



Flex Mode

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Introduction

WinCan Web has been developed originally as an interface allowing users to view projects that have been uploaded via the WinCan VX application and to send project links to end customers (local water authorities, engineer offices etc.). An end customer thus can download the project data directly to his local hard drive and view them either in WinCanVX (viewer mode) or in the LightViewer.

As governmental institutions and water authorities more and more ask for cloud-based data management, WinCan Web was extended to the following license modes:

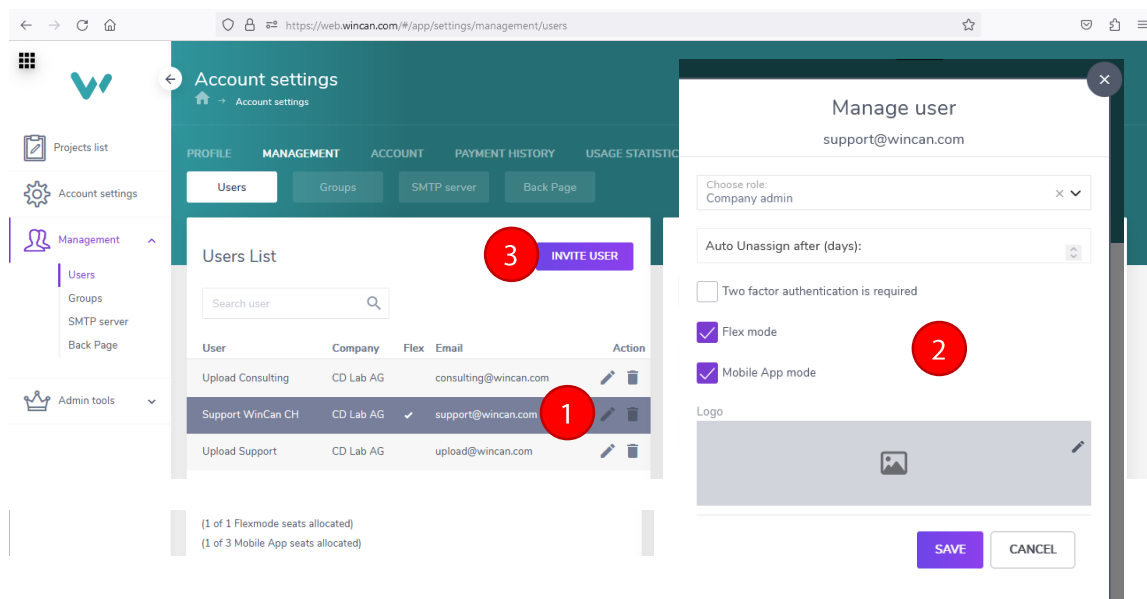
- *Flex mode*: this licence is activated per user account. The corresponding user thus can create new projects or objects (Sections, Laterals or Manholes) and modify them **directly** on the CLOUD with WinCan Web instead of entering data with the software WinCan VX on the local hard drive.
- *MobileApp mode*: this licence implies uploading manhole data entered via the SmartPhone application *WinCanMobile* from at least 3 different devices.
- *AI credits*: this functionality scans the video file attached to the corresponding section using artificial intelligence. A credit is a unit the customer pays for and allows scanning of at least 500m.

Activation of the Flex mode

Log-in to your personal WinCan Web workspace using your basic account. A basic account always gets the user role *Company Admin* and contains 1 *Flex seat* and 3 *MobileApp seats* per default.

Also mind that you cannot be logged-in on several machines or devices with the same account at the same time. Proceed as follows to manage the account settings:

- Open the user settings under *Management > Users* and hit the pen icon (1) to show the details (2) to your basic account:



- Use the button *Invite User* (3) to **add other users** (role = *VX Operator*) **inside your company**. These users will get an e-mail and will have to set their personal password, so that they can access the same workspace and see the same list of projects that have already been uploaded.
- Select those user(s) who should also have the right to edit project data and hit the pen icon (1) to modify their settings. The corresponding *Flex seat* per user **must not be greyed out** for that purpose.
- Check the option *Flex mode* for each user and confirm with the button *Save*.

The graphic below shows the possibilities a customer has, if he wants to create a multiple user environment which is linked to his basic account (e.g. admin@company.com):



The *first Flex* license is always assigned to the basic account and implies 3 *MobileApp* licenses per default; a *second Flex* license for the same basic account automatically activates the usage of another 3 *MobileApp* licenses.

The corresponding license package is always valid for one year. Contact the administration of WinCan (sales@wincan.com), if you need more *Flex* licenses (*Flex seats*).

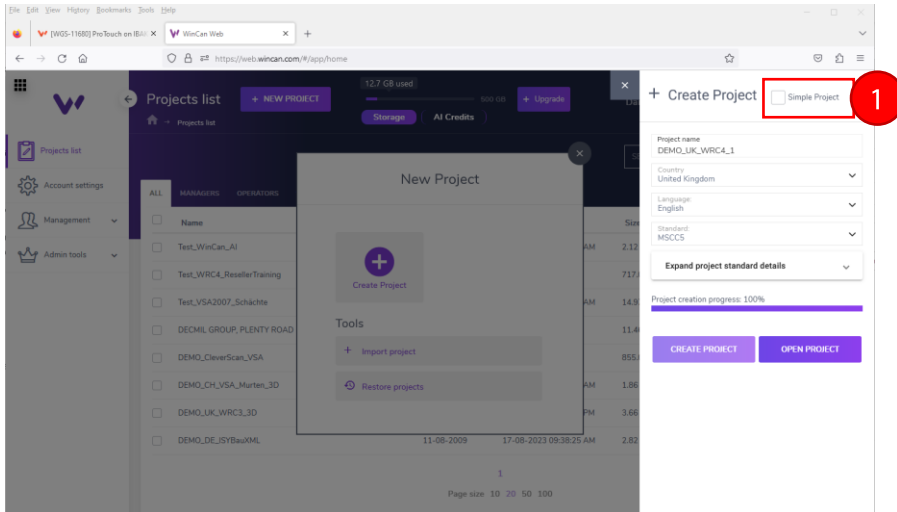
Creation of Projects

You can create new projects and do a fully cloud-based damage assessment from the uploaded video clips. WinCan Web supports creation of normal and simple projects.

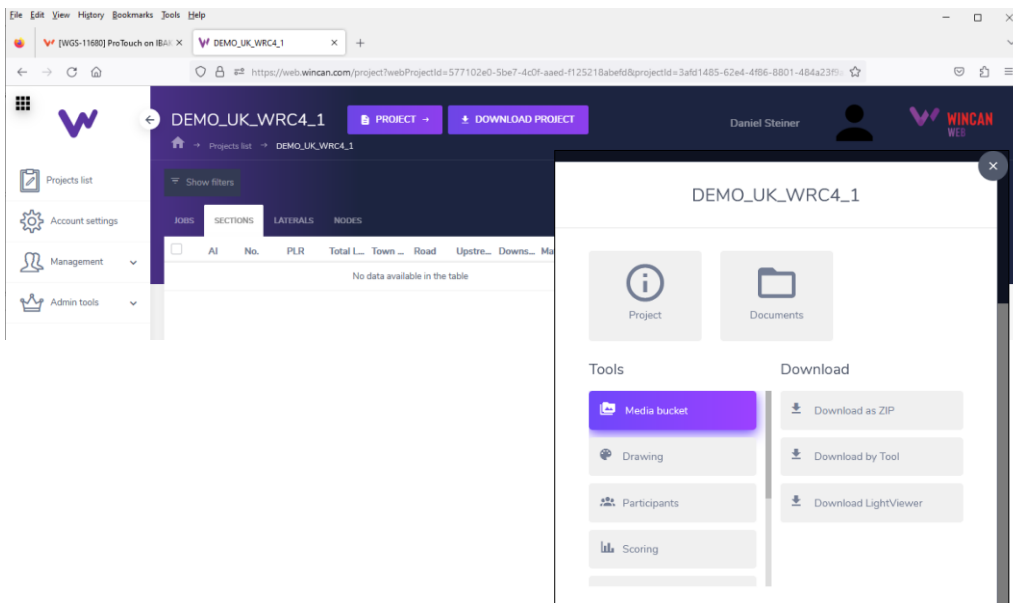
Normal projects

Normal projects contain a database and ask the user to set the damage standard (e.g. PACP, WRC, WSA, NZPIM) used in his country (or region).

Proceed as shown below to create a normal project on the cloud. Make sure the option *Simple project* is unchecked (1):



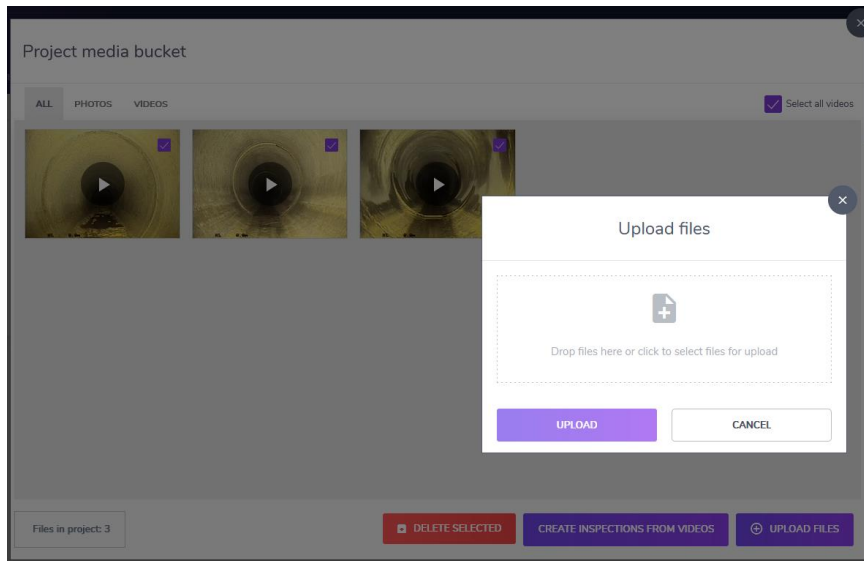
Finally click on *Open Project*: the tabs *Sections*, *Laterals* and *Nodes* are now available. Next hit the button *Project* and open the media bucket, that works as a container for non-assigned video clips or photos.



Upload the desired video clips or photos via *Drag and Drop* from the WINDOWS file explorer.

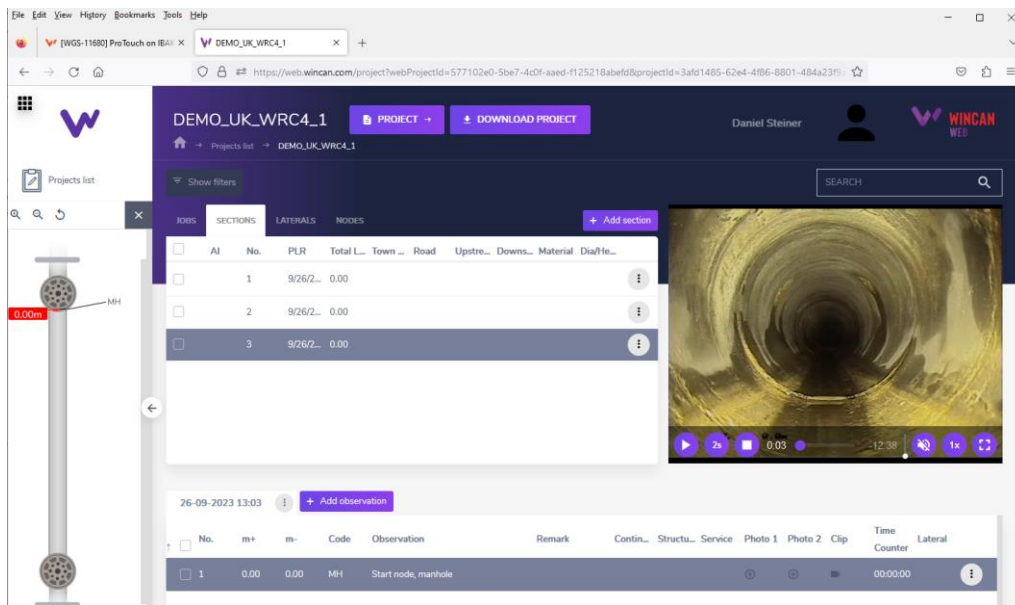
Wait until the video file previews are shown as depicted below. This may take a while because each video needs to be transcoded. This process converts the video clips into a format that can be played back with the video player used in WinCan Web.

