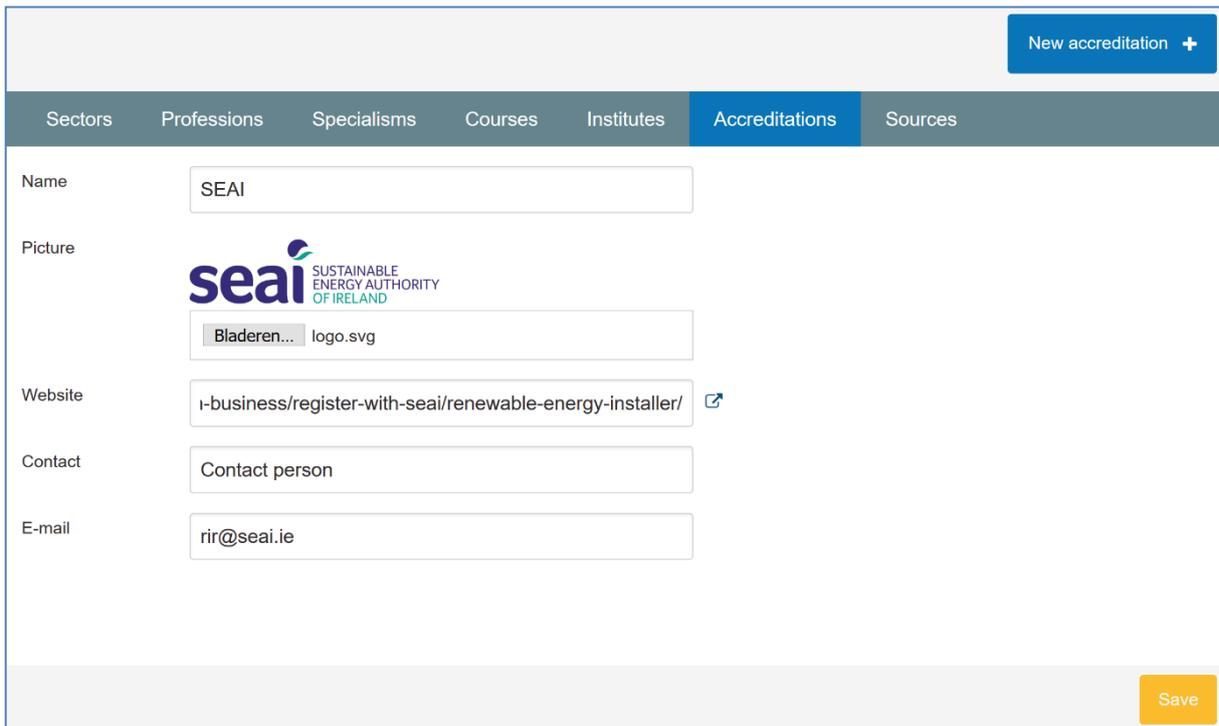


IE New accreditation +

Sectors Professions Specialisms Courses Institutes **Accreditations** Sources

Name

Click on the button 'New accreditation +' and fill in the required fields.



New accreditation +

Sectors Professions Specialisms Courses Institutes **Accreditations** Sources

Name

Picture 

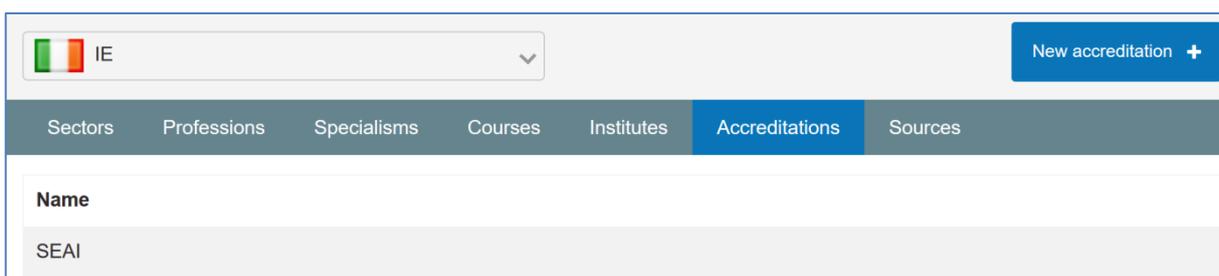
Website  [↗](#)

Contact

E-mail

Save

Click on Save and the result is shown



IE New accreditation +

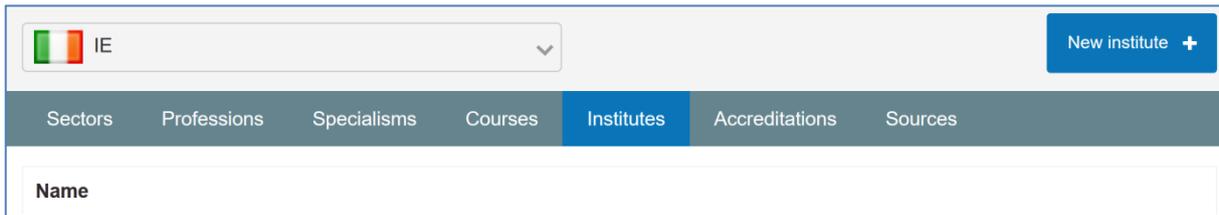
Sectors Professions Specialisms Courses Institutes **Accreditations** Sources

Name

SEAI

#### 4.7 REGIO ADMIN: CREATE AN INSTITUTE

The last step before courses can be created is adding one or more institutes (e.g. course provider, exam provider, recognition issuer).

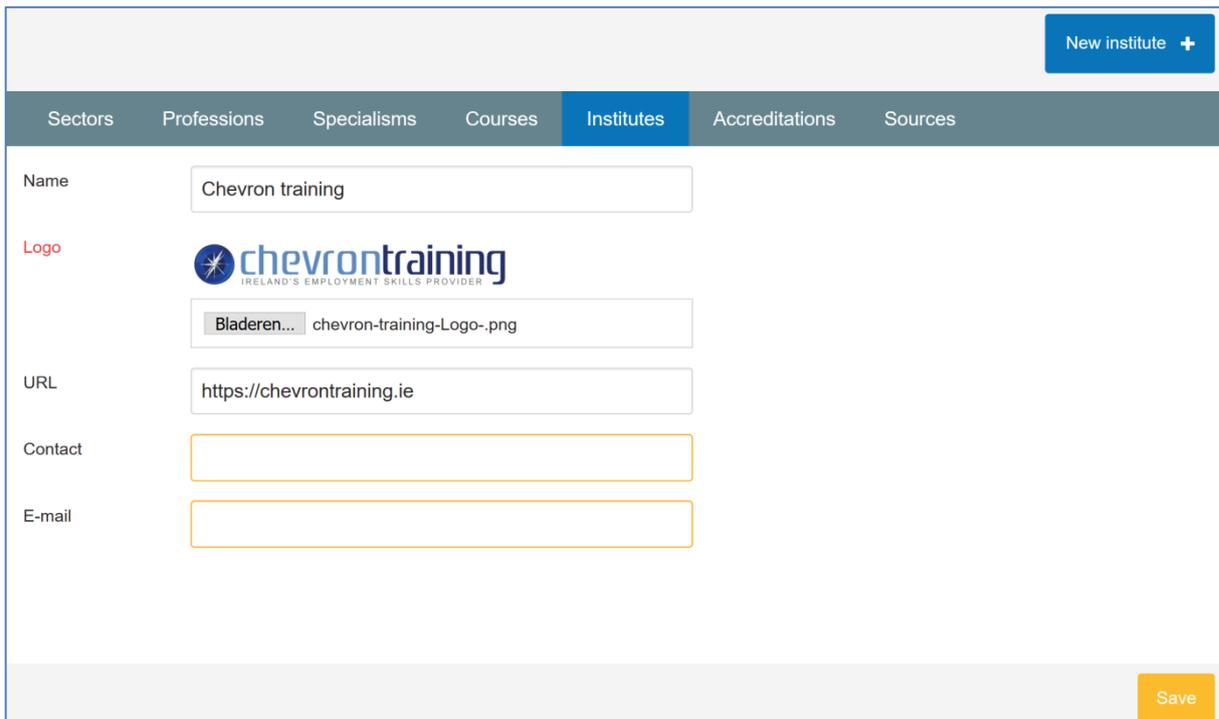


IE New institute +

Sectors Professions Specialisms Courses **Institutes** Accreditations Sources

Name

Click on the button 'New accreditation +' and fill in the required fields.



New institute +

Sectors Professions Specialisms Courses **Institutes** Accreditations Sources

Name

Logo 

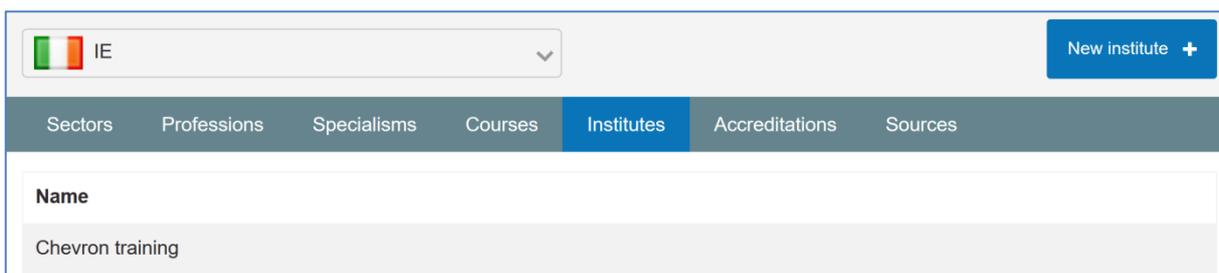
URL

Contact

E-mail

Save

Click on Save and the result is shown



IE New institute +

Sectors Professions Specialisms Courses **Institutes** Accreditations Sources

Name

Chevron training

## 4.8 REGIO ADMIN AND COURSE PROVIDER: CREATE A 'COURSE' OR 'EXAM'

The screenshot shows the top navigation bar with a dropdown menu for 'IE' (Ireland) and a 'New course +' button. Below the navigation bar, there are tabs for 'Sectors', 'Professions', 'Specialisms', 'Courses', 'Institutes', 'Accreditations', and 'Sources'. The 'Courses' tab is currently selected.

Click on 'New course' to create a new course item.

Fill in the details needed. When a course is published by a course provider, then the region admin needs to approve

The screenshot shows the 'New course' form with various fields and annotations. The form is for a course titled 'Solar installer' in English, with a description about micro-scale solar projects. The course type is 'Course', and it is linked to the 'Chevron training' institute. The website is 'https://chevrontraining.ie/solar-pv-course/'. The accreditation is 'SEAI', and it is linked to the 'Design solar power systems' specialism and the 'Service monteure E-installatie' profession. The course is worth 400 points. The form includes a 'Status' field set to 'DRAFT', a 'Language' dropdown set to 'English', a 'Name' field, a 'Description' text area, a 'Type' dropdown set to 'Course', a 'Collection' checkbox for 'Construction Worker Skills', an 'Institute' dropdown set to 'Chevron training', a 'Website' field, an 'Accreditation' dropdown set to 'SEAI', 'Specialisms and technologies' and 'Professions' dropdowns, an 'Exam' dropdown, and a 'Points' field set to 400. The form also includes a 'Save' button and a 'Publish' button.

Annotations on the right side of the form:

- Select a language the content has
- Add a name
- Add a description
- Select a course type
- Select a Sources
- Select a training institute
- Add a link to the website
- Select an accreditation, when applicable
- Link to Specialisms  
Based on the links the professions list is populated
- Unlink professions not within the target group AND/OR link to professions not linked to the specialisms selected
- When applicable add a link to an exam
- Add a number of XP
- Save or publish

#### 4.9 REGION ADMIN ACCEPT A CREATED OR MODIFIED COURSE

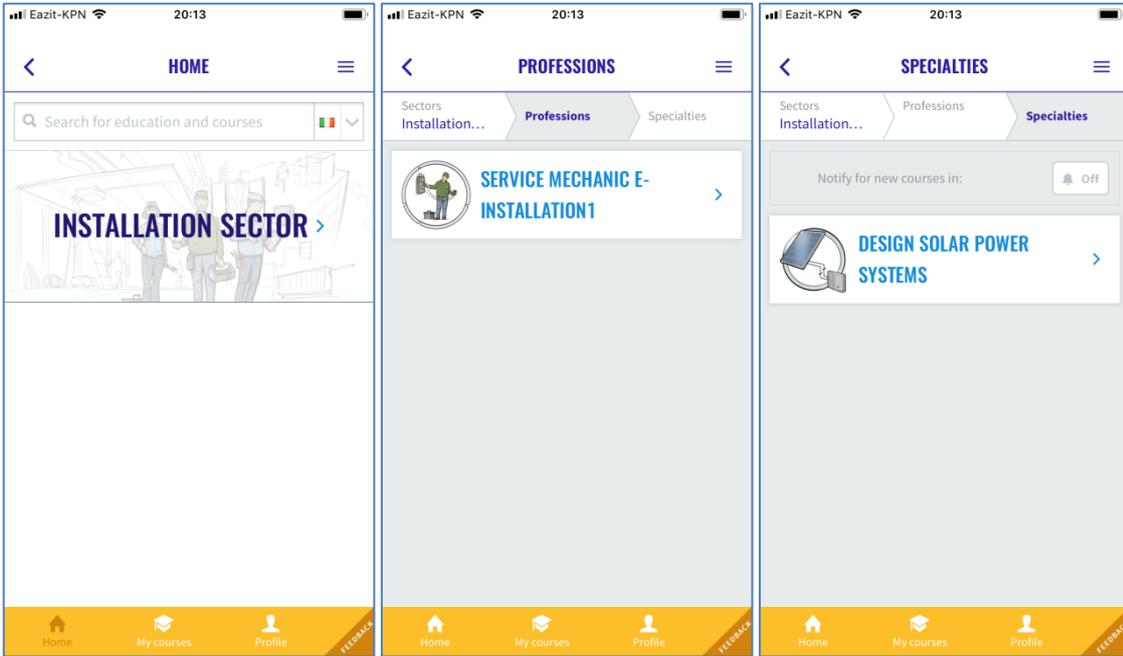
A region provider will get a notification if a course institute has added a new course of edited essential fields. This to prevent abundant linking to make a course item visible everywhere The essential fields are: Linked specialism's and Linked professions

If needed a region admin can make the required changes

By hitting the publish button, the region admin accepts the changes.



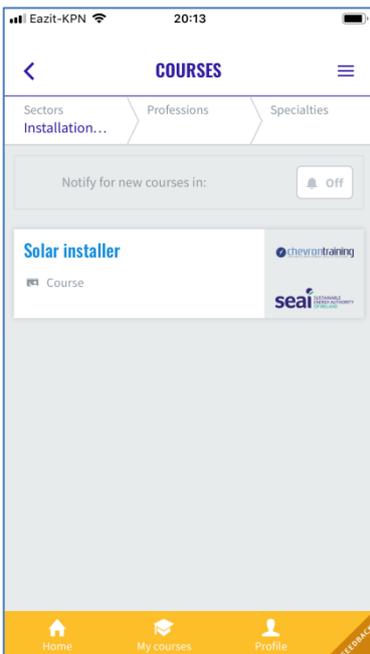
#### 4.10 RESULT IN THE APP



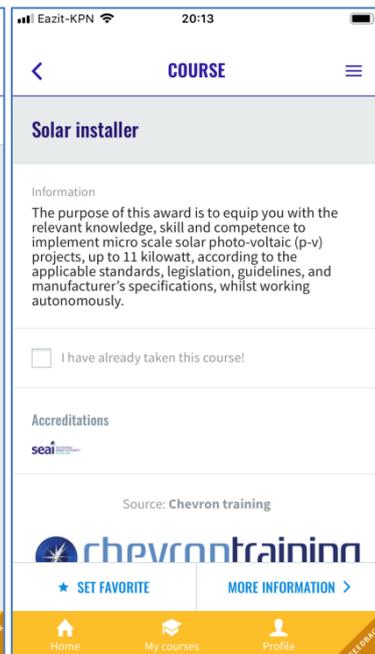
Select a sector

Select a profession

Select a specialism



The course supply



Information about the course

## 4.11 ADD COURSE PARTICIPANTS

### 4.11.1 With Excel imports

As course institute it is possible to upload an Excel with course participants

A template for this can be found in the Dropbox

“BUILD UP Skills advisor-app implementations\Information for course providers”

First fill in the Excel template with the following information

	A	B	C
1	Name	Email	Completion Date (yyyy-mm-dd)
2	new_participant1	<a href="mailto:new_participant1@example.com">new_participant1@example.com</a>	2020-10-01
3			

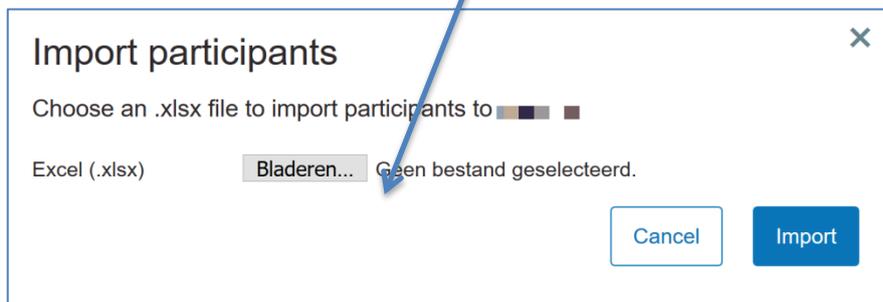
Click on **Import Excel** to import the Excel file



The following pop-up appears

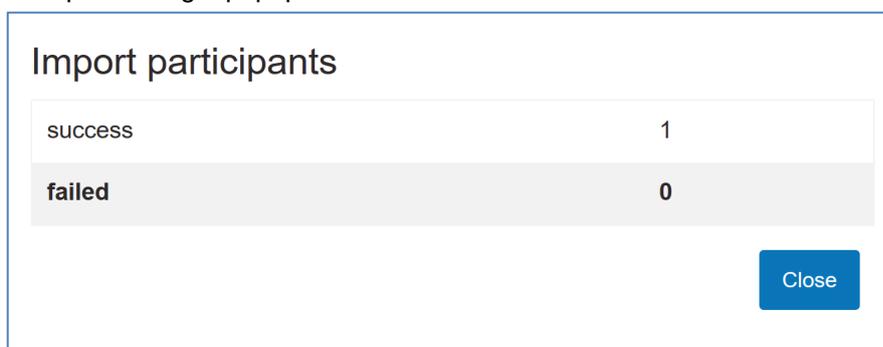
Select the Excel file by clicking on **'Bladeren'**

Click on **Import** for importing the participants.



Uploading and processing takes a while **(do not refresh or click again)**

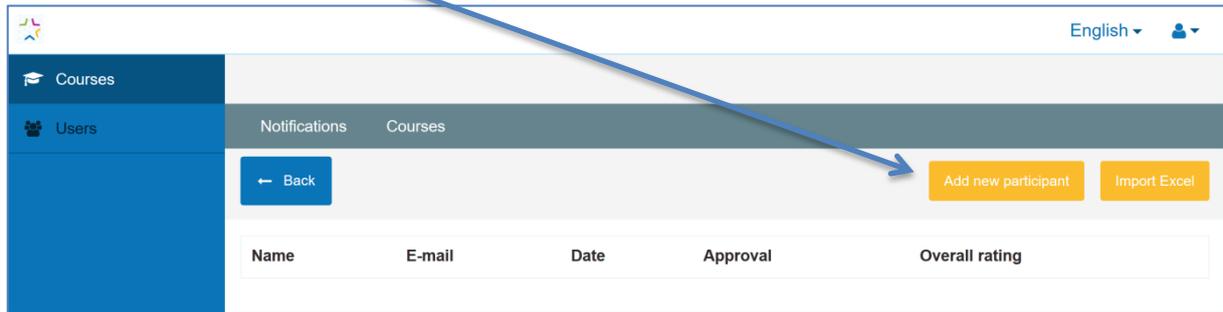
After processing a popup shows with a results overview.



If import fails partly or fully, then detailed error information is added to this pop-up.

### 4.11.2 Individual

It is also possible to add an individual course participant  
Click on **Add new participant**



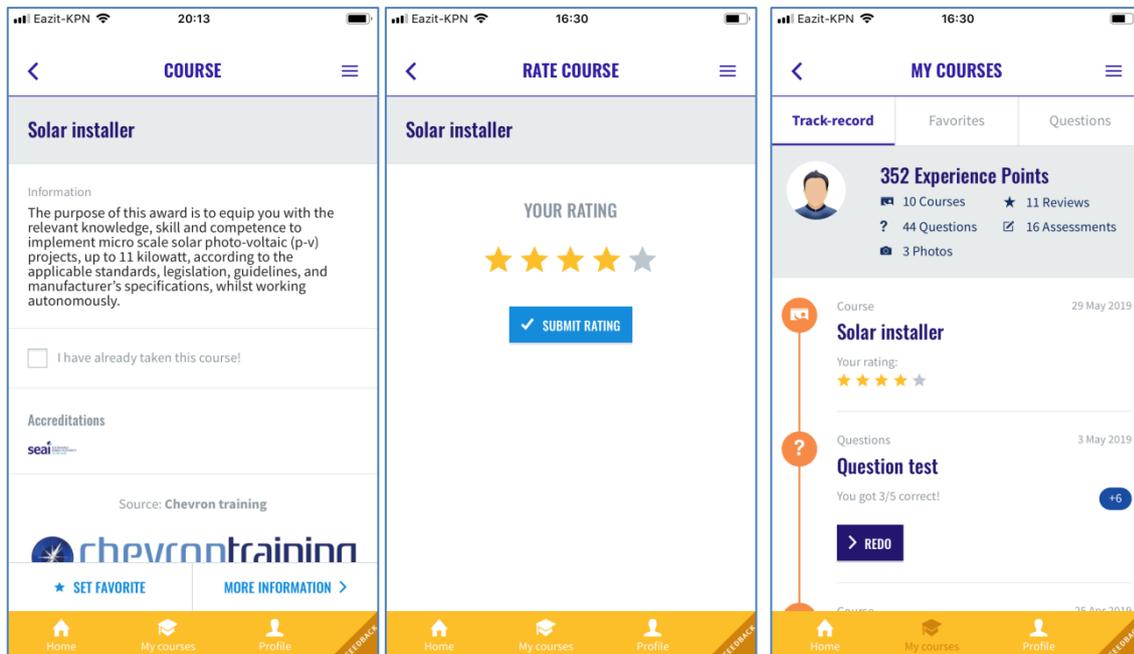
A popup to fill-in the details opens.

Fill in the required information and click 'Add participant'



### 4.12 ACKNOWLEDGE COURSE PARTICIPATION

When a user of the BUILD UP Skills advisor app clicks on 'I have already taken this course' a screen to rate the course is shown.



I have taken this course

My rating

Rating shown in personal track record

When the rating is approved also the number of earned XP is updated.

Participation can be approved or rejected by the course provider. After acceptance the user rating is shown to the course provider. See an example of this screen below.

The screenshot shows a web interface for course management. On the left is a blue sidebar with navigation options: 'Courses', 'Vragensets', and 'Gebruikers'. The main content area has a top bar with 'Nederlands' and a user icon. Below this is a sub-header with 'Notifications' and 'Courses'. A 'Terug' button is visible. The main area contains a table of participants with columns for 'Name', 'Approval', and 'Overall rating'. There are two yellow buttons: 'Add new participant' and 'Import Excel'. Four blue callout boxes highlight specific features: 'Add a new participant' points to the yellow button; 'Rating available' points to the 'Overall rating' column; 'No rating done by the user' points to a row with an empty rating; and 'Approve or reject' points to the '+' and '-' icons at the bottom of a row.

Name	Approval	Overall rating
Jan Cromwijk	Approved	★★★★★
Jan Cromwijk	Approved	
Martijn Deurloo		

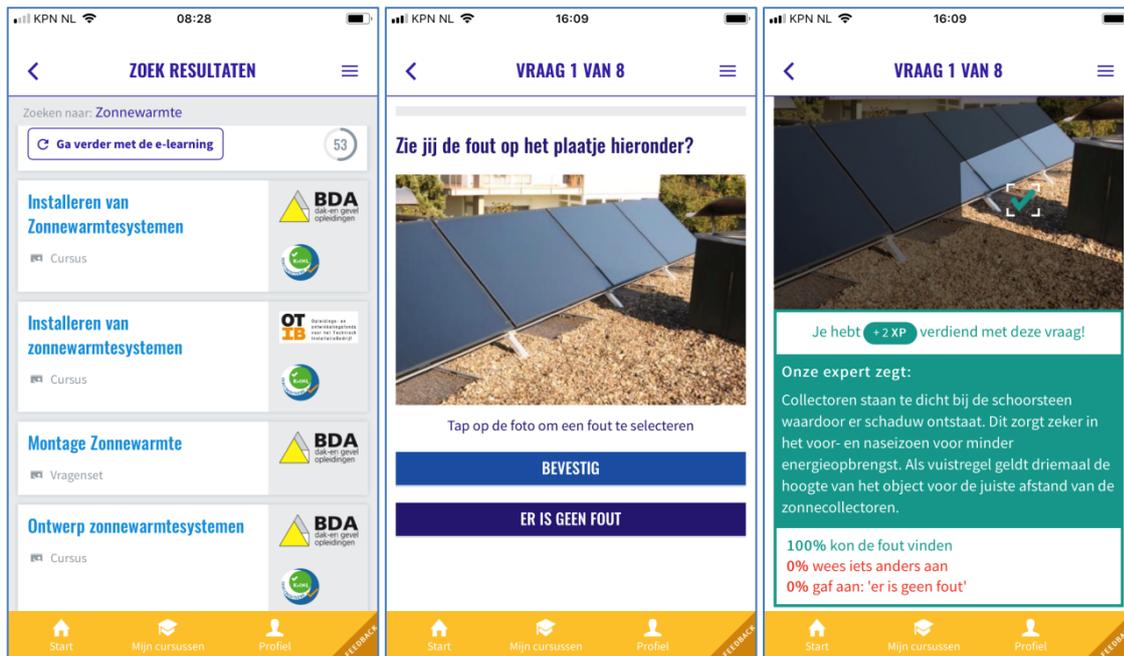
# 5 BUILDING ERRORS INTERACTION

## 5.1 OVERVIEW OF THE LEARNING FROM BUILDING ERRORS INTERACTION

In this chapter a complete graphical overview is given of the developed extension (the last available version). For each screen a small explanation is given about the screen itself.

### 5.1.1 Overview of the front-end

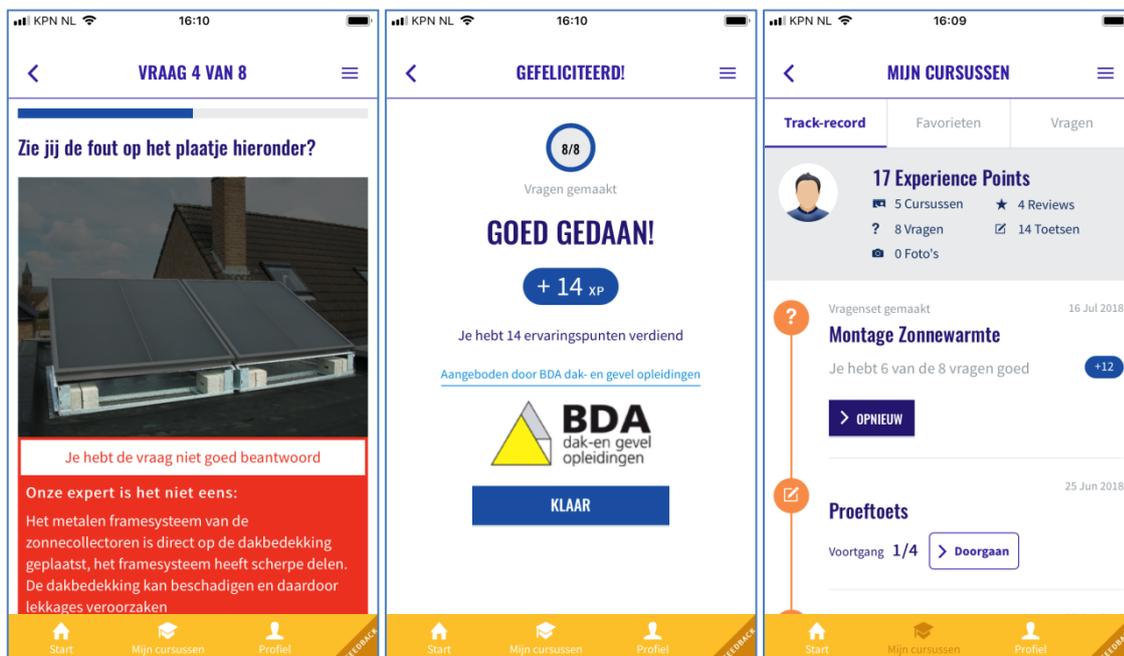
In this overview the user does not get a notification, but finds a 'Vragenset' by using search.