You may upload additional videos later on hitting the button *Upload Files*:



Pick the video clips from the media bucket and get the inspections created from the selected videos hitting the corresponding button.

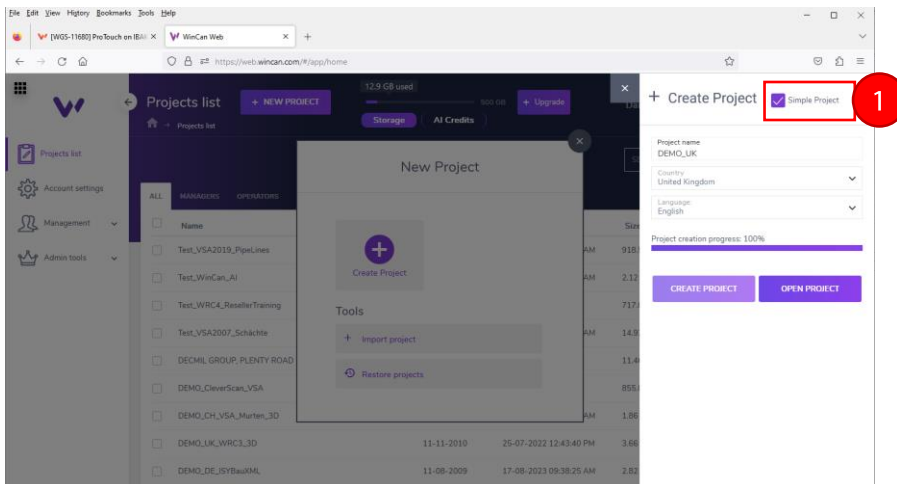
A section for each video clip is finally created and the clip itself is automatically assigned to the first observation of the first inspection:



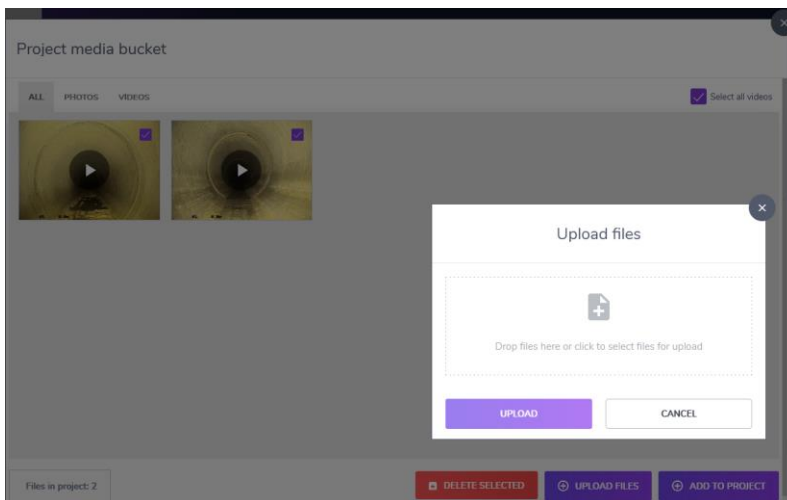
Simple projects

Simple projects just contain the media files (video clips and pictures) which are assigned to the project. This kind of project is created automatically on the cloud after you have uploaded project media files via software tools installed on mobile inspection systems (e.g. QuickView, SewerLink).

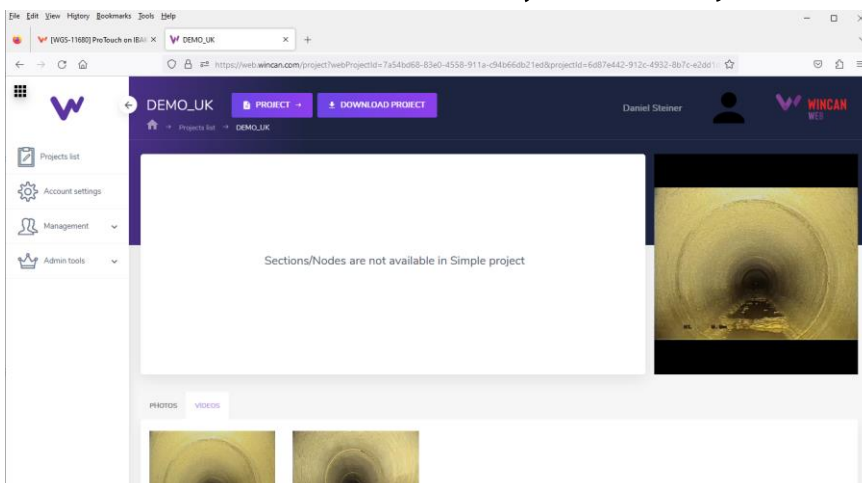
Proceed as shown below to create and open a simple project on the cloud. Make sure the option *Simple project* is checked (1):



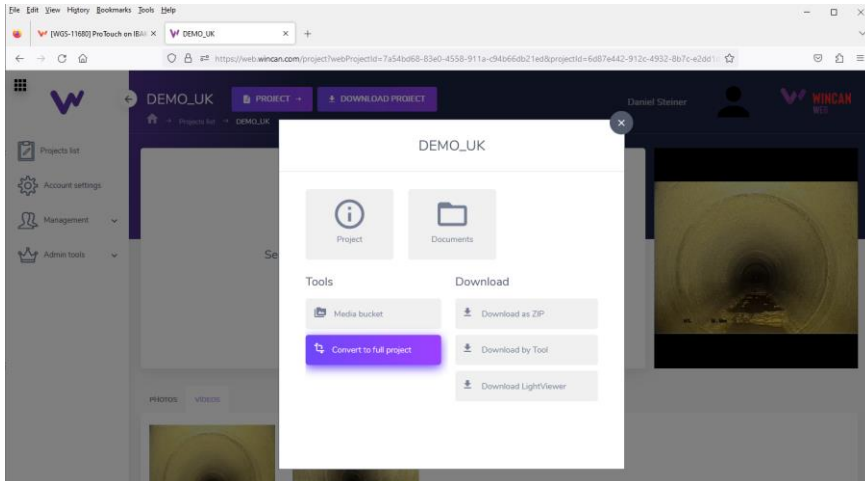
Next the media bucket opens automatically. Upload the desired video clips and photos via *Drag and Drop* from the WINDOWS file explorer and hit the button *Add to Project*:



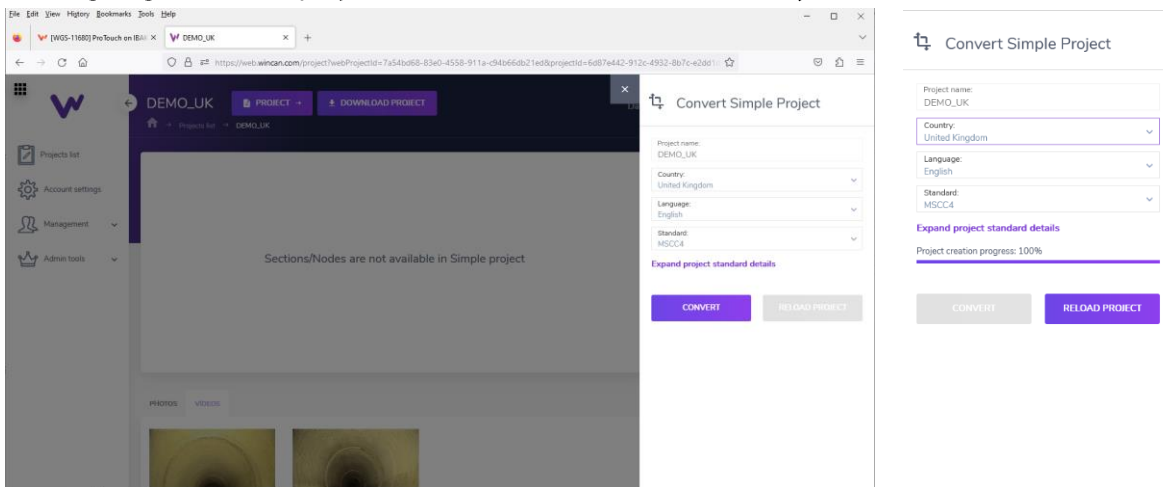
The result is a kind of container without any database that just shows the uploaded media files:



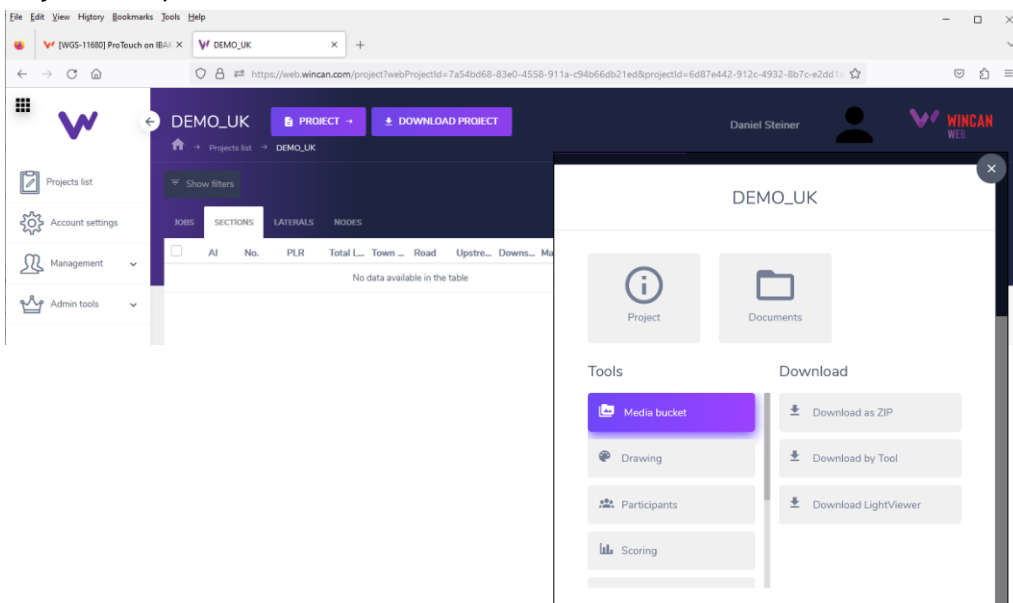
Hit the button *Project* to upload either more video clips or to convert it to a normal project.



Make sure you have selected the correct damage assessment standard before you hit the button *Convert*. This is going to create a project database that will allow data entry for sections, laterals and nodes.

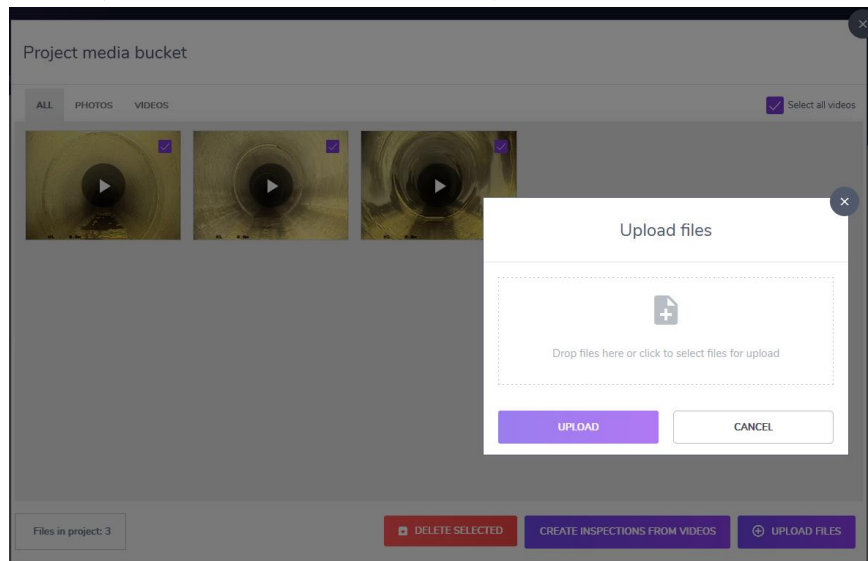


Finally click on *Reload Project*: the tabs *Sections*, *Laterals* and *Nodes* are now available. Next hit the button *Project* and open the media bucket:

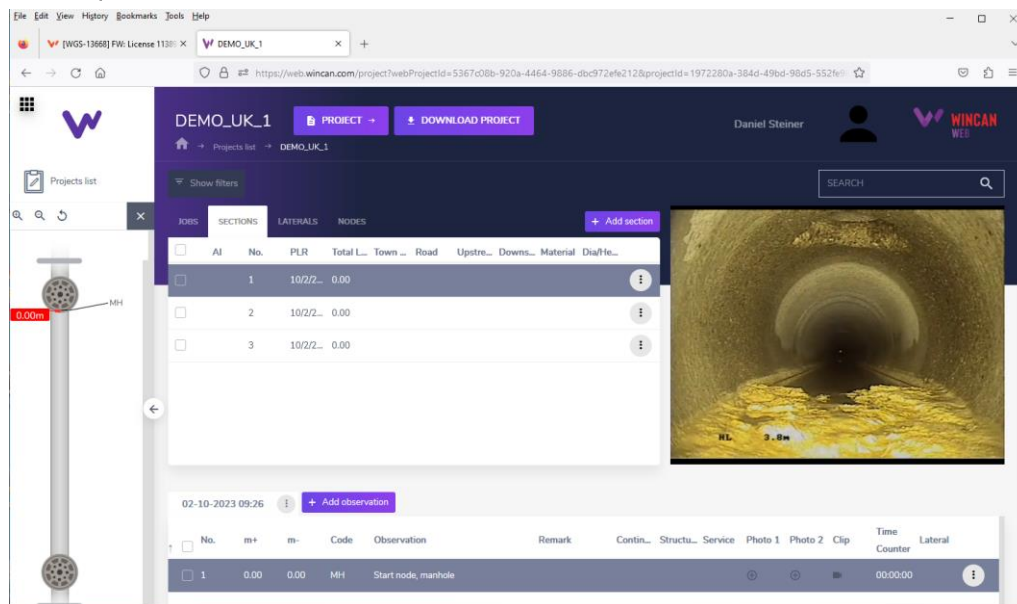


Pick the video clips from the media bucket and get the inspections created from the videos hitting the corresponding button.

You may upload additional videos at any time hitting the button *Upload Files*:



A section for each video clip is created and the clip is automatically assigned to the first observation of the first inspection.



Data Entry

Now you can either start damage assessment based on the uploaded video clips or modify and complete existing projects that you previously uploaded via WinCan VX.

Mind the following definitions before you start any damage assessment:

- SECTION: pipeline between an upstream and a downstream node (manhole, connection point)
- NODE: manhole or connection point where the pipelines join.
- INSPECTION: group of observations. An INSPECTION is **directly** linked to a specific SECTION or NODE
- OBSERVATION: description of what the TV operator detects at a given spot inside the pipe. An OBSERVATION is **directly** linked to a specific INSPECTION.

The corresponding buttons to **add** new objects (i.e. sections and nodes) and to create new inspections and observations become automatically visible once you are logged in as a user with activated Flex mode:

JOBSSECTIONS LATERALS NODES

+ Add section

	AI	No.	PLR	Total L...	Town ...	Road	Upstre...	Downs...	Material	Dia/He...
<input type="checkbox"/>		1	10/2/2...	0.00						
<input type="checkbox"/>		2	10/2/2...	0.00						
<input type="checkbox"/>		3	10/2/2...	0.00						

Edit section

Delete section

+ Add inspection

02-10-2023 09:26

+ Add observation

	No.	m+	m-	Code	Observation	Remark	Contin...	Structu...	Service	Photo 1	Photo 2	Clip	Time Counter	Lateral
<input type="checkbox"/>	1	0.00	0.00	MH	Start node, manhole								00:00:00	

JOBSSECTIONS LATERALS NODES

+ Add node

	No.	Node ID	Node Type	Lowest Point [m]	Town or Village	Road
<input type="checkbox"/>	1	1	MH	3.500		

The menu buttons to the right of each line provide the commands for editing or deleting the corresponding record (section, node, inspection, observation).

Data Entry for Sections

Pick an existing section from the list, click on the menu button (1) to the right of the section line and select the command *Edit section*:

The screenshot shows the WinCAN web interface for project DEMO_UK_WRC3_3D. The 'SECTIONS' tab is active, displaying a table of sections. A red box highlights the 'Edit section' option in the dropdown menu next to section 1X. A red circle with the number 1 points to the menu button.

AI	No.	PLR	Total L.	Town	Road	Upstre...	Down...	Material	Dia/He...
<input type="checkbox"/>	1	1X	60.00			1	2	CO	350
<input type="checkbox"/>	2	2X	20.00			2	3		
<input type="checkbox"/>	3	4X	45.00			4	5		
<input type="checkbox"/>	4	WC1X	26.50			WC1	2		
<input type="checkbox"/>	5	WC6X	42.00			WC6	4		

Edit section (2) and inspection data (3) as shown below. You can also hide NON mandatory fields (4) to get data entry done a bit faster (yellow = mandatory; white = non mandatory):

The screenshot shows the WinCAN web interface with the 'Edit section: 1X' and 'Edit inspection' forms. Red circles 2, 3, and 4 point to the respective form titles and the 'Show only mandatory fields' checkbox. A red circle with the number 5 points to the 'SAVE' button.

Edit section: 1X

Upstream Node: 1
Upstream Pipe Depth [m]:
Upstream Cover Level [m]:
Upstream Pipe Invert Level [m]:
Downstream Node: 2
Downstream Pipe Depth [m]:
Downstream Cover Level [m]:
Downstream Pipe Invert Level [m]:
Use: Combined
Pipe Shape: Circular
Dia/Height [mm]: 350
Width [mm]: 350
Pipe Material: Concrete

Edit inspection

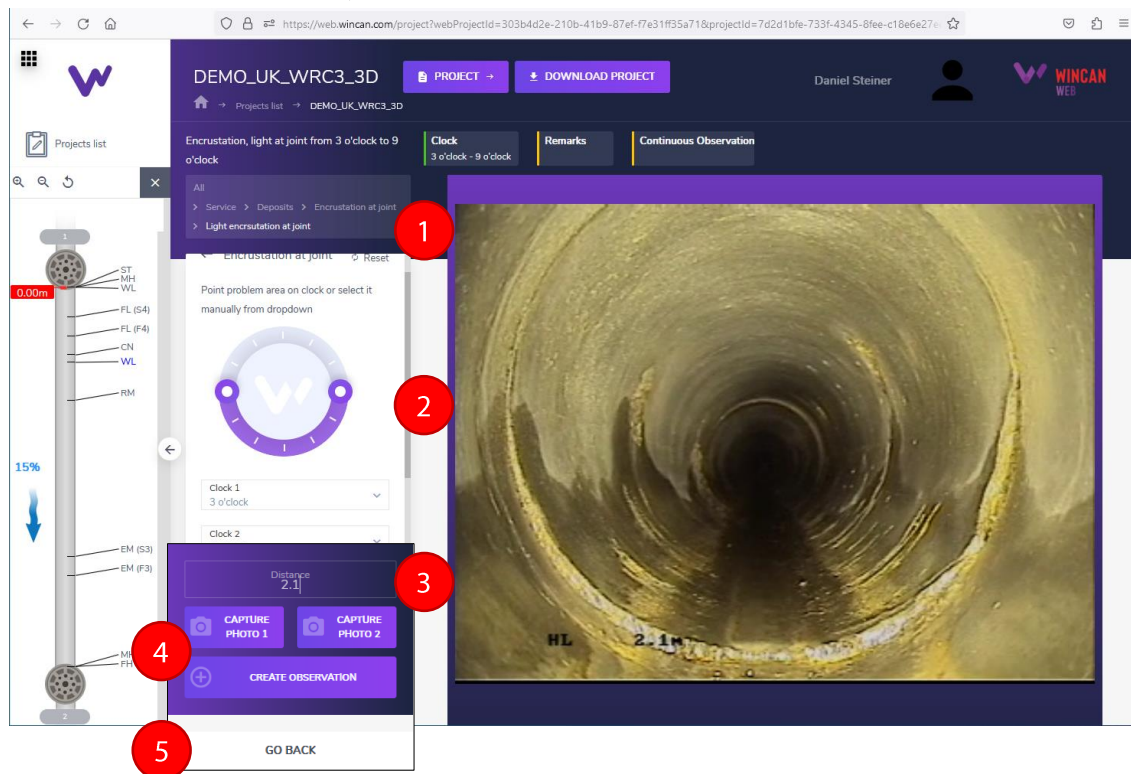
Inspected Length [m]: 60
Inspection Direction: 1 (D/S) 2
Operator: PAUL
Date: 11-11-2010
Time: 17:01
Pre Cleaned:
Inspection Purpose: Associated with future capital scheme including Drainage
Weather:
Tape Number: 11111
Present:
Vehicle:
Camera:
Preset Length [m]:

ADD SECTION | ADD INSPECTION | **SAVE**

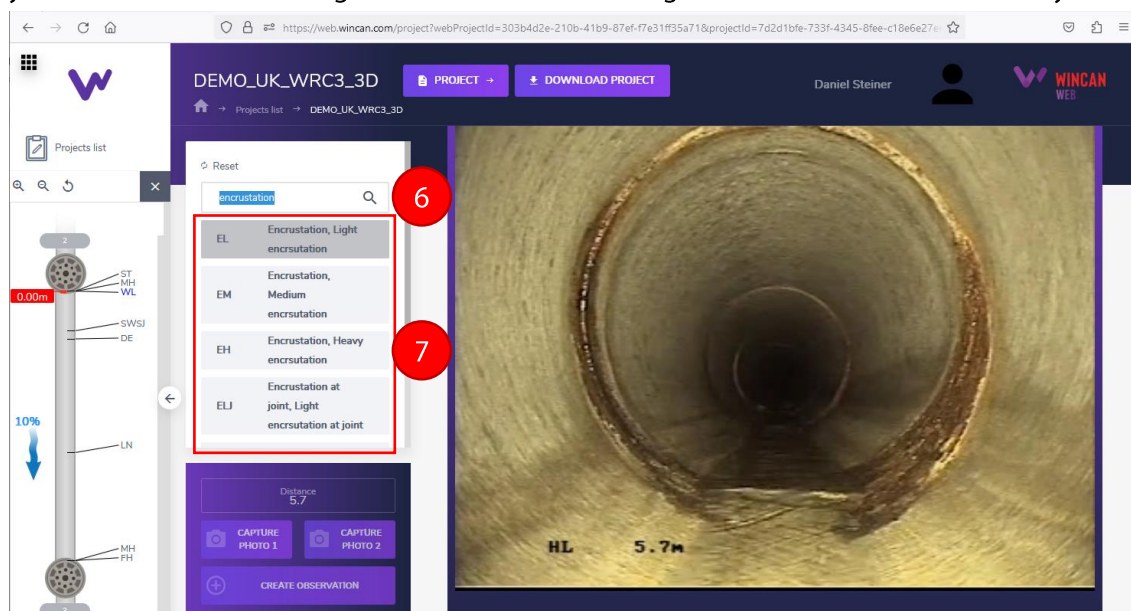
Mind that you push the SAVE button (5) before you close the input mask.