Questionset 'Montage Zonnepanelen'

First Question

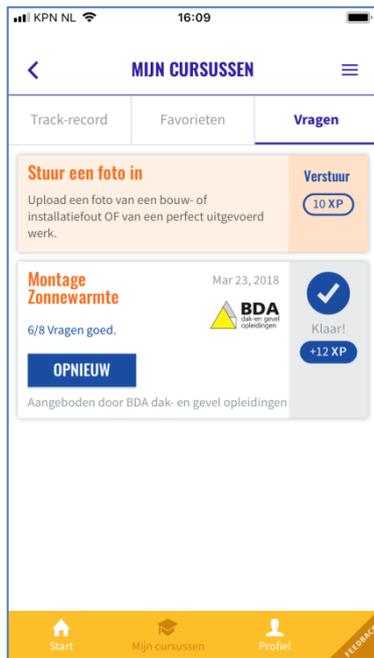
Good answer with expert feedback



Example of a wrong answer

Earning experience points and 'branding'

The learner's breadcrumb-path



The users collection of questionsets

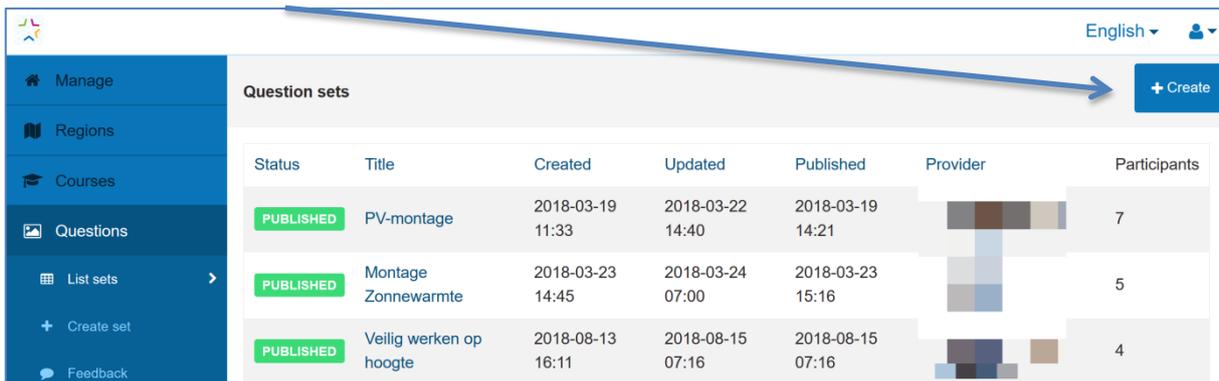
## 5.2 OVERVIEW OF THE BACKEND FOR QUESTIONSETS

The QuestionSets are created by training providers, manufacturers and knowledge institutes. Before that is possible the user needs to get an account and a proper role-setting (see Manage users).

The list of 'Institutes' is derived from the BUILD UP Skills advisor-app course catalogue (see Regio Admin: Create a).

### 5.2.1 Create a new Questionset

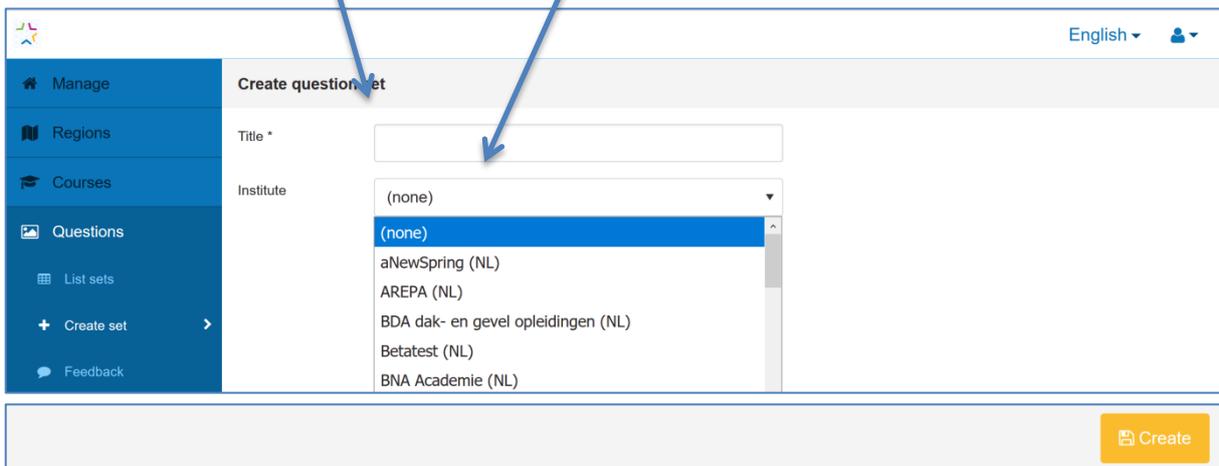
Click on create to **+create** to create a new questionset



The screenshot shows the 'Question sets' overview page. The left sidebar contains navigation options: Manage, Regions, Courses, Questions, List sets, Create set, and Feedback. The main content area displays a table of question sets with columns for Status, Title, Created, Updated, Published, Provider, and Participants. A blue arrow points from the '+ Create' button in the top right corner to the text above.

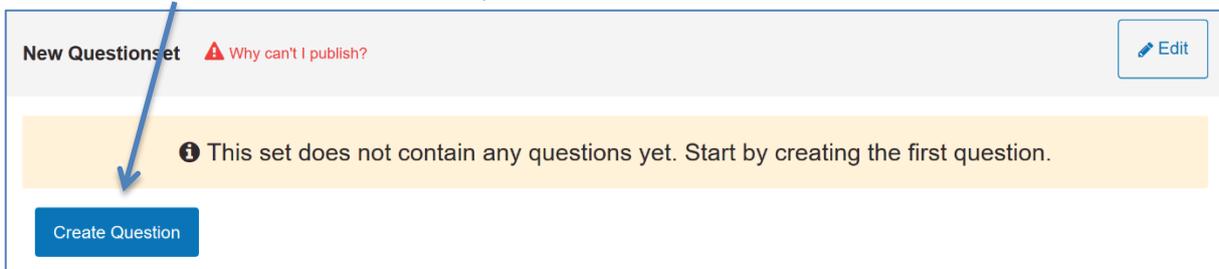
Status	Title	Created	Updated	Published	Provider	Participants
PUBLISHED	PV-montage	2018-03-19 11:33	2018-03-22 14:40	2018-03-19 14:21	[Provider]	7
PUBLISHED	Montage Zonnewarmte	2018-03-23 14:45	2018-03-24 07:00	2018-03-23 15:16	[Provider]	5
PUBLISHED	Veilig werken op hoogte	2018-08-13 16:11	2018-08-15 07:16	2018-08-15 07:16	[Provider]	4

In the screen that follows **enter a name** and **select the institute** the questionset is 'sponsored' by. And click on **Create** to add the new questionset.



The screenshot shows the 'Create question set' form. The left sidebar is the same as in the previous screenshot. The main content area has a 'Title \*' input field and an 'Institute' dropdown menu. A blue arrow points to the 'Title' input field, and another blue arrow points to the 'Institute' dropdown menu. The dropdown menu is open, showing options: (none), aNewSpring (NL), AREPA (NL), BDA dak- en gevel opleidingen (NL), Betatest (NL), and BNA Academie (NL). A yellow 'Create' button is visible at the bottom right.

The new Questionset opens and is ready for editing  
Click on **Create Question** to add a first question.



The screenshot shows the 'New Questionset' editing screen. The top left corner displays 'New Questionset' and a warning icon with the text 'Why can't I publish?'. The top right corner has an 'Edit' button. A yellow banner contains an information icon and the text: 'This set does not contain any questions yet. Start by creating the first question.' A blue 'Create Question' button is located at the bottom left. A blue arrow points from the text above to the 'Create Question' button.

The screen to add questions opens.

**Edit question in 'New Questionset'**

Title \*  
(not visible to users)

Question  
(optional)

Photo \*

Expert feedback \*

Buttons: Browse, Browse server

Callouts:

- Give the question a name
- If needed add a custom instruction. For example "tap the PV-panel". Default text works perfect for building errors
- Upload or select a photo. Needs to be landscape
- If selected the image shows a correct performance
- Type short expert feedback

Click on Save to save the new question.

Example of a question

**Edit question in 'New Questionset'**

Title \*  
(not visible to users)

Question  
(optional)

Photo \*

Expert feedback \*

Buttons: Browse, Browse server, Reset hotspot

Example Content:

- Title: New Question
- Question: Point where you see a mistake.
- Photo: Image of a pipe with a red hotspot box.
- Expert feedback: Three different materials mixed. This leads to corrosion and leakages

Save button

The saved question appears in the questionset

**New Questionset** Why can't I publish? Edit

Status: DRAFT

Participants: 0

Provider: Betatest

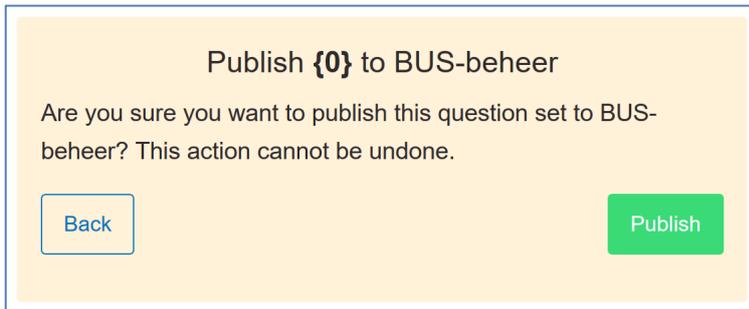
**BETA TESTING**

#	Title
1	New Question

Create Question

### 5.2.2 Publish QuestionSet

When at least five questions are added a QuestionSet can be published to the BUILD UP Skills advisor-app catalogue. This by pressing the 'Publish'-button in the right corner of the screen.

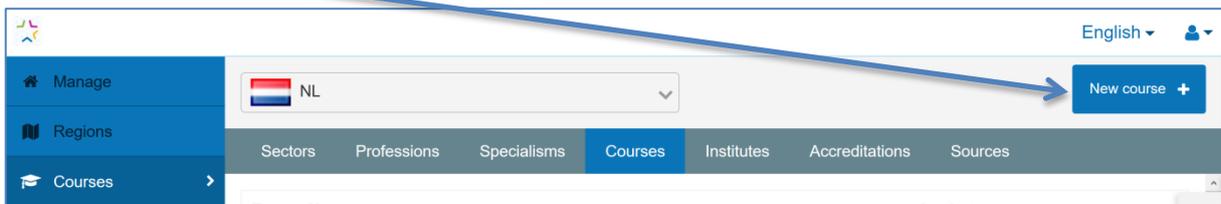


After publication the QuestionSet becomes visible in the BUILD UP Skills advisor-app catalogue

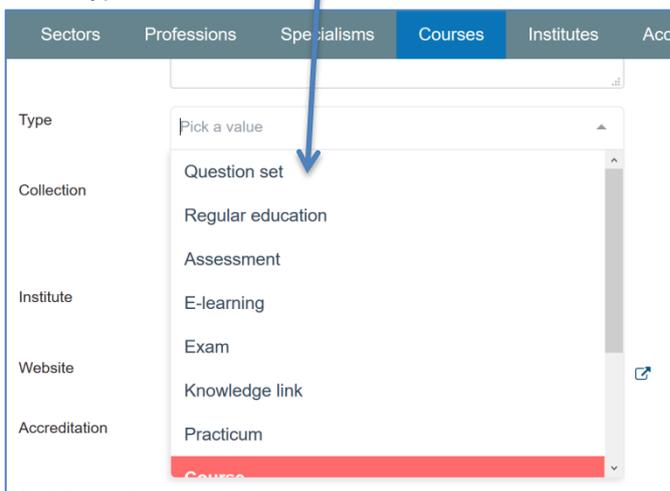
### 5.2.3 Adding a Questionset in BUS-app catalogue

In the BUILD UP Skills advisor-app catalogue the right metadata has to be added for linking with specialisms and professions. After this the QuestionSet becomes visible in the BUILD UP Skills advisor-app & users with notification on for the subject(s) a QuestionSet is linked to are notified.

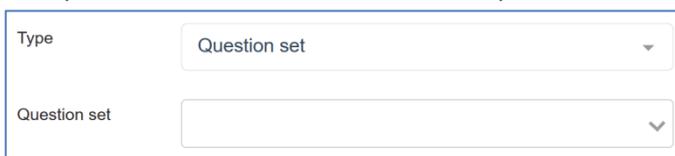
Click 'New Course'



Select type 'Question set'



A dropdown with available Questionsets opens. Select the newly published question set



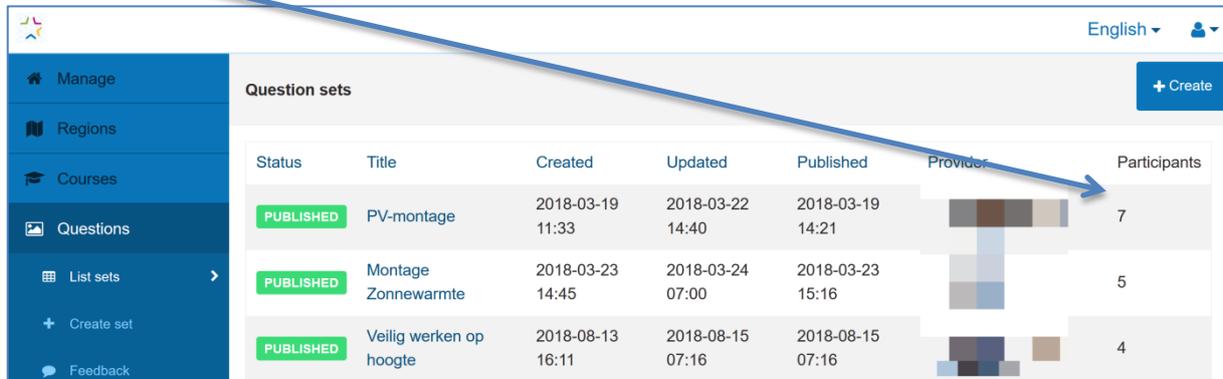
Each Question Set can be added once!