In order to complete the observation list, hit the button *Add observation*, browse to the spot where an observation needs to be added and describe the defect (local defect) with the catalogue:

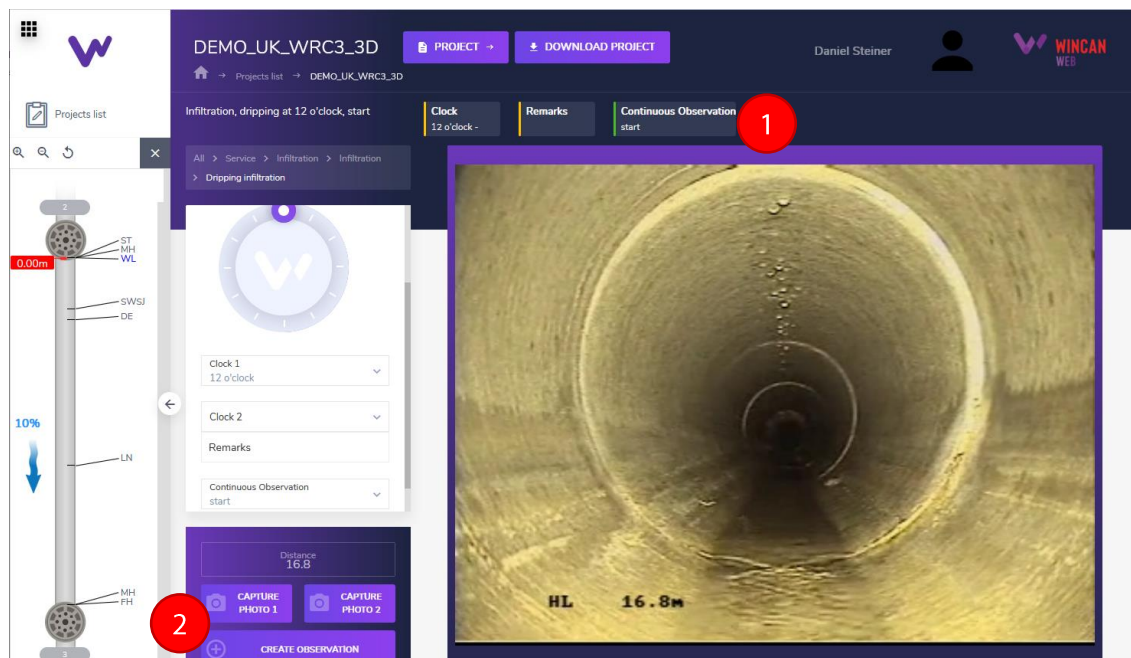
- 1.) Navigate through the catalogue chapters step by step
- 2.) Complete the defect description, if necessary. Clock positions can easily be changed via *Drag & Drop*.
- 3.) Enter the distance value
- 4.) Hit the button *Capture Photo 1* and click on *Create Observation*
- 5.) Hit the button *Go Back* if you want to quit the defect catalogue without saving the current observation:



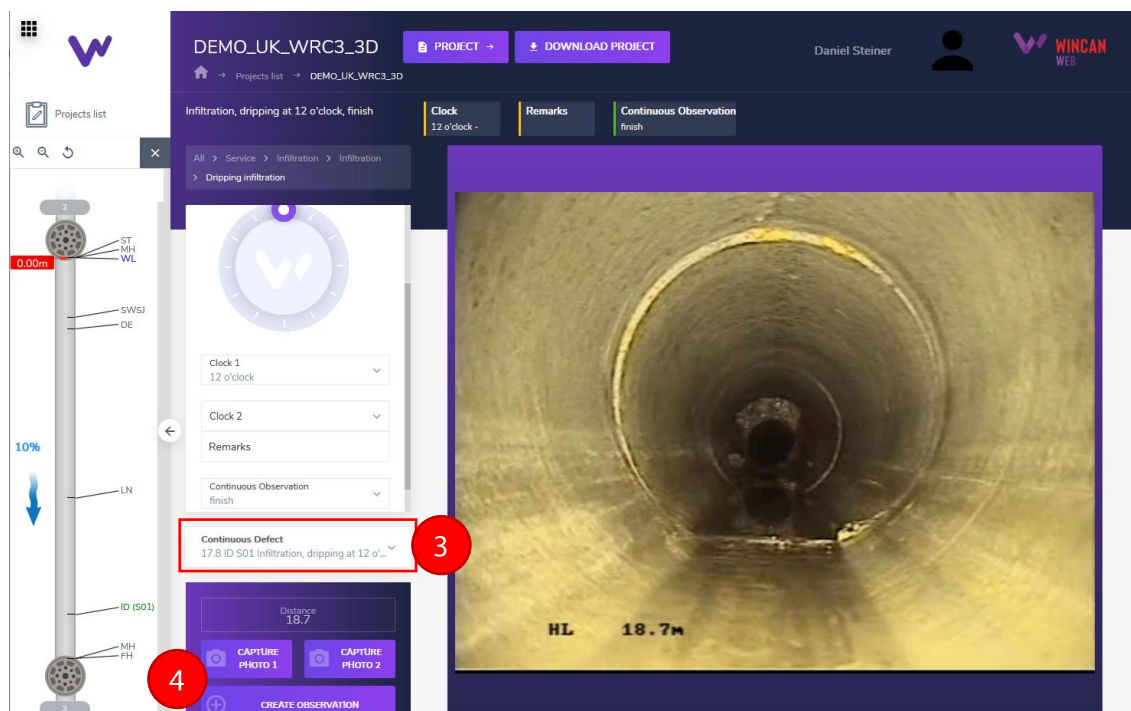
Type some valid text (OP-Code or a part of the observation text) into the search field (6) in case you are not yet familiar with the catalogue structure. The matching entries are then filtered directly and shown below (7):



Continuous defects must always have a START and an END point. Use the catalogue field *Continuous Observation*, pick the list item **Start** for the current observation (1) to mark the **start point** of the continuous defect and confirm the observation entry:



When you enter a new observation afterwards, all open continuous defects will be listed inside a separate field below the observation catalogue (3):



Simply highlight the desired continuous defect and confirm the observation entry (4). The list item **Finish** is written automatically into the field *Continuous Observation* and marks the **end point** of the continuous defect.

Data Entry for Manholes

Select the tab *Nodes* and proceed in a similar way to enter data for the manholes you need to inspect. Use the button *Add node* to create new manholes.

Pick an existing manhole from the list, click on the menu button (1) to the right of the manhole record and select the command *Edit node*:

The screenshot shows the WinCAN web application interface. The 'Nodes' tab is selected, displaying a table of manhole nodes. A context menu is open for node 1, with the 'Edit node' option highlighted. Red circles 1 and 2 mark the menu button and the 'Edit node' option respectively.

No.	Node ID	Node Type	Lowest Point [m]	Town or Village	Road
1	1	MH	3.500		

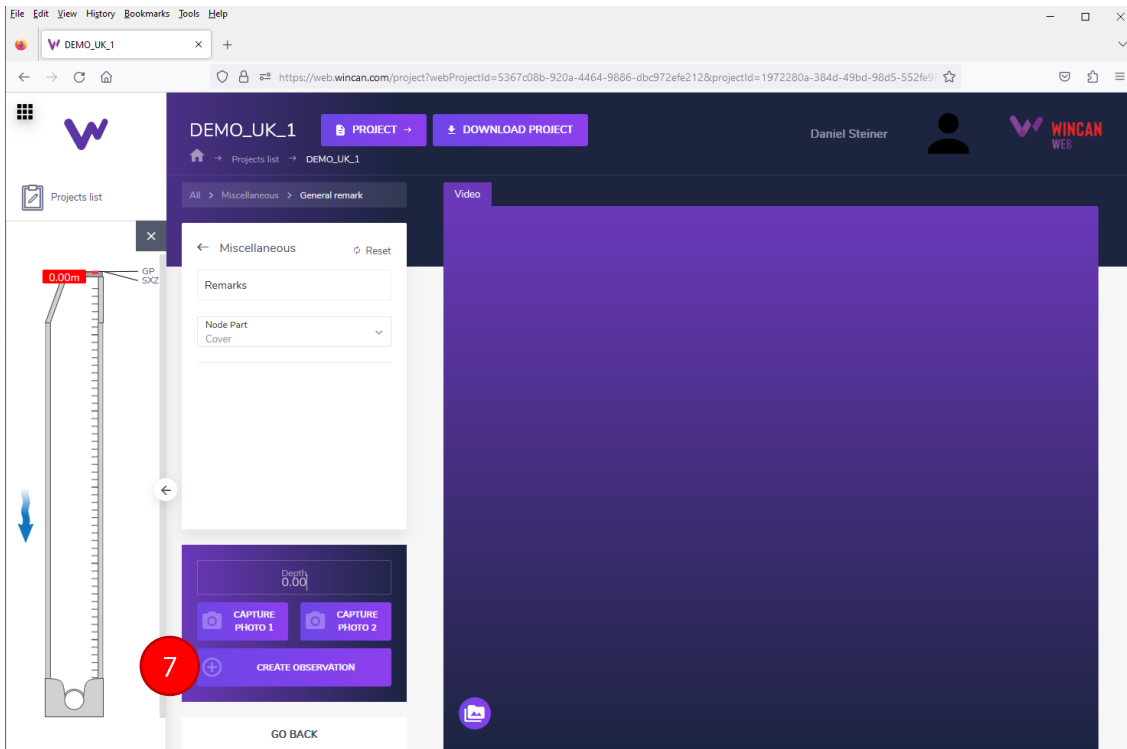
Use the left part (2) of the entry panel to show the input mask on the right for each item (3) you want to edit:

The screenshot shows the 'Edit node' form in the WinCAN web application. The form is divided into two sections: 'Node' (left) and 'Inspections' (right). Red circles 1 through 6 mark various elements: 1. 'Edit node: 1' header, 2. 'Node' section, 3. 'Node ID' field, 4. 'Show only mandatory fields' checkbox, 5. 'SAVE' button, 6. 'Add observation' button.

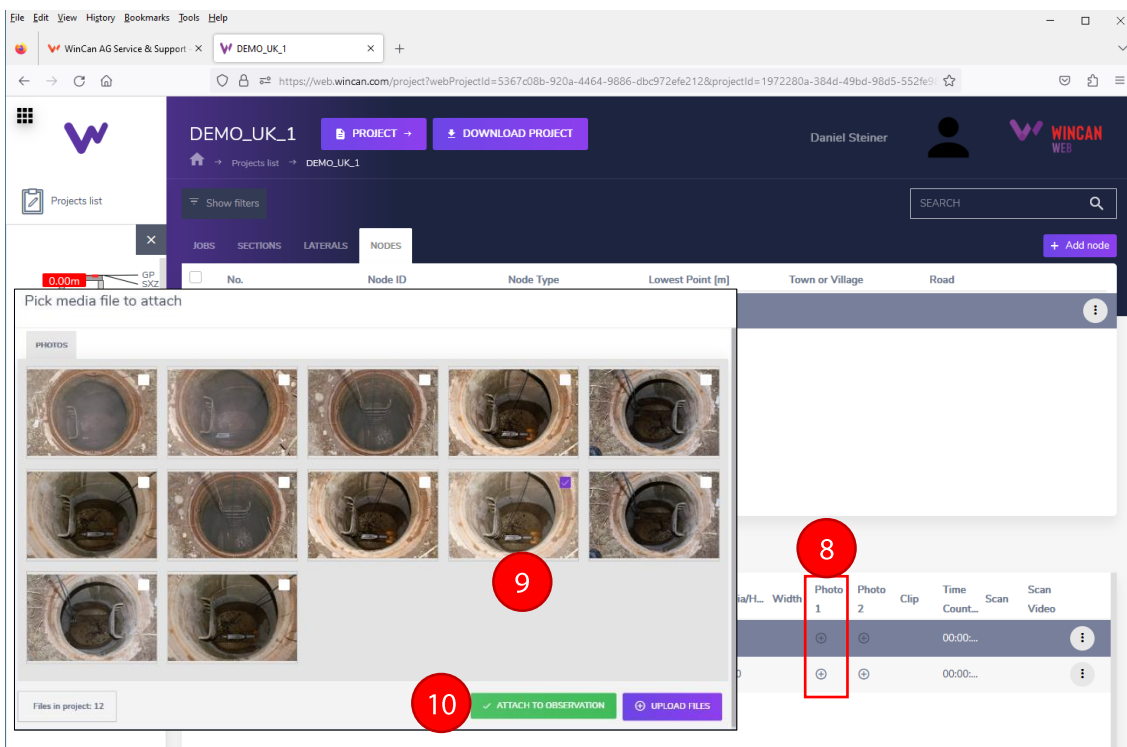
No.	m+	Code	Observation	Remark	Node Part	Clock	Dia/ft	Width	Photo 1	Photo 2	Clip	Time
1	0.00	GP	General photograph taken at this point at ...			12						00:00:...
2	0.00	SXZ	Defective ladder, other	no faulty steps	CHA	10						00:00:...

You can also hide NON mandatory fields (3) to get data entry done a bit faster (yellow = mandatory; white = non mandatory). Mind that you push the SAVE button (5) before you close the input mask.

Next push the button *Add observation* (6) to create a new observation. Browse through the manhole catalogue, look for a suitable description and click on *Create observation* (7) to show the new observation line:



Hit the PLUS button (8) in the columns *Photo1/Photo2*, select a photo from the project media bucket (9) and attach it to the selected observation (10):



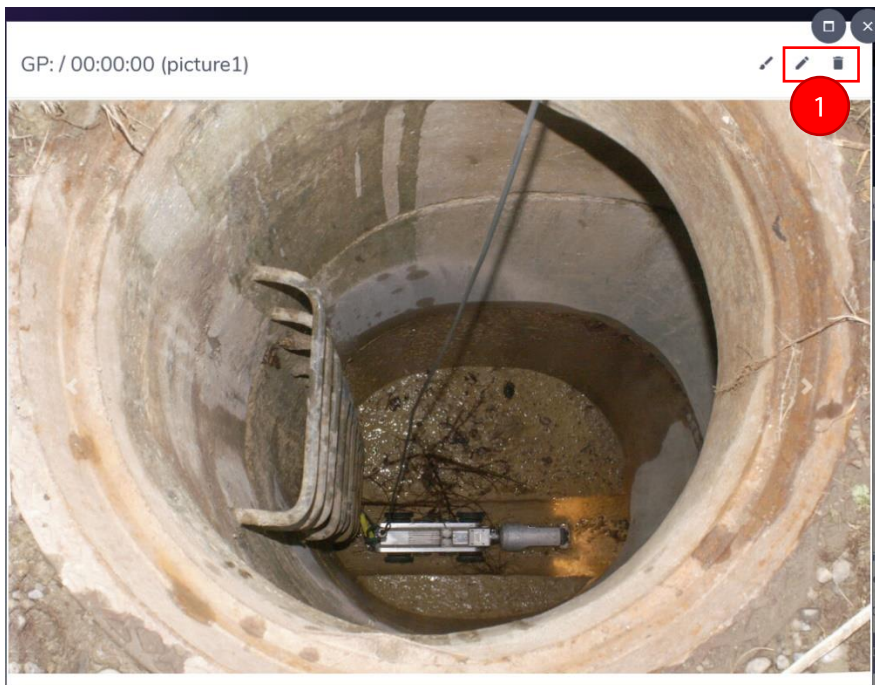
Hover with the mouse over the photo icon to get a picture preview:

The screenshot shows the WinCan AG web application interface. The top navigation bar includes the WinCan logo, project name 'DEMO_UK_1', and buttons for 'PROJECT' and 'DOWNLOAD PROJECT'. The user 'Daniel Steiner' is logged in. The main content area displays a table of observations. On the left, there is a vertical scale bar with a blue arrow pointing downwards. The table has columns for 'No.', 'Node ID', 'Node Type', 'Lowest Point [m]', 'Town or Village', and 'Road'. Below the table, there is a section for '03-10-2023 12:17' with a '+ Add observation' button. The table below this section has columns for 'No.', 'm+', 'Code', 'Observation', 'Remark', 'Node Part', 'Clock', 'Dia/H.L.', 'Width', 'Photo', and 'Video'. The first row shows a photo icon with a trash bin icon next to it.

No.	Node ID	Node Type	Lowest Point [m]	Town or Village	Road
1	1	MH	3.500		

No.	m+	Code	Observation	Remark	Node Part	Clock	Dia/H.L.	Width	Photo	Video
1	0.00	GP	General photograph taken at this point at 1...			12				
2	0.00	SKZ	Defective ladder, other	no faulty steps	CHA	10				

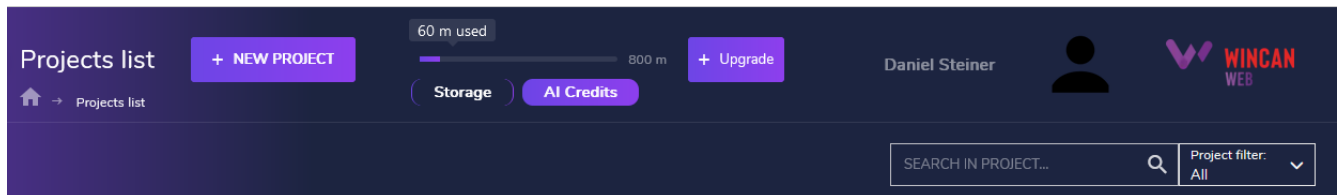
Clicking on the photo icon is going to open a full-size view of the picture in a separate panel. Use the trash bin icon (1) on the header of this panel to remove the photo from the current observation. Hitting the pen icon (1) opens the media bucket and allows you to replace the current picture directly with another one.



Damage Assessment via Artificial Intelligence (AI)

Artificial intelligence for damage assessment in sewer pipes works with complex algorithms that are able to detect noticeable structures inside a pipeline and to find the best description for them in the damage catalogue.

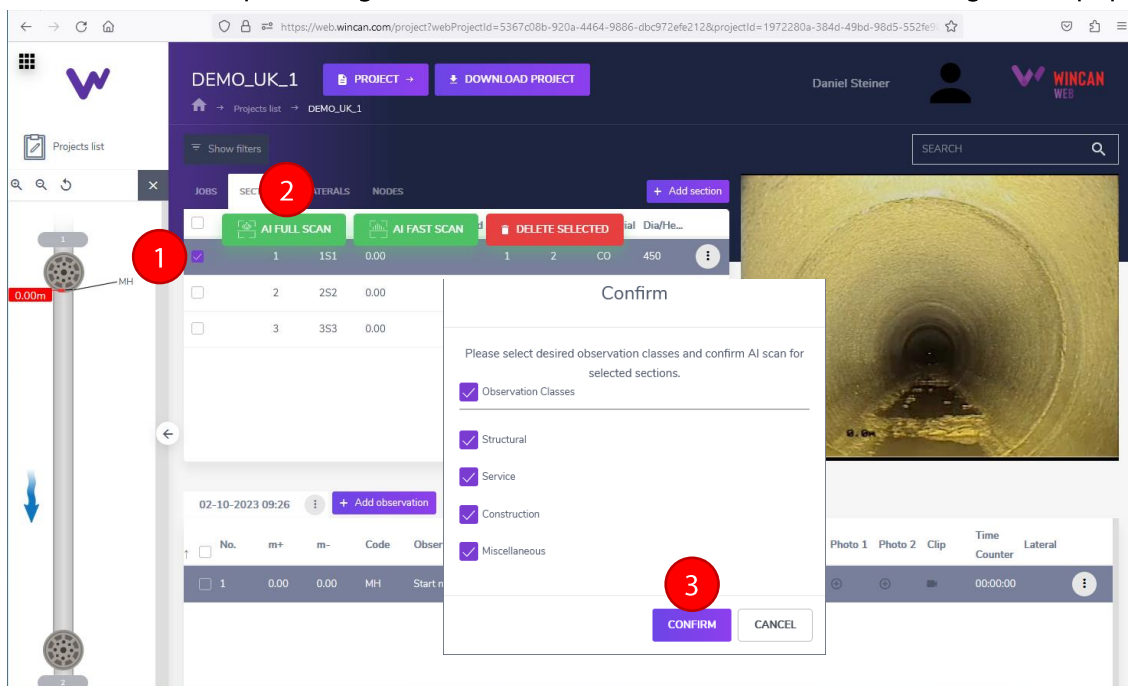
Contact your local reseller or the WinCan administration in Switzerland to get an AI credit which will be activated for your existing Web account and allows you to scan at least 500m. AI credits can be extended up to app. 3000 m and are displayed in the header of the Web interface:



Make sure the technical requirements below are fulfilled so the AI functionality will be able to properly scan a pipe video clip:

- The data field *Diameter* (OBJ_Size1) must contain a value.
- The video clip must be linked to an observation record (*Beginning of the inspection*)
- The display time of the video clip must be longer than 30 sec.
- The distance must either be displayed directly on the video clip (OSD) or be read from the corresponding time distance file (TXT format). The import of video clips recorded via drone-based pipe inspections using the software *Flyability* also creates a time distance file and thus may allow an AI scan too. However further tests are needed to finally obtain good scan results from this specific kind of video source.
- Pipe scans that have been created by the camera systems Ibak Panoramo, DigiSewer or Rico RPP can currently not yet been used for running an AI scan.

Next load the project and make sure each section has got a video clip attached. Activate the check box left to the section line (1), push the green button *AI Full Scan* (2) and confirm the dialogue that pops up (3):



A full scan may take up to 10 min.

The AI functionality detects structures inside the pipe that deviate from the normal state (i.e. smooth pipe wall) and automatically assigns the catalog entry that describes best the corresponding observation at a given location. Once the scan has finished, a check mark in the AI column is set for the corresponding section (1) and inspection (2).

If the section is going to be scanned more than once, a new inspection will be created and attached:

The screenshot displays the WINCAN web application interface for a project named DEMO_UK_1. The interface includes a sidebar with a project list, a main table of sections, and a video player showing a pipe inspection. A red circle with the number 1 highlights a checkmark in the AI column of the sections table. A red circle with the number 2 highlights a checkmark in the AI column of the observations table.

AI	No.	PLR	Total L...	Town ...	Road	Upstre...	Down...	Material	Dia/He...
✓	1	1S1	36.20			1	2	CO	450
	2	2S2	0.00			2	3	CO	450
	3	3S3	0.00			3	4	CO	375

AI	No.	PLR	Total L...	Town ...	Road	Upstre...	Down...	Material	Dia/He...
✓	9	1S1	0.00			1	2	CO	450
	10	12.61	23.59			2	3	CO	450
	11	15.90	20.30			3	4	CO	375
	12	27.95	8.25			4	5	CO	300
	13	27.99	8.21			5	6	CO	225

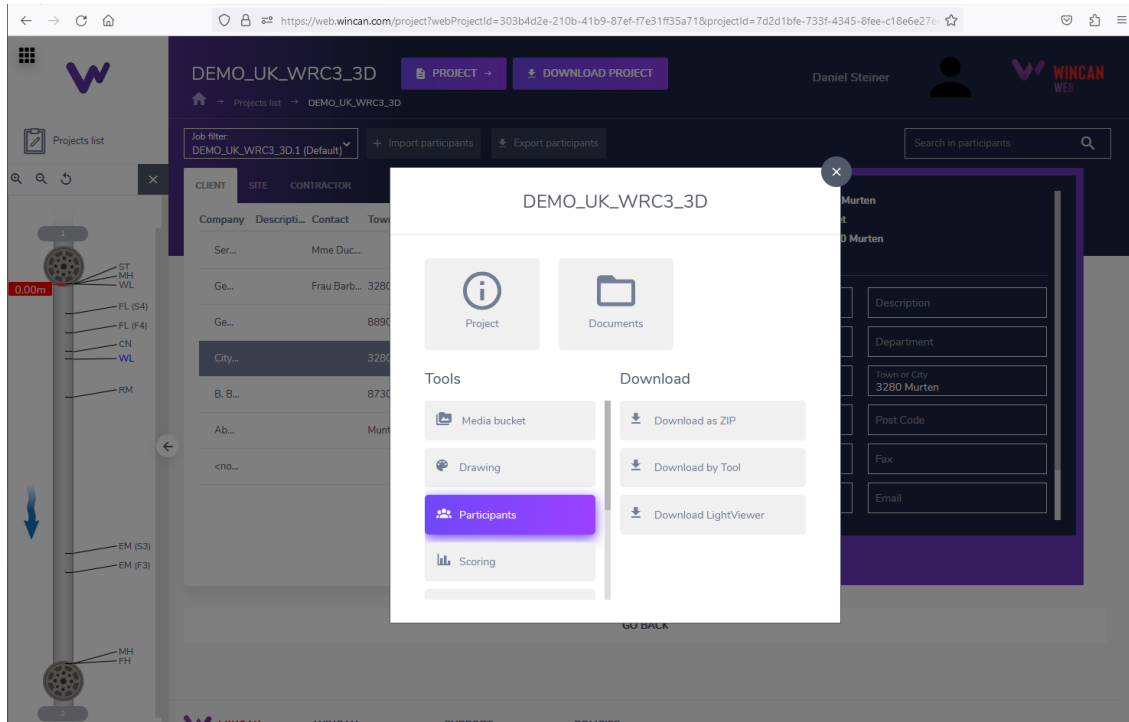
AI-based detection and correct description of observations inside pipeline networks is a new technology which will be developed continuously.

Therefore always get checked an AI-Scan manually by an experienced professional person (e.g. tv operator) as the artificial intelligence may interpret wrongly some kinds of damages (e.g. cracks instead of scratches on the pipe wall surface).