Fill in the rest of the required fields (see: Regio Admin and Course provider: Create a 'course' or 'exam') and press 'Publish'

### 5.2.4 Evaluation of the use of Question Sets

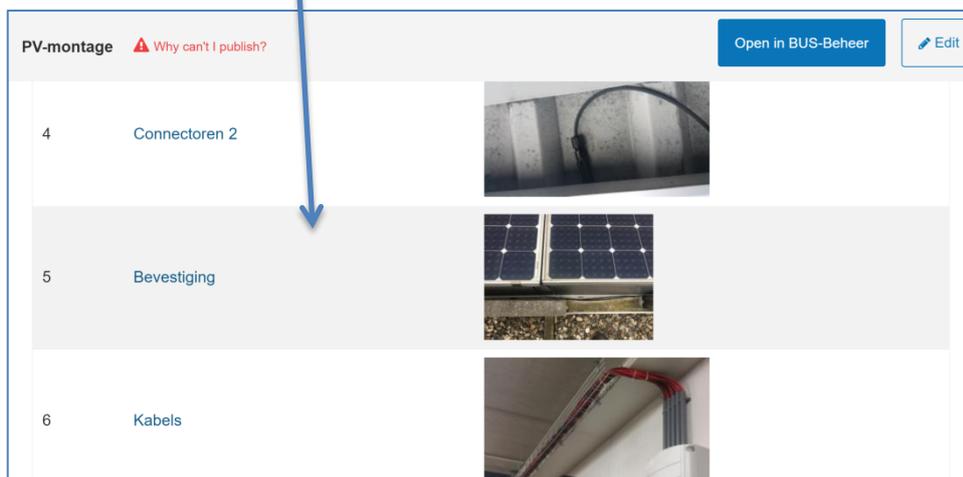
In the back-end for each question in the question set you can view anonymized usage data. It also provides a function to evaluate written feedback.

To view the usage data open the Questions tab. The number of unique users is shown behind the questionset.



Status	Title	Created	Updated	Published	Provider	Participants
PUBLISHED	PV-montage	2018-03-19 11:33	2018-03-22 14:40	2018-03-19 14:21	[Blurred]	7
PUBLISHED	Montage Zonnewarmte	2018-03-23 14:45	2018-03-24 07:00	2018-03-23 15:16	[Blurred]	5
PUBLISHED	Veilig werken op hoogte	2018-08-13 16:11	2018-08-15 07:16	2018-08-15 07:16	[Blurred]	4

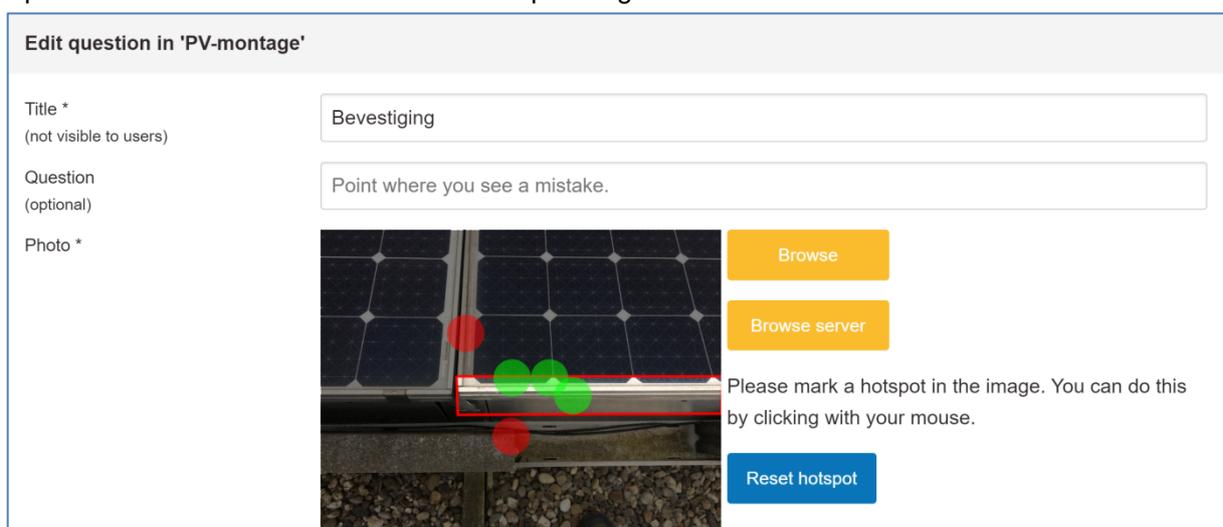
Click on the Question Set you want to analyse. After opening the Question Set click on a question you want to view.



**PV-montage** ⚠ Why can't I publish? [Open in BUS-Beheer](#) [Edit](#)

- 4 Connectoren 2 
- 5 **Bevestiging** 
- 6 Kabels 

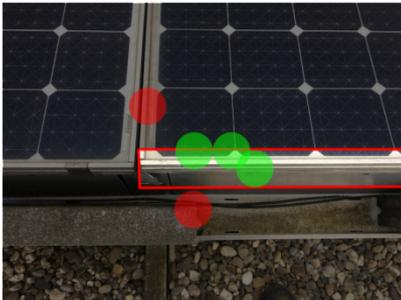
The question opens and shows all different user clicks. This helps to find out if there are more errors in a picture and to assess if the size of the hotspot is right.



**Edit question in 'PV-montage'**

Title \*   
(not visible to users)

Question (optional)

Photo \*  [Browse](#) [Browse server](#) [Reset hotspot](#)

Please mark a hotspot in the image. You can do this by clicking with your mouse.

Users of the BUILD UP Skills advisor-app have the possibility to leave feedback if they do not agree with a question. This feedback can be accessed by clicking on **Feedback**.

Status	Set	Question	Created	Username
OPEN	Question test	Borging ladder	2019-12-12 14:48	
REJECTED	Montage Zonnewarme	Bouwkundige montage zonnecollector	2019-10-09 14:51	
REJECTED	Balansventilatie	Slagdemper bocht	2019-03-18 13:09	
REJECTED	PV-montage	Omvormer	2019-03-15 22:56	

The feedback screens opens. Click on the **feedback item** you want to evaluate.  
The feedback screen opens. Click on **Reject** to reject OR on **Accept** to accept.

**Feedback**

Title \* Borging ladder  
Question Wijs de borging voor de ladder aan  
Submitted by \* Jan Cromwijk  
Feedback \* This is absolutely not right  
Photo  Show answers from other users

Back Reject Accept

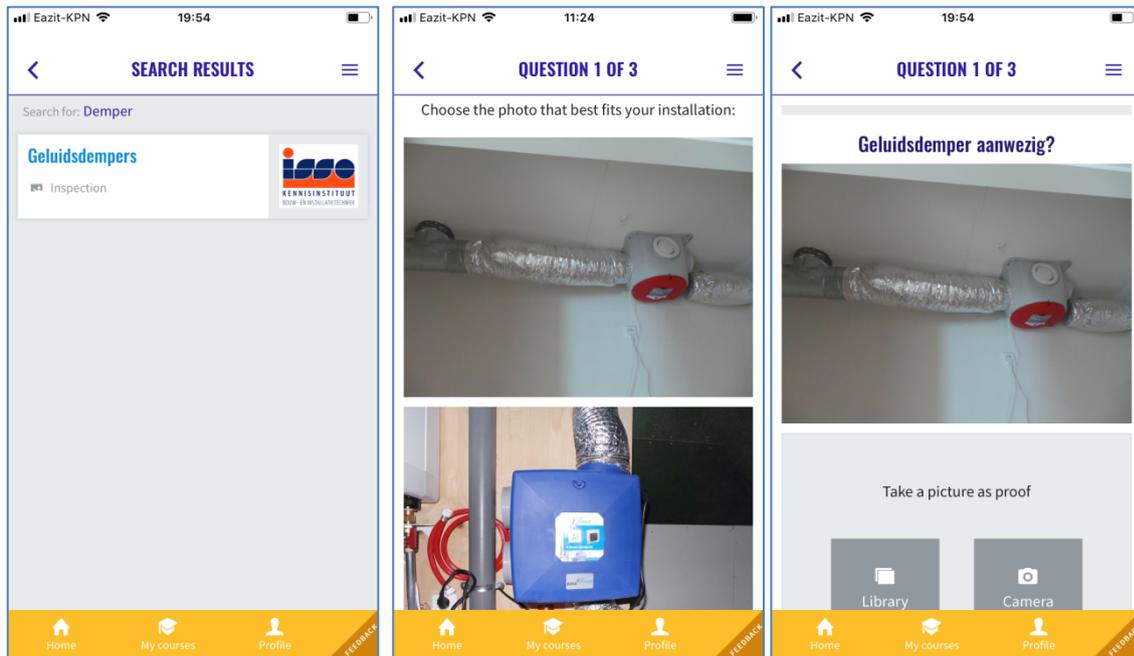
# 6 BUILDING INSPECTIONS INTERACTION

## 6.1 OVERVIEW OF THE BUILDING INSPECTIONS INTERACTION

In this chapter a complete graphical overview is given of the building inspections interaction. For each screen a small explanation is given about the screen itself.

### 6.1.1 Overview of the front-end

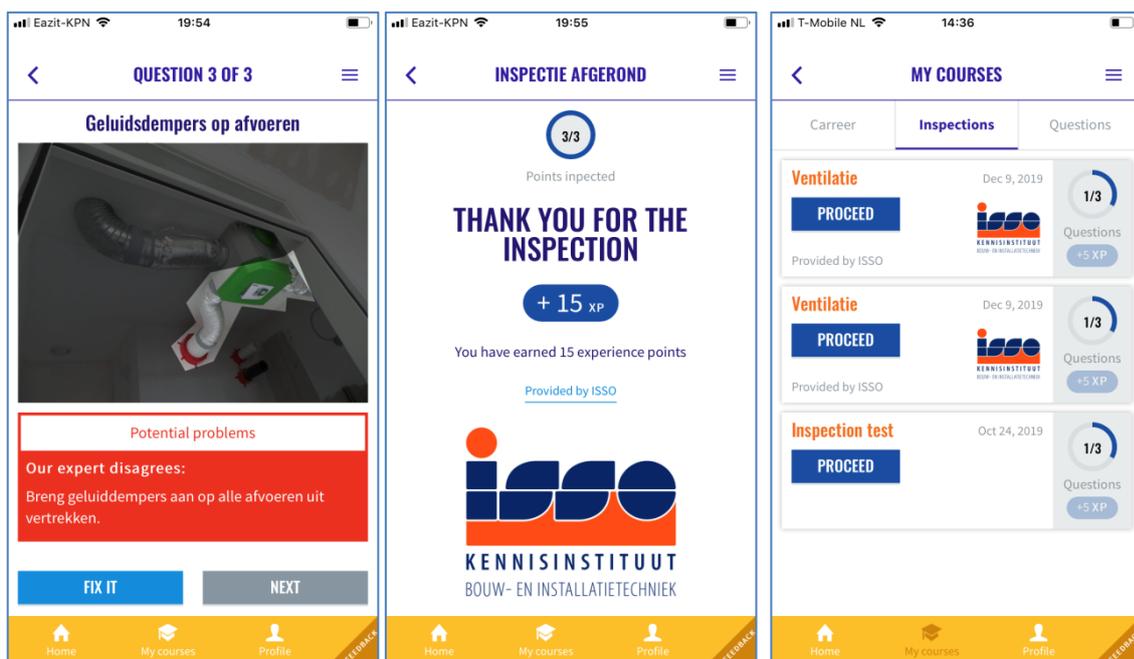
In this overview the user does not get a notification, but finds an inspection by using search.



Inspection

Select most fitting image

Submit proof



Get feedback & fix

Provider & XP

On-going inspections

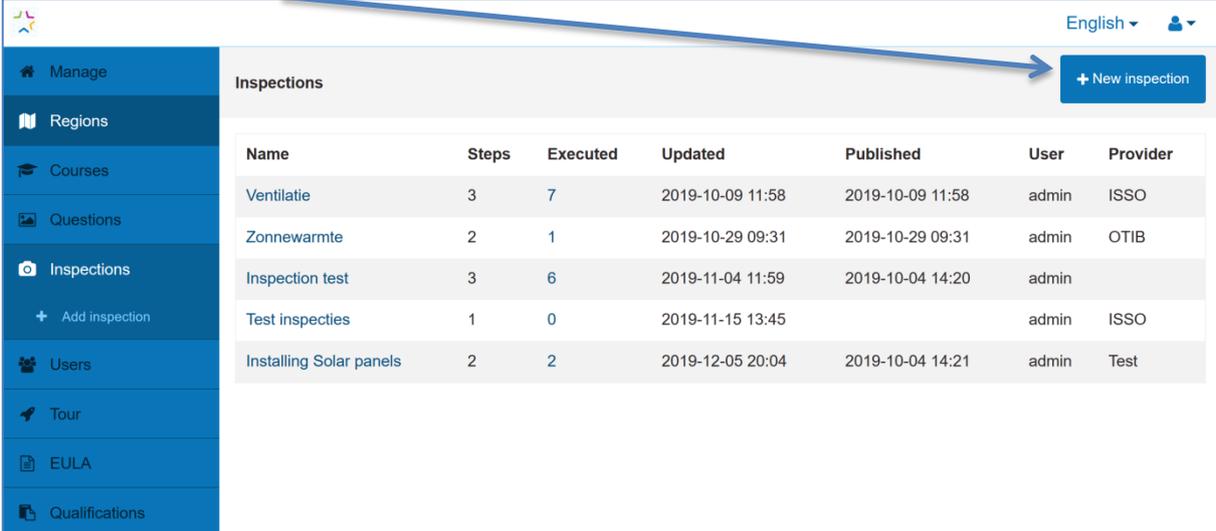
## 6.2 OVERVIEW OF THE BACKEND FOR INSPECTIONS

Inspections are created by training providers, manufacturers and knowledge institutes. Before that is possible the user needs to get an account and a proper role-setting (see Manage users).