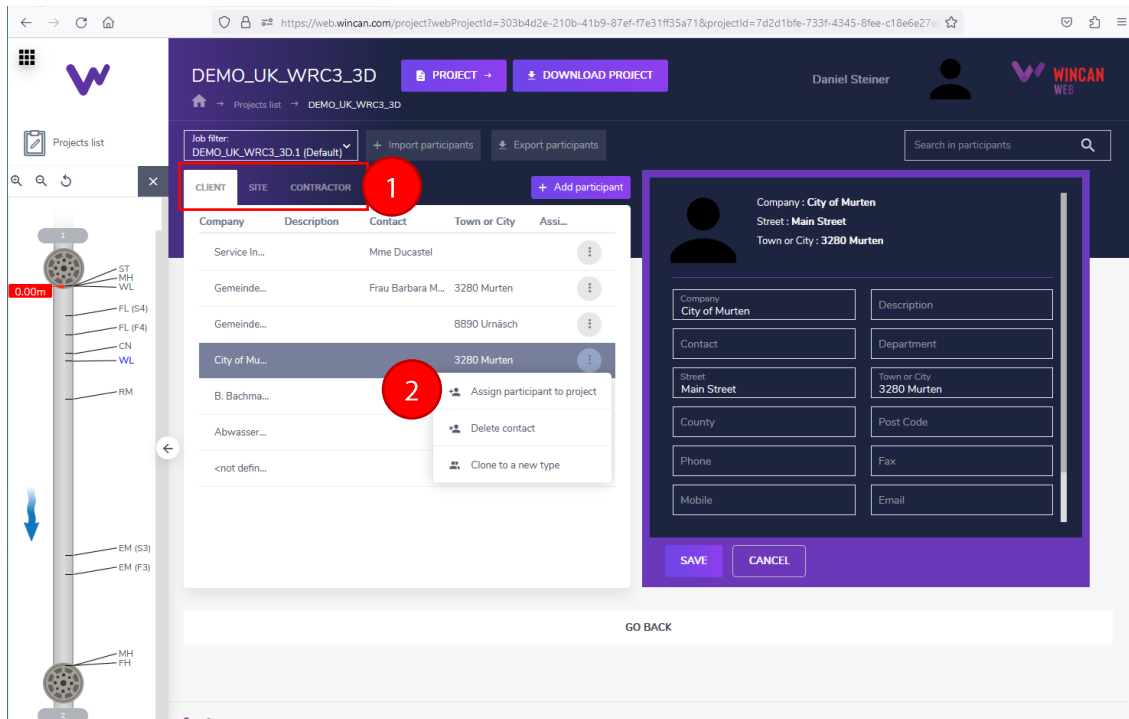
Add Project Participants

Before printing the inspection report you usually have to assign client, project manager (site) and contractor to the current project. Proceed as follows to do so:

Hit the command button *Project > Participants*:



Next select the *Client, Site (Manager)* and *Contractor (1)* you want to assign to the current project and hit the corresponding menu command (2)



Use the button *Add participant* to create new addresses or select the command *Delete contact* to delete a selected participant.

You may modify the selected address right to the list of participants (3) and even assign a logo (4) to the corresponding address. This is usually done for contractors only (5):

The screenshot displays the Wincan web application interface. On the left, a vertical list of components is visible, including 'ST', 'MH', 'WL', 'FL (S4)', 'FL (F4)', 'CN', 'WL', 'RM', 'EM (S3)', and 'EM (F3)'. The main area shows the 'CONTRACTOR' tab with a table of participants. A red box highlights the 'Assigned' column header, labeled with a red circle '5'. To the right, a modal form for editing a participant's details is open. The form includes fields for 'Company', 'Description', 'Contact', 'Town or City', 'Street', 'County', 'Post Code', 'Phone', 'Fax', 'Mobile', and 'Email'. A red box highlights the 'Logo File' field with a 'REMOVE' button, labeled with a red circle '4'. The 'Street' field is labeled with a red circle '3'. At the bottom of the modal, there are 'SAVE' and 'CANCEL' buttons. A red circle '6' is placed over the 'GO BACK' button at the bottom of the page.

Company	Description	Contact	Town or City	Assigned	Defa...
CDLab ...			Murten		
Gren C...		Raf Sterdox	Geel		
Meier K...		Martin Meier	Eschen		

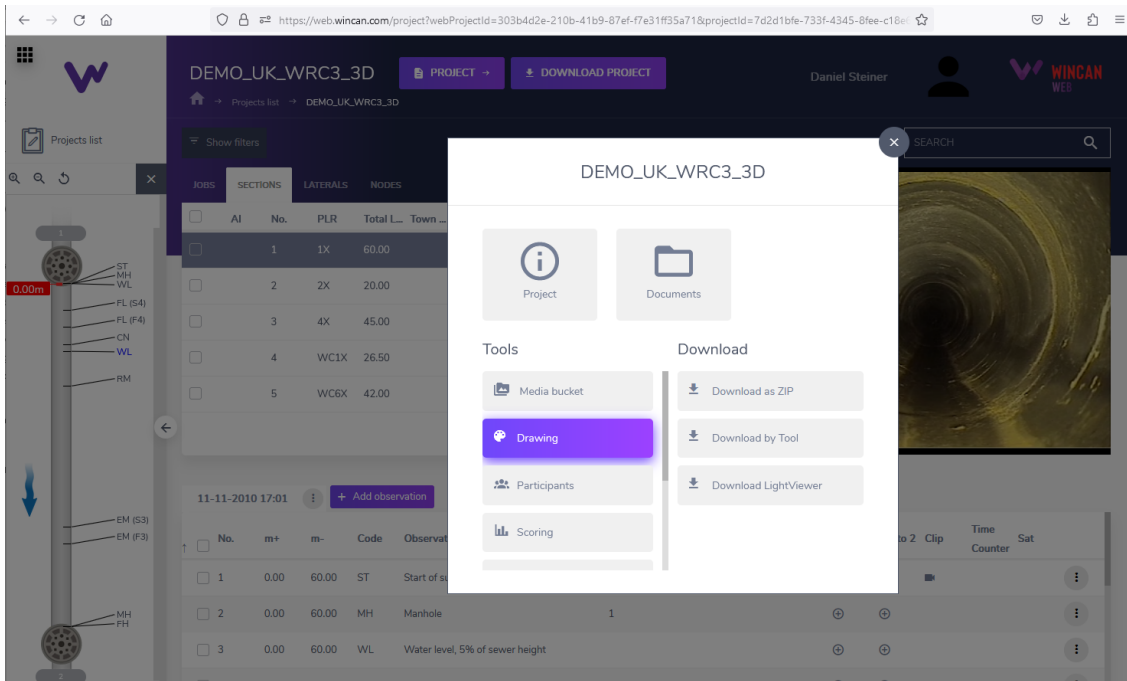
Department: Support
Street: Irsweg 12
Town or City: Murten

Company: CDLab AG
Description:
Contact:
Department: Support
Street: Irsweg 12
Town or City: Murten
County:
Post Code: 3280
Phone:
Fax:
Mobile:
Email:
Logo File: REMOVE
SAVE CANCEL
GO BACK

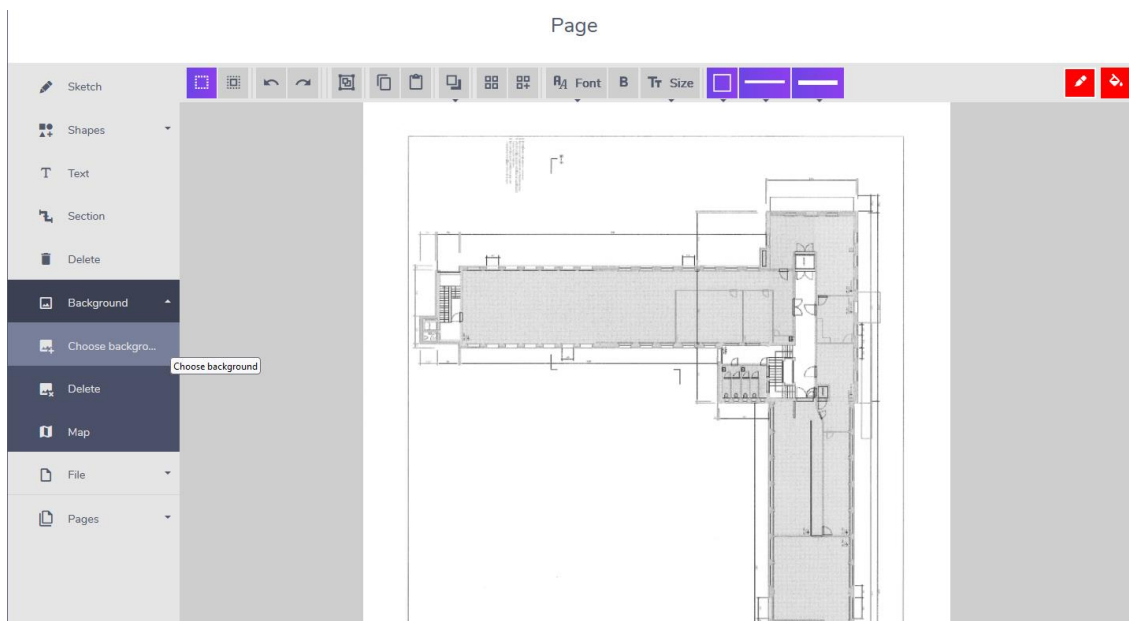
Assigned participants are marked accordingly in the column *Assigned*. Hitting the button *Go Back* (6) brings you back to the section list.

Add Project Drawing

It is always helpful for the end customer to get some information about the location of the inspected objects. Therefore you can launch the *Drawing* tool and load existing maps or plots which are often provided directly by the end customers as PDF JPEG or PNG files:



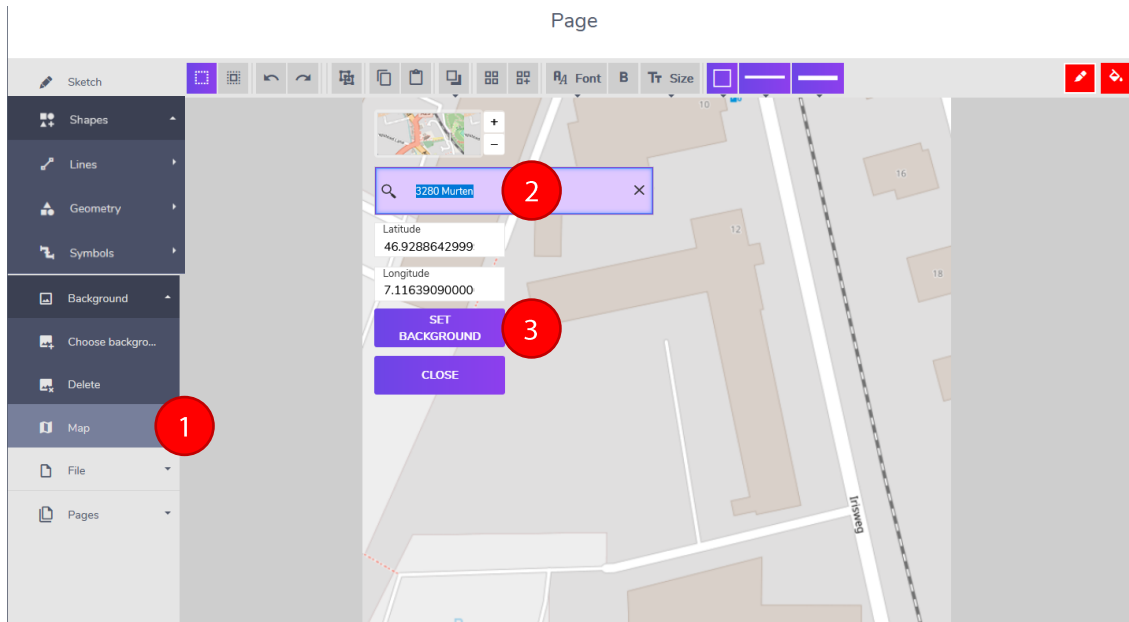
Run the command *Background > Choose background* to open the file explorer. Next browse for the file you want to import:



Background maps allow you to draw the exact location of the upstream and downstream node (manhole or connection point) based on the right scale so that the orientation of the section is set correctly.

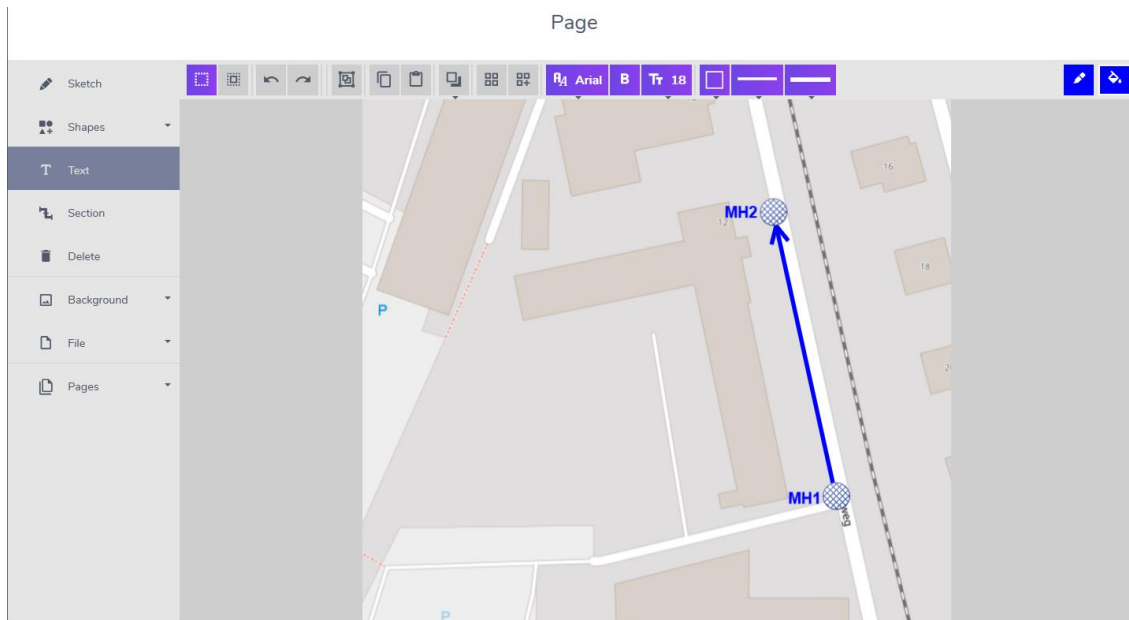
In case such background plots are missing you may use the service BING maps from Microsoft that is integrated in the *Drawing* application.

Hitting the command *Background > Map* loads the service BING maps. Next enter street name, ZIP code and town to zoom exactly to that specific area where the inspected pipelines are located. Finally confirm the map settings with the button *Set Background*:



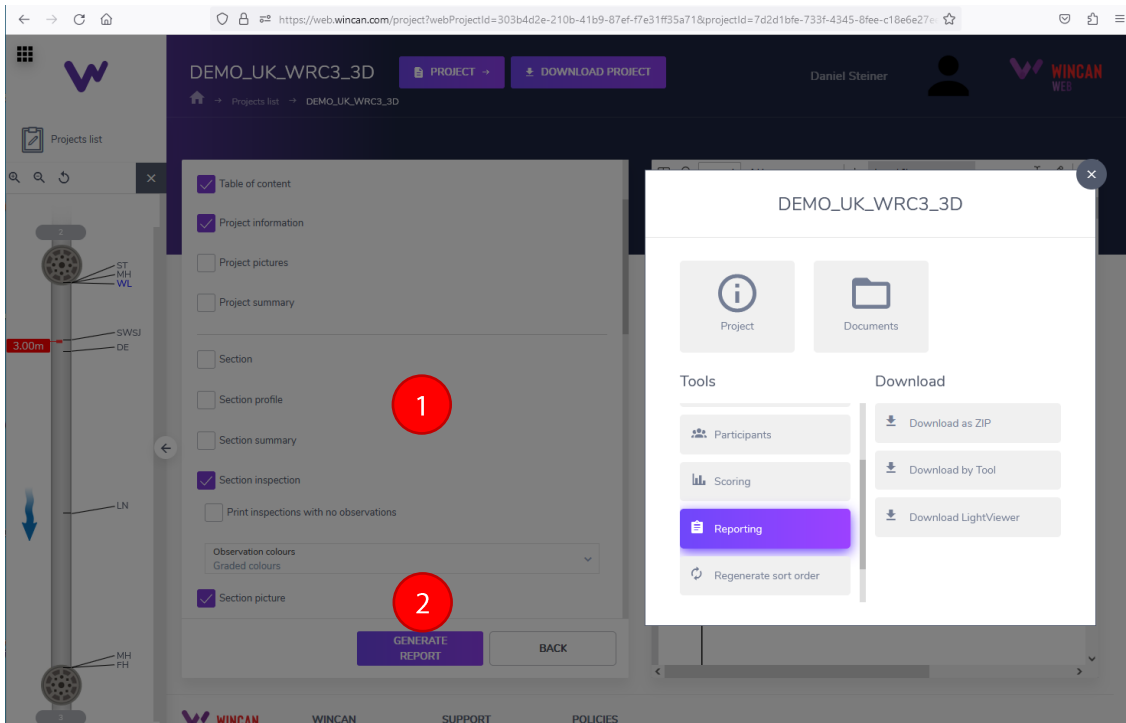
The section line and the manholes can be drawn using the tools *Shapes > Lines > Arrow* and *Shapes > Geometry > Ellipse* respectively.

The command *Shapes > Symbols* even provides predefined symbols for any type of connection point (manhole, inspection chamber, gully etc.). Complete your drawing with customized text fields you may set via the command *Text*:

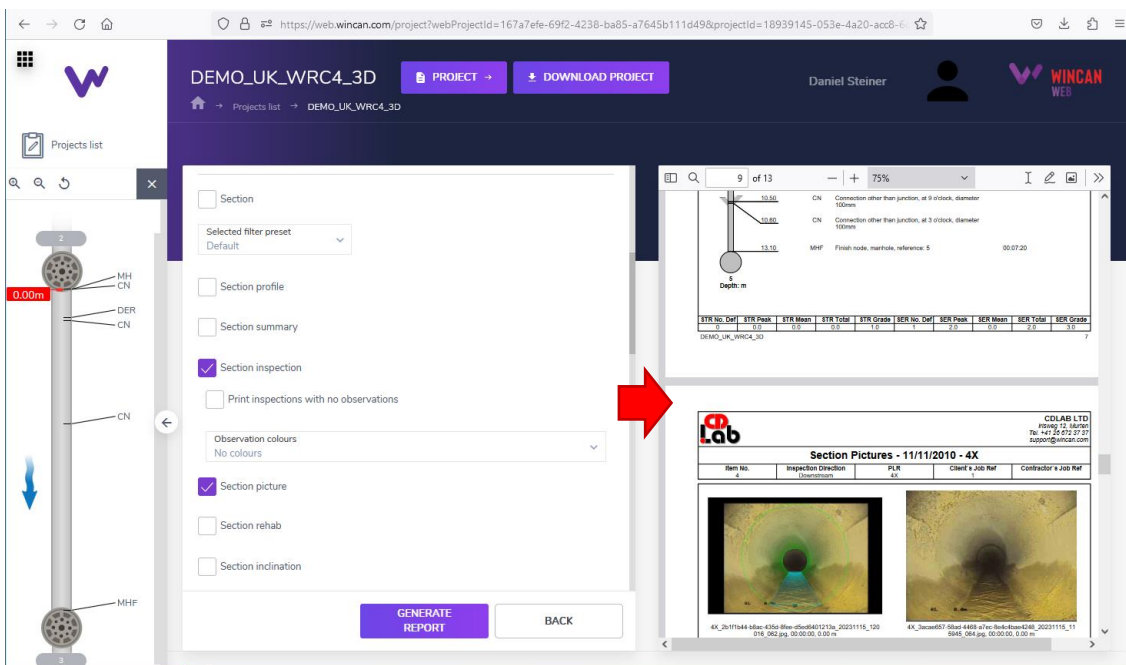


Printing report

You may even create a PDF report directly on the CLOUD using the command *Project > Reporting*. Next select the desired report pages on the left screen part (1) and finally hit the button *Generate Report* (2):



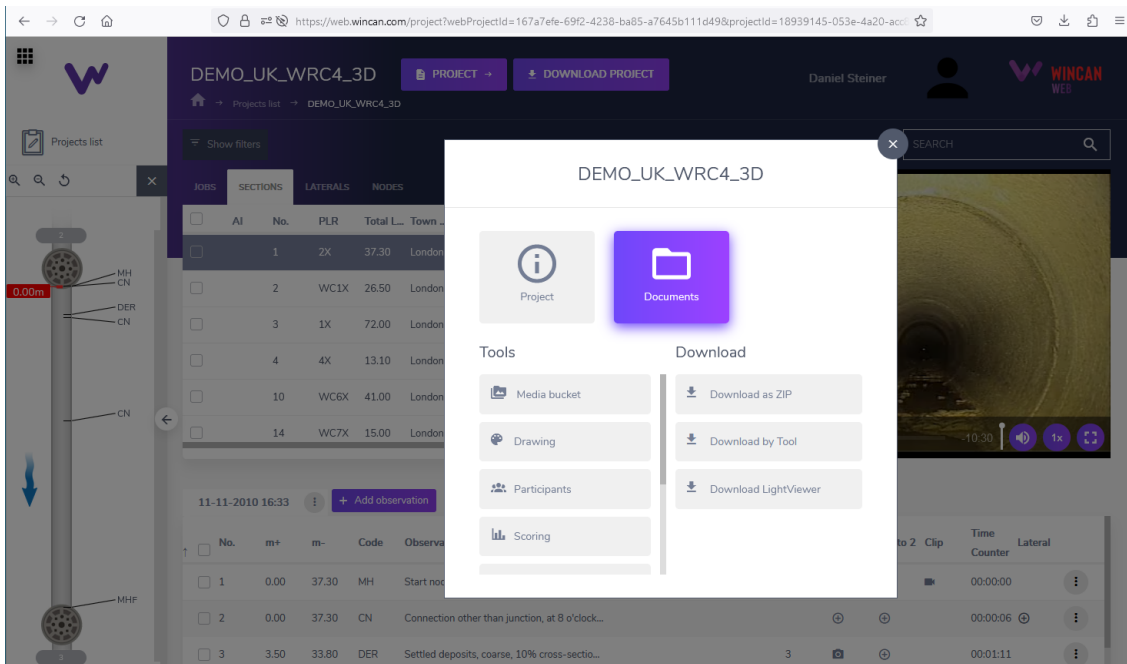
Be patient and wait a few seconds (or a few minutes for large reports) until the print preview has been loaded on the right screen part:



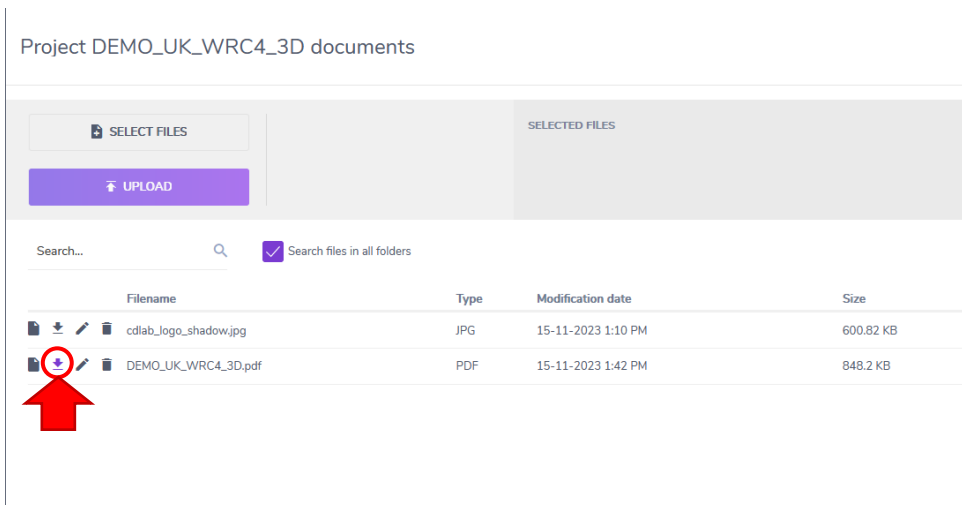
Please note that you will not have as many printing options for inspection reporting via WebFlex as if you created the same PDF-report in WinCanVX.