The list of providers is derived from the BUILD UP Skills advisor-app course catalogue (see Regio Admin: Create a).

### 6.2.1 Create a new Inspection

Click on create to **+New inspection** to create a new Inspection

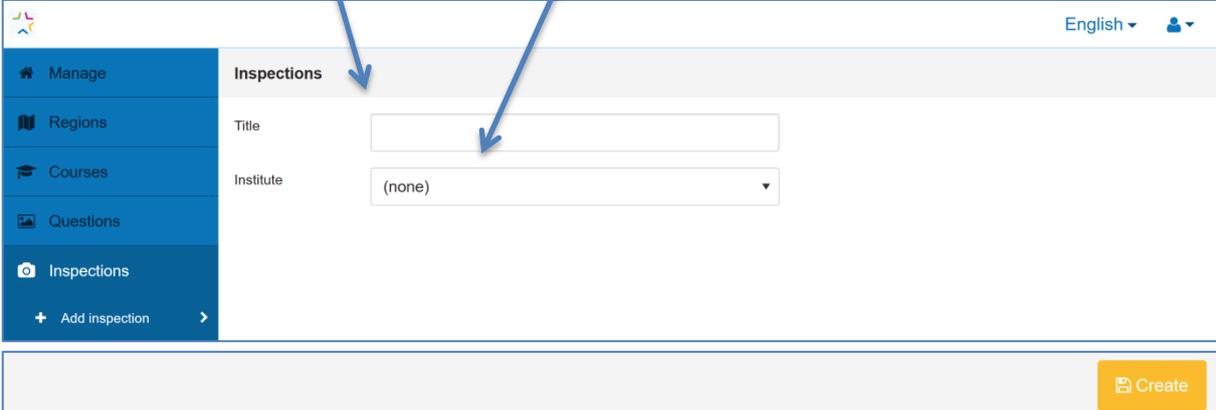


The screenshot shows the 'Inspections' overview page. On the left is a navigation menu with options: Manage, Regions, Courses, Questions, Inspections, Add inspection, Users, Tour, EULA, and Qualifications. The main content area displays a table of inspections:

Name	Steps	Executed	Updated	Published	User	Provider
Ventilatie	3	7	2019-10-09 11:58	2019-10-09 11:58	admin	ISSO
Zonnewarmte	2	1	2019-10-29 09:31	2019-10-29 09:31	admin	OTIB
Inspection test	3	6	2019-11-04 11:59	2019-10-04 14:20	admin	
Test inspecties	1	0	2019-11-15 13:45		admin	ISSO
Installing Solar panels	2	2	2019-12-05 20:04	2019-10-04 14:21	admin	Test

In the top right corner, there is a '+ New inspection' button. A blue arrow points from the text 'Click on create to +New inspection' to this button.

In the screen that follows **enter a name** and **select the institute** the Inspection is 'sponsored' by. And click on **Create** to add the new Inspection.



The screenshot shows the 'Create new Inspection' form. It has a left navigation menu with 'Add inspection' selected. The form fields are:

- Title:** An empty text input field. A blue arrow points to it from the text 'enter a name'.
- Institute:** A dropdown menu currently showing '(none)'. A blue arrow points to it from the text 'select the institute'.

At the bottom right of the form is a yellow 'Create' button.

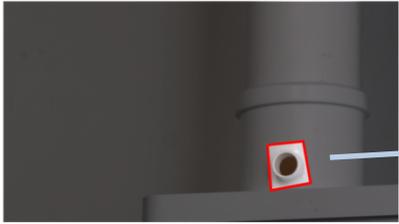
The new Inspection opens and is ready for editing. Fill in the details and click **Save**.

### Add Step

Step name \*

Right Photo \* 

Feedback \*  
Right feedback

Wrong Photo \* 

Feedback \*  
Wrong feedback

Give the step a name

Upload a photo depicting the wanted situation. The photo needs to be landscape

Describe the good aspect you want to highlight

Upload a photo depicting the opposite unwanted situation. The photo needs to be landscape

Draw a hotspot highlighting the unwanted aspect

Type short expert feedback why the aspect is unwanted & how it can be fixed.

After saving the overview of the inspection shows the new created inspection step. Click **Add Step** to add another step to inspect. Click **Ready for publication** to publish.

Inspections

CO-prevention

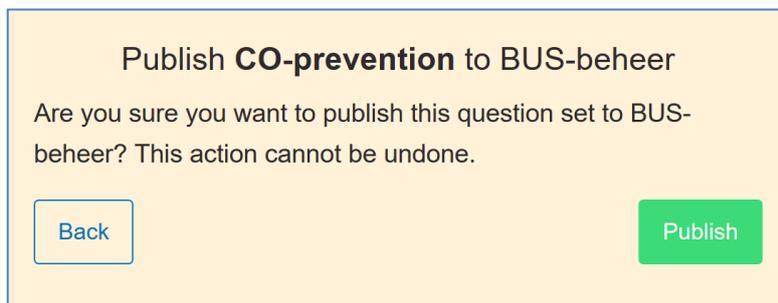
Status DRAFT



#	Title	Right	Wrong
1	Check measure tube		

### 6.2.2 Publish Inspection

When at least one inspection step is added an inspection can be published to the BUILD UP Skills advisor-app catalogue. This by pressing the 'Publish'-button in the right corner of the screen.

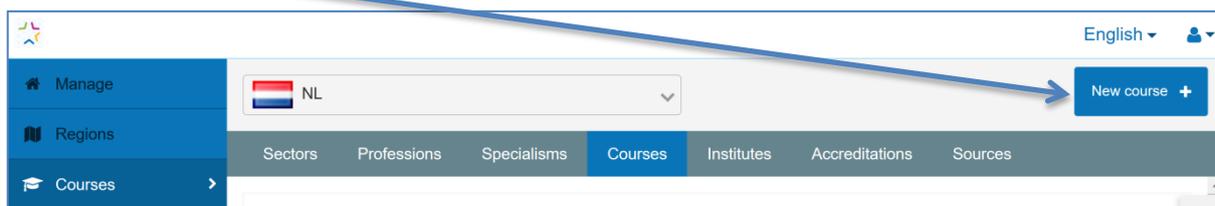


After publication the Inspection becomes visible in the BUILD UP Skills advisor-app catalogue

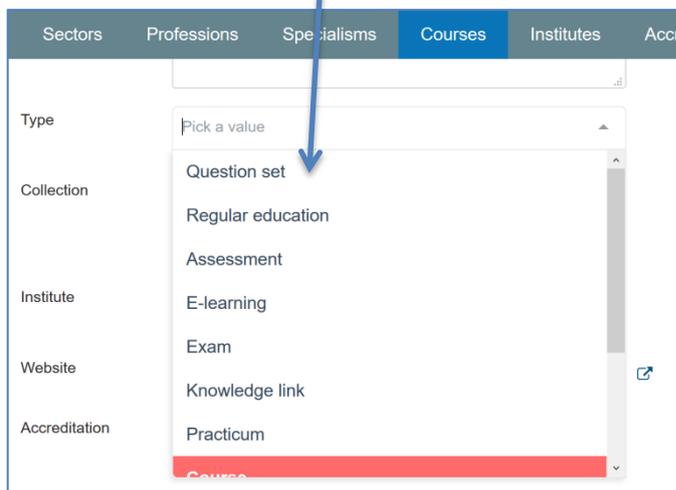
### 6.2.3 Adding an inspection in the BUS-app catalogue

In the BUILD UP Skills advisor-app catalogue the right metadata has to be added for linking with specialisms and professions After this the Inspection becomes visible in the BUILD UP Skills advisor-app & users with notification on for the subject(s) an Inspection is linked to are notified.

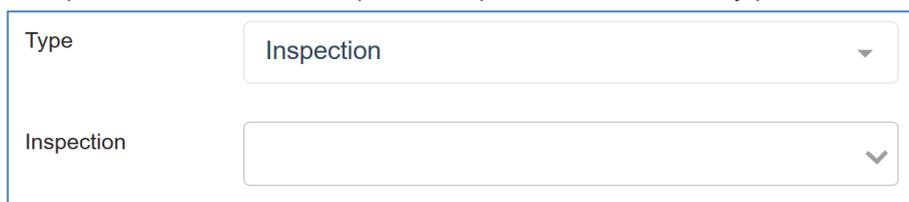
Click 'New Course'



Select type 'Inspection'



A dropdown with available Inspections opens. Select the newly published Inspection



Fill in the rest of the required fields (see: Regio Admin and Course provider: Create a 'course' or 'exam') and press 'Publish'

# 7 THE UNIT OF LEARNING OUTCOMES DATABASE

## 7.1 INTRODUCTION TO THE UNIT OF LEARNING OUTCOMES DATABASE

The Unit of Learning Outcomes (ULO) database was developed in cooperation with two Horizon 2020 projects: BIMplement and NEWCOM. Starting point was experience gathered by ISSO and partners in former BUILD UP Skills and Construction Skills projects.

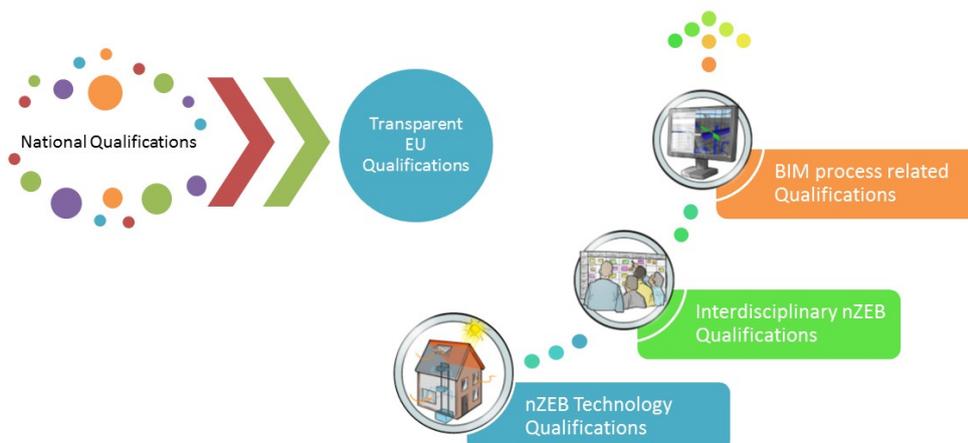
The screenshot shows a web interface for the ULO database. On the left is a navigation menu with options: Courses, Questions, Inspections, Users, and Qualifications. The main area is titled 'Qualification schemes' and includes a '+ New qualification scheme' button. A green informational box states: 'In a qualification scheme all relevant tasks are described and linked with Unit of Learning Outcomes. In this window all available qualification schemes are shown. You can select, or you can create a new one.' Below this is a table with the following data:

Name	Updated	Last updated by	# Tasks	# Publications	Export
NEWCOM nZEB Roofer	2019-10-23 16:38	admin	33	0	[Export]
Multifunctional Roofs and Facades	2019-05-23 15:08	j.cromwijk@isso.nl	1	0	[Export]
NEWCOM nZEB ventilation	2019-04-03 10:28	j.cromwijk@isso.nl	23	0	[Export]
NEWCOM Building Inspector	2019-03-13 14:53	j.cromwijk@isso.nl	13	0	[Export]
nZEB ventilation	2019-02-21 17:06	admin	8	0	[Export]

01 ULO database

The BIMplement Qualification Framework consists of a flexible methodology that allows definition of professional activities, related skills, required competences in order to achieve a desired quality in the field of nZEB. It is composed out of tasks and related subtasks that have to be performed on a certain time in a process and by (a) certain person(s) with a certain skillset.

The BIMplement qualification framework is a multi-layered qualification matrix. It consists of a layer with basic tasks and one or more layers of context specific layers. For example nZEB related tasks, BIM-related tasks. If needed more layers can be added, for example for Indoor air quality (IAQ) tasks or Circular Building tasks. The qualification framework is also suitable for non-nZEB related topics. For example prevention of carbon monoxide when installing and maintaining heating systems.



02 Example of several possible layers of classifications

A task based qualification developed following the BIMplement methodology in general addresses all relevant building/process phases and all professions/actors involved.

For practical use subsets from the qualification can be published in a qualification scheme addressing one or more project phases and one or more professions. For example a subset of tasks and subtasks for a craftsman that installs the converter of a Solar-PV system.

Invoegen screenshot nZEB ventilation for...

The corresponding BUILD UP Skills advisor-app database identifies for each technology which professions and specialisms are involved in each phase, the needed skills, competences and descriptors, i.e. the related qualifications and which trainings, courses, learnings are available.

## 7.2 HOW TO DEVELOP A TASK BASED QUALIFICATION

In this chapter a compact overview of steps is given that are needed to develop high quality task based qualifications. When creating a new qualification it is recommended to design it offline using a tool like Excel, with special attention for correct use of verbs. After checking content and quality the new qualification can be entered into and normalized with support of the ULO-database. When entering the Qualification into the database the database shows you comparable items. This to assist in getting a as good as possible Qualification that is also fit for mutual recognition.

### The ULO-database is a normalized database.

This means that each item in the database is unique, there are no doubles. When entering the tasks, subtasks, knowledge, skills and competence information, the database shows already existing content that matches with the new content. This to make effective re-use of existing qualification content & to make easy recognition of already earned competence possible.

An Excel template for creating draft versions is available (Empty Qualification Format.xlsx).

## 7.3 STEP 1: MAKE A LIST OF TASKS TO BE PERFORMED & BY WHOM.

Step 1	
An overview of tasks	Occupation(s) involved
Task 1...	Occupation name(s)
Task 2...	...
Task 3...	...
 1. Start each task with a 'verb' in the tasks to make the task active. <i>e.g. Perform a feasibility study</i>	
2. Use different wording if tasks are performed in different phases. <i>e.g.: <u>Check</u> attention points on comfort in inner spaces</i> in planning phase <u>Verify</u> attention points on comfort in inner spaces in delivery phase	

For more information about development of sound ULO's and task definitions you can access the following sources:

1. St Edward's University, Centre for Teaching Excellence (2004). Task-oriented question construction wheel, based on Bloom's taxonomy. Available at <http://www.stedwards.edu/cte/files/BloomPolygon.pdf>
2. University of Arkansas <https://tips.uark.edu/blooms-taxonomy-verb-chart/>
3. University of Arkansas <https://tips.uark.edu/using-blooms-taxonomy/>

## 7.4 STEP 2: DEFINE THE RELEVANT 'SUB-TASKS TO BE PERFORMED' & BY WHOM

### Step 2

An overview of subtasks	Occupation(s) involved
Task 1...	Occupation name(s)
Sub Task 1.1...	...
Sub Task 1.2...	...
Task 2...	...
 Use a 'verb' in the tasks to make them active	
 If the <u>name of a task or subtask is the same for multiple actors</u> , but the competence, skills and knowledge differ, then create separate tasks / subtasks with unique task names for those actors!	

### The Excel template for tasks explained

Optional	Regions	Tasks	Sub-tasks	ULO Nr.

- Optional: mark with an X if a task or subtask is optional
- Regions: enter regioncode ([use two letter countrycodes](#)) if the task or subtask is region specific
- Task: enter the task in row 2
- Subtasks: enter the subtasks in the column Sub-tasks
- ULO Nr: make numerical references to relevant ULO's worked out in the next steps (each ULO gets in the database a unique ID)

### In NEWCOM and BIMplement we do not describe tasks that are already part of occupations

We assume that it is not needed to describe tasks that are part of occupations, those are in most cases already covered in existing national qualifications for regular education. The qualifications we developed are for upskilling already skilled workers.

## 7.5 STEP 3: PROVIDE DIDACTICAL DETAILS FOR THE TASKS AND SUBTASKS

Step 4		
Competence involved (responsibility and autonomy)	Skills involved	Knowledge involved
(items separated with ';')	(items separated with ';')	(items separated with ';')
...	...	...
 The ability of the learner to apply knowledge and skills autonomously and with responsibility  Competences need to be described in active form using verbs from BLOOM's taxonomy  <b>Most times you start with the verb</b>	Skills required to successfully carry out the sub-task  Skills need to be described in active form using verbs from BLOOM's taxonomy  <b>Most times you start with the verb</b>	Knowledge required to successfully carry out the sub-task.  <b>Please do not add verbs to them. Lists of keywords are enough!</b>

### The Excel template for ULO's explained

ULO Nr.	Competence	Skills	Knowledge

ULO Nr: a ID-number for the ULO  
 Competence: the formulated competence ALWAYS ONE  
 Skills: the formulated skills behind the competence ONE or MORE  
 Knowledge: relevant knowledge behind competence and skills ONE or MORE items

Assessment	Professions	Specialisms

Assessmenttype: Optional (Theoretical test, Practical test, Silhouetted by colleague)  
 Profession: Occupation(s) involved  
 Specialisms: Specialisms involved (from the BUILD UP Skills database)

## 7.6 ENTER THE QUALIFICATION INTO THE DATABASE



Accounts to the QF-database can be requested by Jan Cromwijk at ISSO ([j.cromwijk@isso.nl](mailto:j.cromwijk@isso.nl))

### Screen 1: Overview and creation of new qualification schemes

Qualification schemes ? + New qualification scheme

In a qualification scheme all relevant tasks are described and linked with Unit of Learning Outcomes.  
In this window all available qualification schemes are shown.  
You can select, or you can create a new one.

Name	Updated	Last updated by	# Tasks	# Publications	Export
<a href="#">NEWCOM nZEB Roofer</a>	2019-10-23 16:38	admin	33	0	
<a href="#">Multifunctional Roofs and Facades</a>	2019-05-23 15:08	j.cromwijk@isso.nl	1	0	
<a href="#">NEWCOM nZEB ventilation</a>	2019-04-03 10:28	j.cromwijk@isso.nl	23	0	
<a href="#">NEWCOM Building Inspector</a>	2019-03-13 14:53	j.cromwijk@isso.nl	13	0	
<a href="#">nZEB ventilation</a>	2019-02-21 17:06	admin	8	0	

In this screen a qualification scheme can be selected or created.

Published qualifications can be opened & compared

Also existing qualification schemes can be exported

### Screen 1a – Adding a new qualification scheme

Qualification scheme ?

**Step 1: Create a qualification scheme and involved tasks**  
Give the qualification scheme a name and a short description.  
Create or select a number of tasks that are addressed in the qualification scheme.  
A task ideally starts with an active verb (the verb used 'to perform the task' e.g. 'measure the temperature of the roof')  
To facilitate mutual recognition each unique task is only added once to the database.  
If a task is optional you can indicate that by checking the optional checkbox.  
If a task is region specific (for example to comply to region specific regulations) you can select the regions in which the task is relevant.  
After adding the tasks, in step 2 the subtasks are added or selected.

en **nl** es de sk hu fr it

Titel

Omschrijving

Verwijderen Schema opslaan

The qualification scheme is a collection of tasks that are worked out as Unit of Learning Outcomes (ULO's). For the ULO's the latest Cedefop definitions are applied.

1. <http://www.cedefop.europa.eu/nl/events-and-projects/projects/learning-outcomes>
2. [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C\\_.2017.189.01.0015.01.ENG&toc=OJ:C:2017:189:FULL](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2017.189.01.0015.01.ENG&toc=OJ:C:2017:189:FULL)

### Screen 1b – Adding tasks to the qualification

The screenshot shows the 'Qualification scheme' form. At the top, there is a language selector with buttons for 'en', 'nl', 'es', 'de', 'sk', and 'hu'. A callout box points to this selector, stating: 'Language selector, all qualifications are by default created in English and later on translated'. Below the language selector are three main input areas: 'Title' (containing 'Demonstration Qualification'), 'Description' (containing 'A Qualification Scheme for demonstration purposes'), and 'Tasks' (with a search bar). A callout box points to the search bar, stating: 'Search an existing task or create a new one'. At the bottom of the form, there is a red 'Delete' button and a yellow 'Save scheme' button. A blue arrow points from the 'Save scheme' button to the text below the screenshot.

After entering a title and adding a description the Qualification scheme needs to be saved.

### Screen 1c – Functions related to tasks and subtasks

The screenshot shows the 'Qualification scheme' form with a task listed. The task is 'Demonstrate creation of a task'. To the left of the task name is a checkbox and a dropdown arrow. Below the task name is a search bar with the text 'Type to choose specific regions for this task'. A callout box points to the search bar, stating: 'Make a task region specific'. Another callout box points to the checkbox, stating: 'Make a task optional'. To the right of the task name are three icons: a red 'i' (info), a blue pencil (edit), and a red '\$' (unlink). Callout boxes point to these icons: 'Unlink the task from the qualification' (pointing to the '\$' icon), 'Edit the Task' (pointing to the pencil icon), and 'Move tasks up and down' (pointing to the 'i' icon). At the bottom of the form, there is a red 'Delete' button and a yellow 'Save scheme' button.

1. **A task has to be added in English first**, it can be translated to other languages
2. A task is by default obligatory
3. A task can be made optional
4. A task can be optional for a specific region, for example for regional specific solutions
5. Tasks are linked to the Qualification scheme, in this way they can be re-used in other schemes. Removing the link is possible

## Screen 2 – Selecting and creating subtasks

When a task is created the next window for creating subtasks opens automatically.

Type in the search box for linking existing subtasks or create new subtasks.

After selecting an existing subtask it is linked directly.

When entering a new subtask the next screen for adding subtask details is opened automatically.

By clicking **Save** the task is saved and it the overview of tasks will be shown.

The screenshot shows the 'New task' interface with a language selector (en, nl, es, de, sk, hu, fr, it) and a title field containing 'Demonstrate creation of a task'. Below the title is a 'Subtasks' search box with a magnifying glass icon and the placeholder text 'Type here to search for a subtask or create a new one.' Two callout boxes are overlaid on the interface:

- Find existing subtasks:** This callout points to a subtask list containing 'Demonstration of a subtask' and 'Test subtask'. Each item has a checkbox, a dropdown arrow, and a set of icons (up arrow, edit, delete).
- A linked existing subtask:** This callout points to a subtask list containing 'Demonstration of a subtask' and 'Test subtask'. Each item has a checkbox, a dropdown arrow, and a set of icons (up arrow, edit, delete).

At the bottom of the interface, there is a 'Cancel' button and a 'Save task' button.

## Screen3 – Selecting and creation of ULO's

When a new subtask is entered the screen for linking or creation of a new ULO in the subtask is shown.

New subtask ?

en nl es de sk hu fr it

Title

ULO

Type here to search for an ULO or create a new one.

**Screen 3a – Linking and creating Unit of Learning Outcomes**

When a new ULO is created by entering a competence the Screen for editing ULO-details is opened.

New subtask ?

nl en es

Title

ULO   

Type here to search for an ULO or create a new one.

**The subtask**

**From linked ULO's the competence is shown here as information**

**To edit the details.**  
**In the details the ULO' content is described**

**Search for an existing ULO or create a new one.**

Unlink  Save

**Screen 3b – Editing an Unit of Learning Outcome**

ULO ?

en nl es de sk hu fr it

Competence to be able to  **1. Competence addressed**

Assessment  Theoretical test **2. Optional: advice on Assessment**  
 Practical test  
 Silhouetted by colleague

Skills to understand  **3. Definition and linking of Skills**  
*Type here to search for Skills or create a new one.*

Knowledge to know  **4. Knowledge items**  
*Type here to search for Knowledge or create a new one.*

Professions  **5. Target occupation(s) of the ULO**

Specialisms and technologies  **6. Technologies the ULO is related to**

### Screen 5 – Translation example

All content is by default created in English, **this to ensure proper normalization and mutual recognition.**

After creation the content of a Qualification scheme can be created in all languages that are supported in the ULO-database.

ULO ?

en **nl** es de sk hu fr it

Competence to be able to

Assessment  Theoretical test  Practical test  Silhouetted by colleague

Skills to understand   *Type here to search for Skills or create a new one.*

Knowledge to know   *Type here to search for Knowledge or create a new one.*

ULO opslaan

After selecting a language the content can be translated.

English text is default and shown below.

### 7.7 PUBLISH A QUALIFICATION

A qualification can be published as a Qualification scheme. Published Qualification schemes can be linked to accreditations. This in order to make clear the content of an accreditation.



An accreditation can be used for personal recognition.

In order to publish a Qualification Scheme press the **Publish button**

**Qualification scheme** ?

**Step 1: Create a qualification scheme and involved tasks** ✕

Give the qualification scheme a name and a short description.  
Create or select a number of tasks that are addressed in the qualification scheme.  
A task ideally starts with an active verb (the verb used 'to perform the task' e.g. 'measure the temperature of the roof')  
To facilitate mutual recognition each unique task is only added once to the database.  
If a task is optional you can indicate that by checking the optional checkbox.  
If a task is region specific (for example to comply to region specific regulations) you can select the regions in which the task is relevant.  
After adding the tasks, in step 2 the subtasks are added or selected.

en nl es de sk hu fr it

Title: Demonstration Qualification

Description: A Qualification Scheme for demonstration purposes

Delete Publish

**Screen 1: Publish a Qualification Scheme**

The screen to publish a Qualification Scheme opens. In this screen you can filter on country specific elements on profession specific elements and manually by selecting and/or deselecting tasks and subtasks.

**Publish qualification scheme** ?

**Publish a qualification scheme** ✕

By publishing a qualification scheme, a snapshot is made of the current state of the scheme. Your original qualification scheme will continue to be updated as others change tasks, subtasks and ULOs but the published snapshot will always remain the same.

Country: Choose country ✕

Profession: Choose profession ✕

en nl es de sk hu fr it

Name: Demonstration Qualification

Select the tasks, subtasks and ULOs to be included in this publication:

- Task 1 without filter
- Subtask for DE for Commisioner
- Test ULO
- Subtask without country filter
- Creating a task

Filter on country specific elements

Filter on profession specific elements

Select/deselect a Task

Select/deselect a subtask

**Screen 2: Select the tasks and subtasks you want to add to the qualification scheme**

**Publish qualification scheme** ?

Country: Choose country x v      Profession: Commissioner x v

en   nl   es   de   sk   hu   fr   it

Name: Demonstration Qualification

Select the tasks, subtasks and ULOs to be included in this publication:

- Task 1 without filter
  - Subtask for DE for Commissioner
    - Test ULO
    - Subtask without country filter
    - Creating a task
- Task 2 for DE
  - Test fiets for Commissioner
    - Nog een Fiets

**Screen 3: Example of a Qualification scheme with only commissioner tasks selected**

### 7.8 COMPARE PUBLISHED QUALIFICATION SCHEMES

Published Qualification Schemes can be exported and compared, this in order to get insight in the differences between Qualification Schemes.

In order to compare or export published Qualification Schemes, click the **link** under the number of publications.

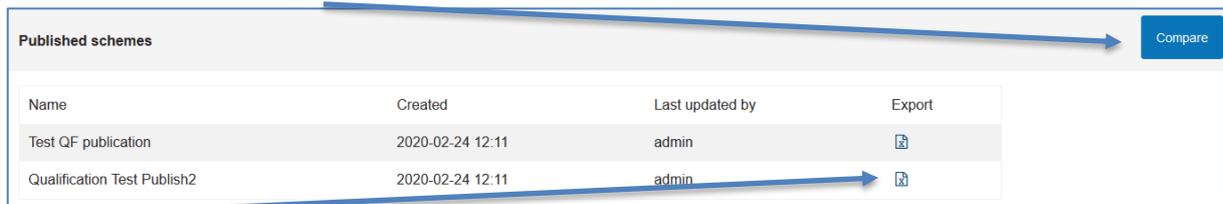
**Qualification schemes** ?

In a qualification scheme all relevant tasks are described and linked with Unit of Learning Outcomes.  
 In this window all available qualification schemes are shown.  
 You can select, or you can create a new one.

Name	Updated	Last updated by	# Tasks	# Publications	Export
<a href="#">Demonstration Qualification</a>	2020-02-20 18:07	admin	3	<a href="#">2</a>	
<a href="#">Qualification test</a>	2020-02-18 15:44	admin	5	10	
<a href="#">NEWCOM Building Inspector all</a>	2020-02-18 15:23	admin	3	8	
<a href="#">Test QS</a>	2020-02-13 12:50	admin	4	0	
<a href="#">Airtightness</a>	2019-11-15 13:50	admin	4	0	
<a href="#">Test</a>	2019-11-15 13:43	admin	4	0	
<a href="#">Flatroofer</a>	2019-10-29 09:55	admin	4	0	
<a href="#">New QF Scheme</a>	2019-10-28 17:05	admin	4	0	

**Screen 1: Compare & export published Qualification Schemes**

The screen to compare published Qualification Schemes opens.  
Click on the button **Compare** to compare published Qualification Schemes

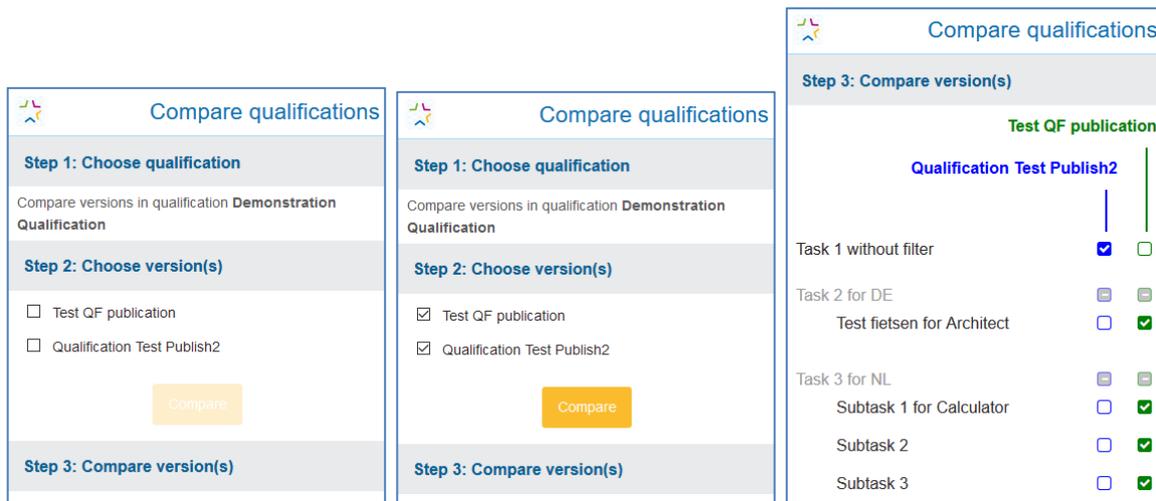


Click on **export** to view a published Qualification Scheme in Excel

Select 2 schemes

Click on the button **Compare**

Differences are **highlighted**

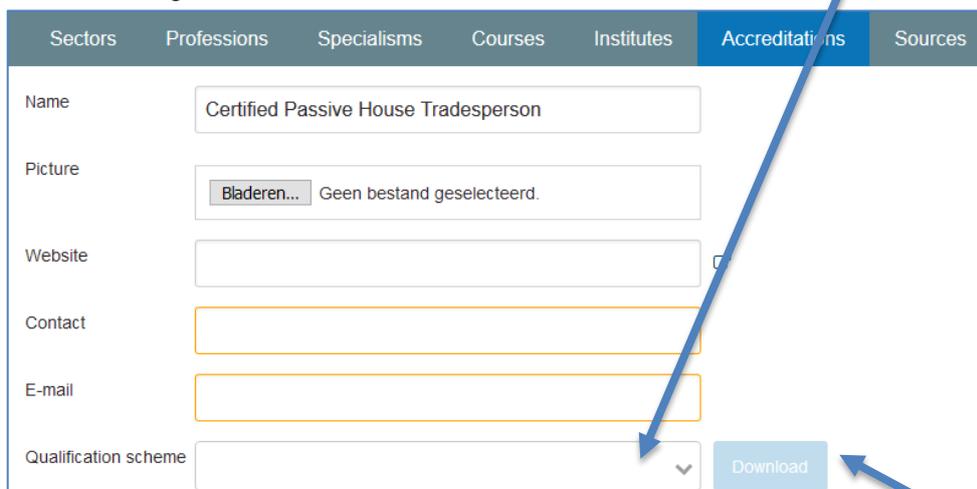


**Screen 2: Qualification compare functionality**

### 7.9 LINK PUBLISHED QUALIFICATION SCHEME TO AN ACCREDITATION

Published Qualification Schemes can be linked to accreditations. This to make clear what is accredited. In each accreditation **one Qualification Scheme** can be linked.

To do this open the accreditation with the accreditations tab. In the selection-box after 'Qualification scheme' the right Published Qualification Scheme can be selected.



**Screen 1: Link a published Qualification Scheme to an accreditation**

A selected Qualification Scheme can be downloaded after selection by pressing the 'Download' button. It will be downloaded as an Excel file.

## 8 OTHER RELEVANT MAINTENANCE FUNCTIONS

In this chapter an overview of other relevant maintenance functions

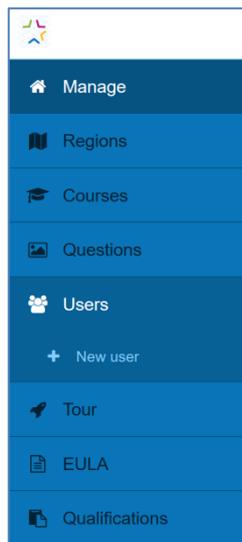
- Delivering a translation of used language strings
- Creating users
- Creating an EULA (end user license agreement)
- Creating a tour
- Translating content for other languages, working in your region

### 8.1 REGIO ADMIN: DELIVERING A TRANSLATION OF USED LANGUAGE STRINGS

Will be added later

### 8.2 REGIO ADMIN & COURSE PROVIDERS: CREATING USERS

Creation of new users can be created from the side bar and from the course institute screen



Sidebar

A form titled 'Institutes' with a dark blue header. The form fields include: Name (Chevron training), Logo (chevrontraining logo), a file upload button (Bladeren... Geen bestand geselecteerd), URL (https://chevrontraining.ie), Contact (empty field), E-mail (empty field), Courses (show 1 courses), and User accounts (manage 0 user accounts). The 'Institutes' tab is highlighted in the top navigation bar.

From the course institute

A table titled 'Users' with a '+ Add user' button in the top right corner. The table has four columns: Email, Name, Roles, and Institute. The table is currently empty.

Click on '+ Add user'

A form titled 'Add user' with the following fields: Authorities (checkboxes for Admin, Questions (edit), Questions (publish), Courses, Regions, ULOs (edit), and ULOs (view)), Name (text input), Username \* (text input), and Email (text input).

Based on your role you can select 'authorizations'

The newly created user will receive van email invitation for the new profile.

A password reset can be done here <https://testapi.buildupskillsadvisor.eu/registration/forgotPassword>

### **8.3 REGIO ADMIN: CREATING AN EULA (END USER LICENSE AGREEMENT)**

Will be added later

### **8.4 REGIO ADMIN: CREATING A TOUR**

Will be added later

### **8.5 TRANSLATING CONTENT FOR OTHER LANGUAGES**

Will be added later

## 9 STEPS TO IMPLEMENT PERSONAL RECOGNITION

In order to implement personal recognition several scenarios are possible. In this guide a scenario for minimal implementation is described. Around May 2020 a scenario with a more elaborated implementation will be added, in this elaboration more functionality will be highlighted. And at the end of 2020 a scenario with maximal details and use of functionality.

### 9.1 SCENARIO FOR MINIMAL IMPLEMENTATION (BASED ON NEWCOM TEST ENVIRONMENT)

In this scenario the back-end of the BUILD UP Skills platform is used to create a region with the minimum of settings needed for issuing personal recognitions. First the roles are explained, then an overview of steps is given and at the end a visual example following the Steps to be performed is given.

#### ROLES

In this scenario the following roles are distinguished:

1. The BUS admin: Jan Cromwijk as BUS main administrator ([j.cromwijk@isso.nl](mailto:j.cromwijk@isso.nl))
2. The Region admin: One or more persons in each region with rights to setup the regional BUILD UP Skills environment
3. The Course/Exam institute: One or more persons managing the setup of a course institute / exam provider

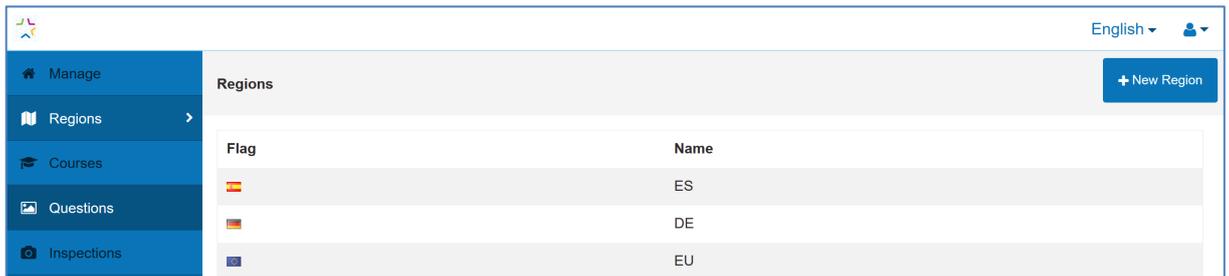
#### STEPS to be performed with links to the relevant parts in this Guide

In order to do so the following steps have to be performed:

1. Ask the BUS admin to create a new Region
2. Ask the BUS admin to add a user to maintain the new Region
3. Regio admin: create a specialism you want to recognize  
[\[4.24.2 Regio Admin: Create a specialism\]](#)
4. Regio admin: create a profession you want to recognize  
[\[4.3 Regio Admin: Create a profession\]](#)
5. Regio admin: create a sector the profession is linked to  
[\[4.4 Regio Admin: Create a Sector\]](#)
6. Regio admin: create and/or publish a Qualification scheme  
[\[7.7 Publish a qualification\]](#)
7. Regio admin: create an accreditation  
[\[4.6 Regio Admin: Create an accreditation\]](#)
8. Regio admin: couple the accreditation with a published Qualification scheme  
[\[7.9 Link published Qualification Scheme to an accreditation\]](#)
9. Regio admin: create a training institute or recognition/exam provider  
[\[4.7 Regio Admin: Create an institute\]](#)
10. Regio admin: create a maintenance account for the created institute  
[\[8.2 Regio admin & course providers: Creating users\]](#)
11. Regio admin / account maintaining an institute: create exam & publish it  
[\[4.8 Regio Admin and Course provider: Create a 'course' or 'exam'\]](#)
12. OPTIONAL: If a course/exam is created by a course provider the Regio Admin has to agree with publication of the new exam  
[\[4.9 Region admin Accept a created or modified course\]](#)
13. Course provider: add one or more participants to the Exam  
[\[4.11 Add course participants\]](#)
14. Find a recognized person
15. Access the professional card [WILL BE ADDED LATER]

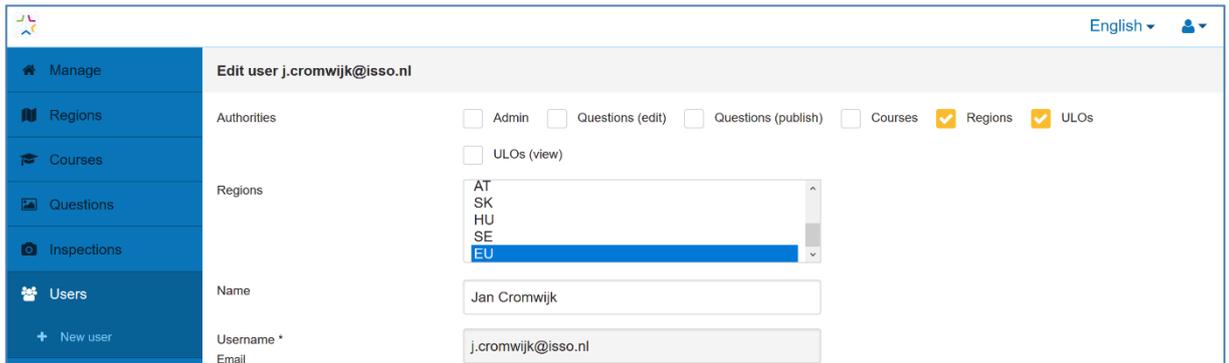
**WORKED OUT example [for NEWCOM TEST environment]**

1. Ask the BUS admin to create a new Region = **DONE**



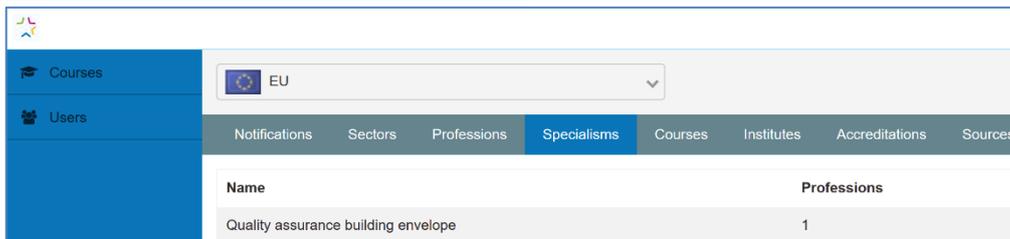
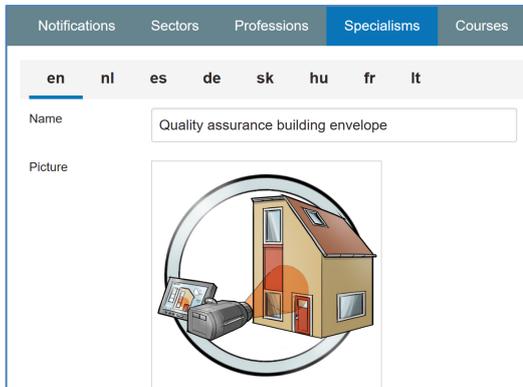
For NEWCOM recognition of trained trainers in nZEB Building Inspection a region EU is created by the BUS admin

2. Ask the BUS admin to add a user to maintain the new Region = **DONE**



The EU region is maintained by Jan Cromwijk, Jan also needs to have rights for ULOs (the qualification database)

3. Regio admin: create a specialism you want to recognize  
[\[4.24.2 Regio Admin: Create a specialism\]](#)



A new Specialism Quality assurance building envelope is created by the Region Admin.

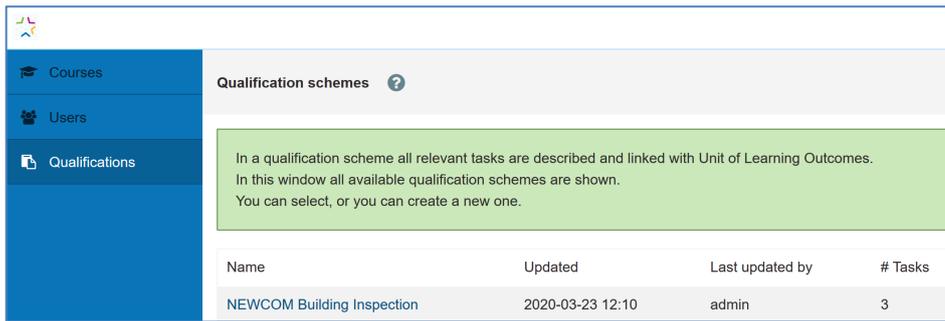
4. Regio admin: create or select a profession you want to recognize  
[\[4.3 Regio Admin: Create a profession\]](#)

A new profession 'Building Surveyor' is created by the Region Admin.

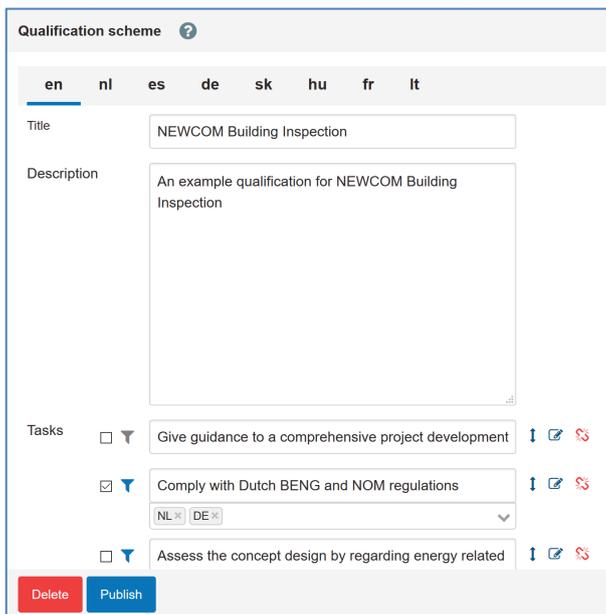
5. Regio admin: create a sector  
[\[4.4 Regio Admin: Create a Sector\]](#)

A new sector 'Test Sector' is created by the Region Admin. And linked to the profession from step 4.

6. Regio admin: create and/or publish a Qualification scheme  
[\[7.7 Publish a qualification\]](#)



For this example the qualification for NEWCOM Building inspection is used. The Region admin needs to open this qualification by clicking on it.



By clicking on Publish a selection of tasks within this qualification can be published. After publishing a published qualification can be linked with an accreditation. This process is illustrated in the following figure.



For Publishing the Publish Button is pressed.  
 In the next screen the relevant tasks are selected & a name is given.

7. Regio admin: create an accreditation → see step 8 for further explanation of the screen.  
[\[4.6 Regio Admin: Create an accreditation\]](#)

8. Regio admin: couple the accreditation with a published Qualification scheme  
[\[7.9 Link published Qualification Scheme to an accreditation\]](#)

The Region admin has added an Accreditation for NEWCOM Building Inspection & has linked it to the Published example from step 5.

9. Regio admin: create a training institute or recognition/exam provider  
[\[4.7 Regio Admin: Create an institute\]](#)

The Region admin has created an exam institute for issuing NEWCOM recognitions

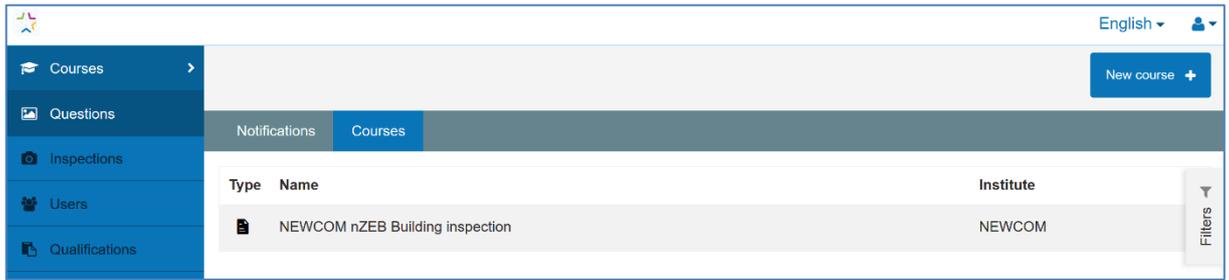
10. Regio admin: create a maintenance account for the created institute  
[\[8.2 Regio admin & course providers: Creating users\]](#)

Email	Name	Roles	Institute
jcromwijk@gmail.com	Jan Cromwijk	Questions (publish), Courses, ULOs	NEWCOM

The Regio admin added an administrator for the NEWCOM exam institute

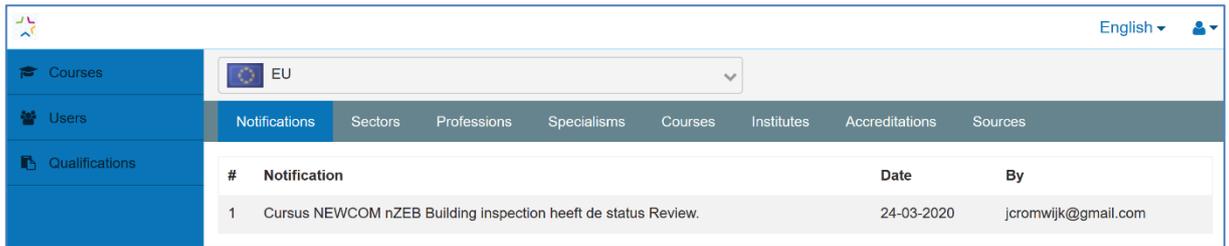
11. Regio admin / account maintaining an institute: create exam & publish it  
[\[4.8 Regio Admin and Course provider: Create a 'course' or 'exam'\]](#)

The created course needs to be linked with: the accreditation for Building Inspection, the Profession and the Specialism (If a specialism is selected the linked specialism is filled in automatically)



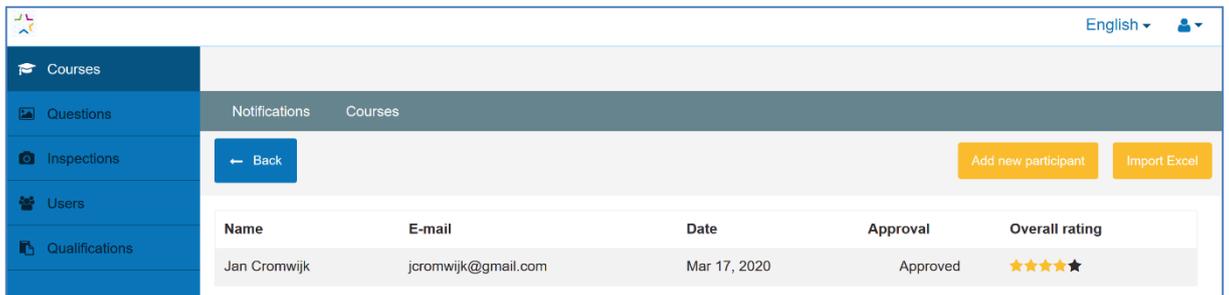
12. OPTIONAL: If a course/exam is created by a course provider the Regio Admin has to agree with publication of the new exam

[4.9 Region admin Accept a created or modified course]



13. Course provider: add one or more participants to the Exam

[4.11 Add course participants]



We assume that persons added by exam institutes have given their consent to be added to the register & to be found to the exam-institute.

All registered persons will get an email with instructions on changing this consent if needed. In the current version, the possibility to change consent is facilitated in the BUILD UP Skills advisor-app [GivingConsent].

In the next release giving consent will also be possible on the Mobile site

**Check the results on the TEST environment**

When all steps are done, you can find recognized persons on the mobile app available at:

<https://testapi.buildupskillsadvisor.eu/expertSearch/index/3?language=en>

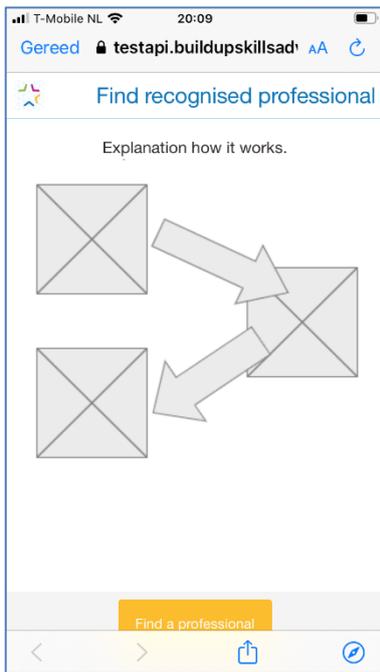
The region number of AT is 363197.

<https://testapi.buildupskillsadvisor.eu/expertSearch/specialisms/363197?language=en>

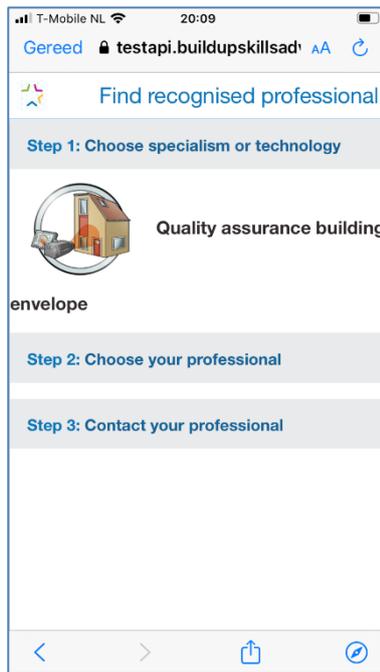
Other region numbers in the TEST environment are:

Ireland	314941
Slovakia	363342
Hungary	363354
The Netherlands	1
Spain	4

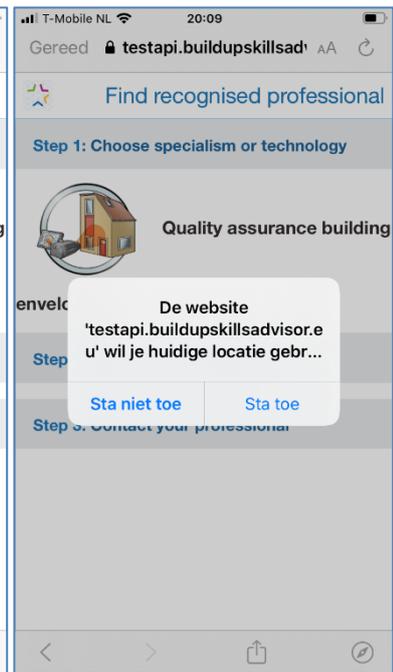
**Home screen**



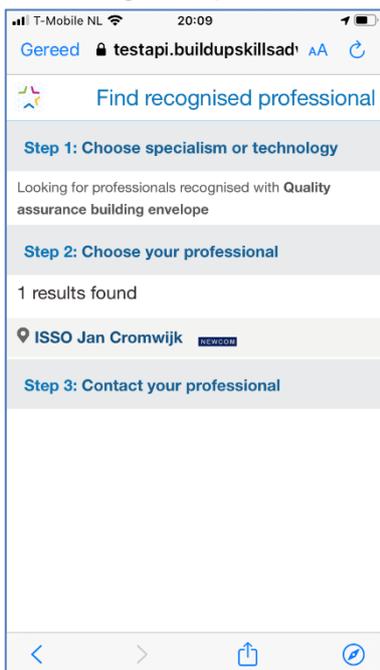
**Select specialism**



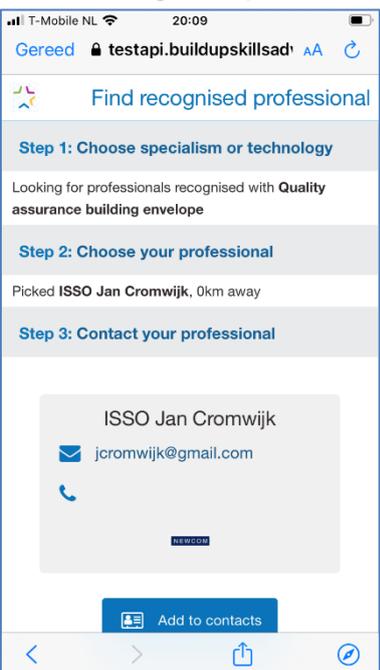
**Give access to location**



**Find recognized person**



**Contact recognized person**



**Workplace with some IMAGES**



### ABOUT NEWCOM

NEWCOM sets up large-scale professional qualification and certification schemes for of blue-collar workers and building professionals. The special focus is on the mutual recognition between different European Member States. These schemes will enable the building workforce to be qualified for the construction, renovation and inspection of the nearly zero-energy buildings 2020.

[www.newcomtraining.com](http://www.newcomtraining.com)

### PROJECT PARTNERS:



**NEWCOM** New qualification schemes  
to build high quality



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