Direct access to PDF report

If you want to forward just the PDF report to your end customer, you can download it to your local hard drive and send it as an attachment via e-mail. The command *Project > Documents* opens a folder with all the documents referring to the current project (e.g. inspection reports, maps, project pictures etc.):



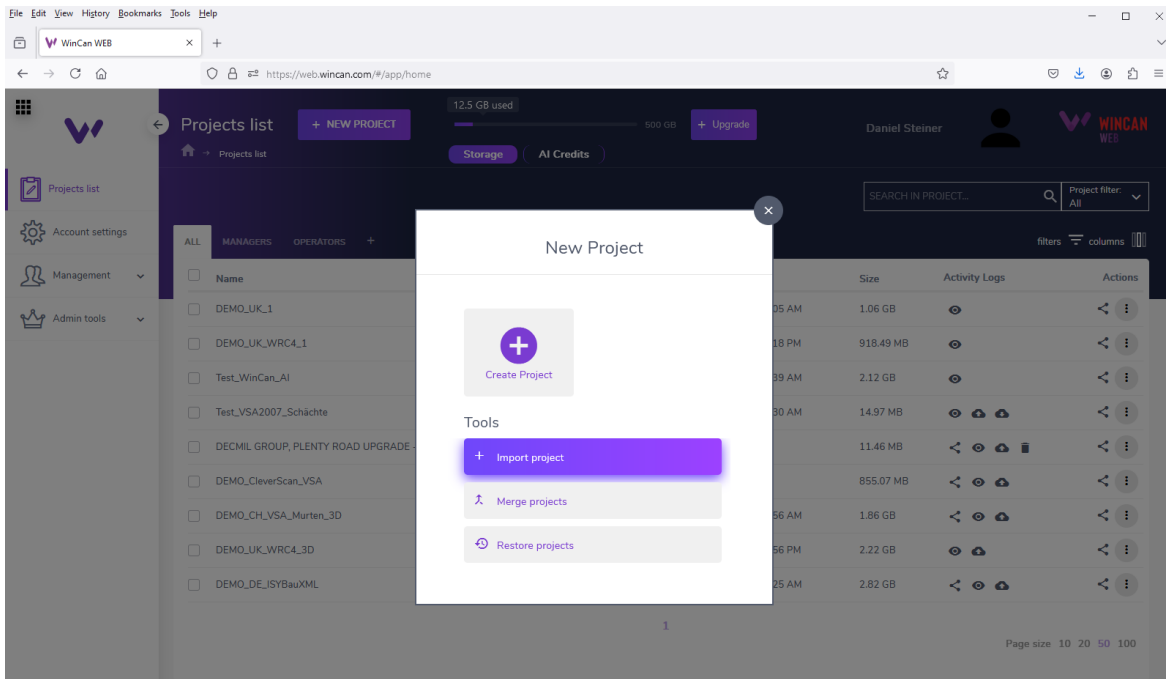
Hit the arrow icon as highlighted below to download the desired PDF report to the local hard drive:



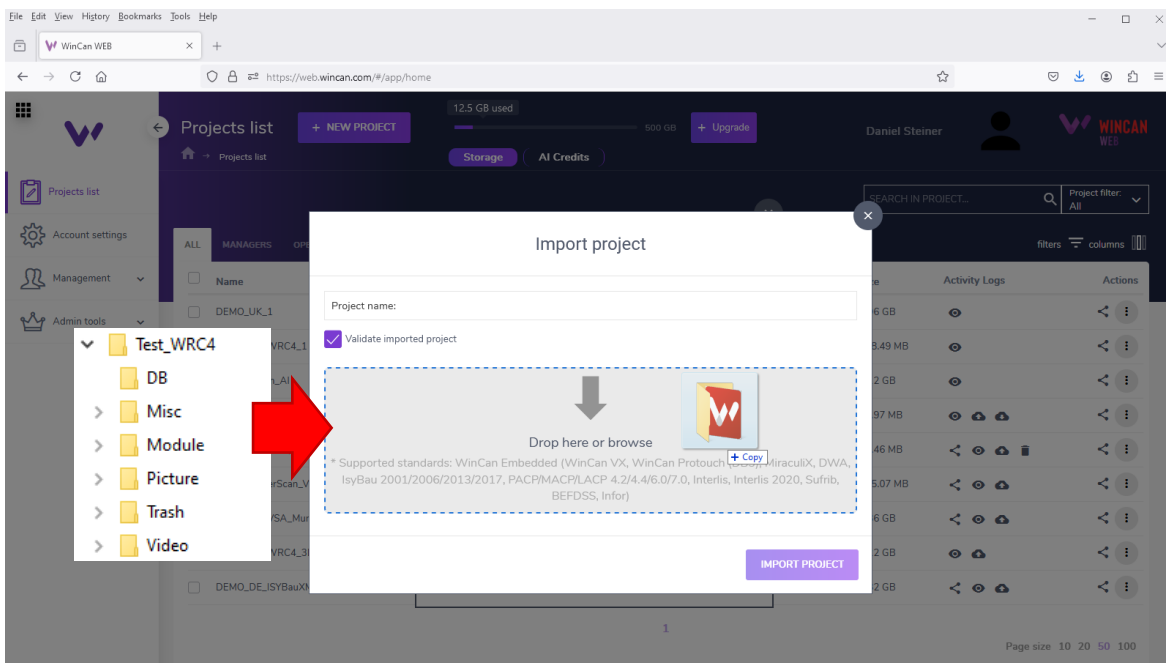
Data import

If you get projects that have been created on different mobile equipments using specific pre-installed software (*WinCanVX*, *WinCan ProTouch*, *VisionReport ProTouch*, *MiniCam ProTouch* etc.) you are also able to easily upload them to your workspace on the CLOUD via Drag and Drop.

Go to the project list hit the button *New Project*. Next click on the command *Import project* within the dialogue that follows:



Open the Windows Explorer and drag the desired project main folder in to the project bucket:



The name of the project main folder is automatically copied into the field *Project name*

Click on the button *Import Project* to start the project upload and wait until the whole process has finished:

Import project

Project name:
Test_WRC4

☒ Validate imported project

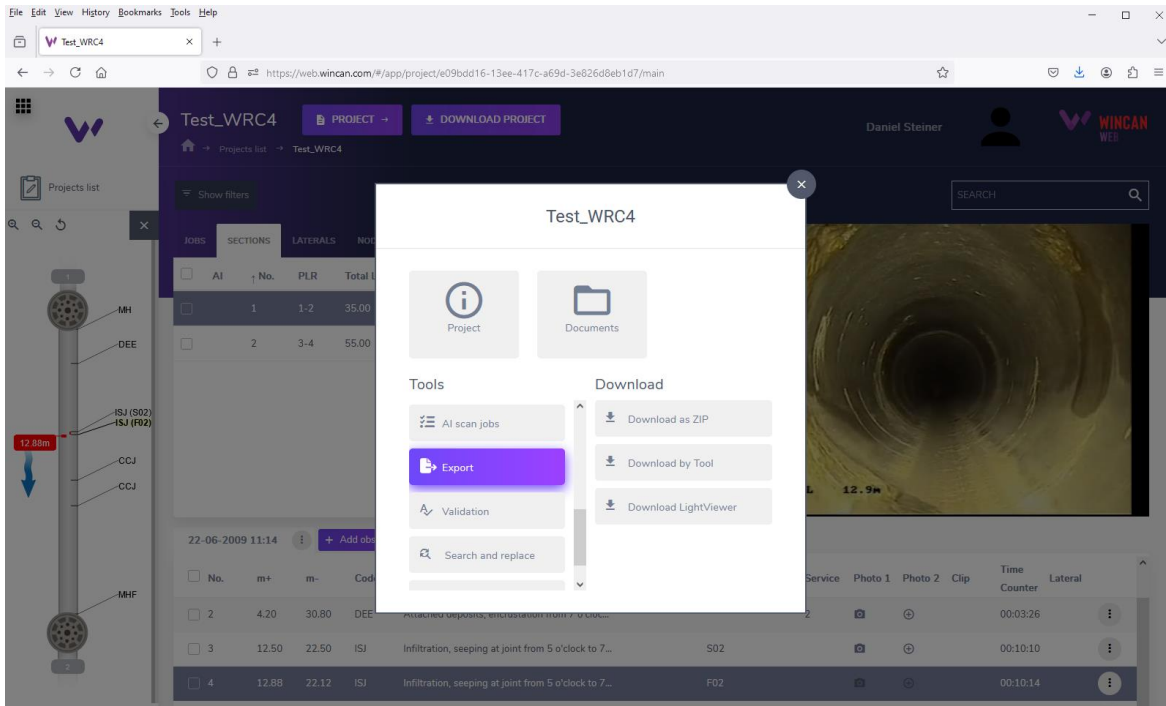
Current status: Uploading (51%)
1081/1084 (694.9 MB/1.3 GB)
Total progress: 26%

IMPORT PROJECT

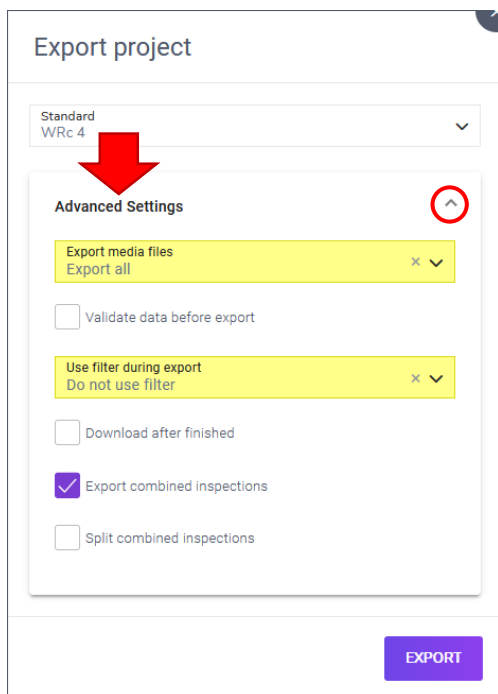
Uncheck the import validation to avoid error messages before or after upload.

Data export

If your end customer asks for project data in a specific file format (XTF, XML, TXT), just hit the command *Project > Export*, and run a data export of the currently loaded project:



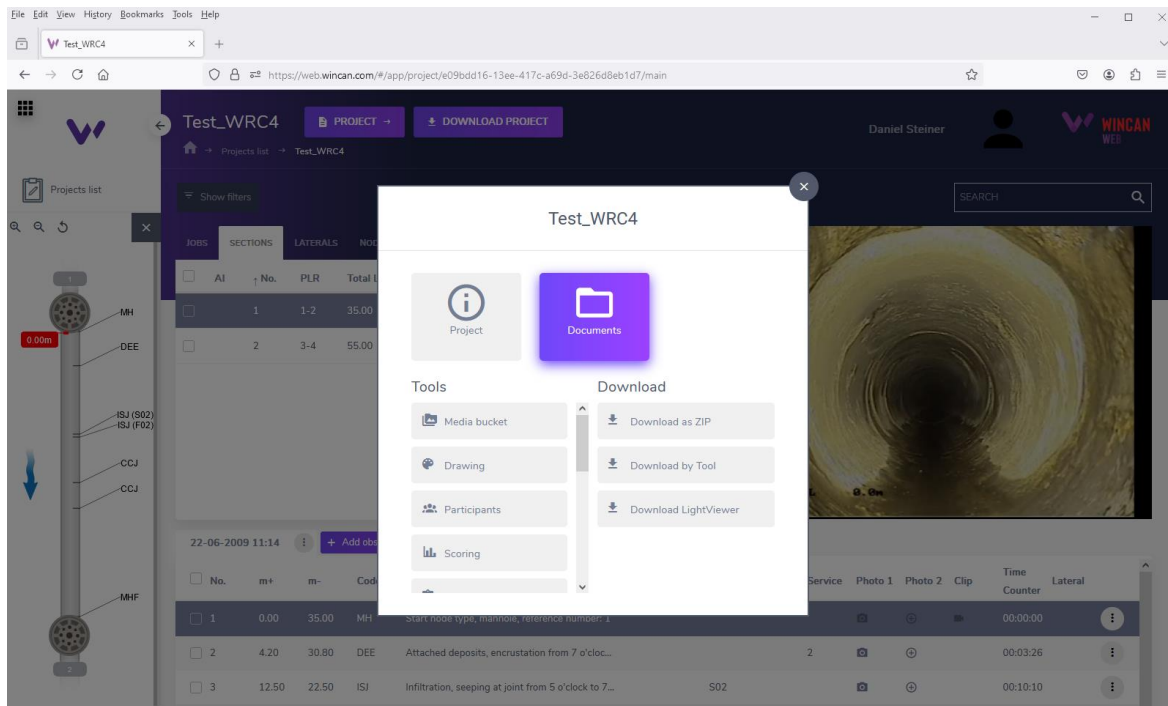
Select the export standard used in your country (WRC (UK), PACP (US), MOATA (NZ), EN13508 Standard (FR, IT)) and especially mind about selecting the export of the media files under *Advanced Settings*:



Activate or deactivate other export options if ever needed and click on the button *Export* to run the data export.

The data export may take some minutes depending on the project size, so be patient and wait until the whole process has completely finished.

Check the result of the data export hitting the command *Project > Documents*:



Data export files are always copied to the subfolder *Exchange* that you can open with one click.

Next select the export folder (1) to view the structure of the data export package (2) in detail:

