APPLIEDSTREETVIEW

Creator 6
Creator 6 Pro

Manual
version 6.0.19

Index

Creator 6

Creator 6 is the Applied Streetview Windows program to process the footage of the [Applied Streetview](#) cameras. It is available starting January 2021. It is the successor of Creator 5.

Creator 6 can be installed on a **Windows PC** for local processing, or in a **cloud**.
In a cloud it can be accessed by Remote Desktop Connection (RDP).
We tested Google Cloud, Amazon Web Services EC2 and Microsoft Azure.

Minimum requirement is a Windows 10 PC with an NVIDIA graphics card with 4GB VRAM and a [Compute capability of 5.2](#).

We recommend the **NVIDIA GeForce RTX 2060 Super** graphics card with 8 GB VRAM. Or better. It costs about 400 Euro. Relevant for performance is mostly the graphic cards' amount of VRAM. The more VRAM, the better the performance.

Main New Features

- New player inspired by **Mapillary.com**
  - Supports **Mapbox.com**
  - Made for **extremely large projects**. Like a whole country.
  - **No database** anymore.
  - **Works with any webserver** and cloud.
  - **Search** incl. geolocation.
  - **Asset visualisation** and description by URL.
- Easier to customise.
- Easier to integrate into websites and other already existing solutions.
- Creator 6 imports projects backed-up by previous Creator 5.
- Creator 5 imports project backups from new Creator 6. All Creator 6 features are ignored.
- Alternatively you can still generate the player known from Creator 5.

Cloud Publishing

Creator 6 runs on a local Windows 10 PC or in a cloud. It generates the New [Cloud Player](#) and publishes it to the cloud with a single mouse click. The New Cloud Player has been designed from scratch for very large projects with millions of streetviews. It has never been easier to prepare for your 15 minutes of internet fame. On top of this the cost is up to 80% lower than a player hosted in a datacenter. Also there is no maintenance for the Cloud Player.

Working with **Creator 6** is really easy. As part of our Software Suite it has the same layout as Creastor 5 and [all our other programs](#). Everything works the same way. Everything is to be found at the same place in all our programs and even the [Online Recording Management](#) service.

Alternatively you can continue using Creator 5 as-is.
However with the release of **Creator 6** in January 2021 there will only be security fixes for Creator 5.
All new features and improvements will be added to **Creator 6**.
In January 2022 we will stop supporting Creator 5.

Support for Creator 3 ended in January 2021.

Try Creator 6 for free

Creator 6 will work for two weeks for free with a Demo watermark.
You can install it in parallel to Creator 5. Just do not run them at the same time.

Copying projects from Creator 3 or Creator 5 to **Creator 6** is really easy:

Creator 3
- Backup all your projects
  Project Management -> Backup all projects
or
Creator 5
- Backup all your projects
  Projects -> Backup all projects

Creator 6
- Import the backup files
  Projects -> Restore Projects

Creator 6 project backups can be re-imported into Creator 5.
Changes made to projects in **Creator 6** can be transferred back to Creator 5.
New features added to **Creator 6** will be ignored by Creator 5.

Creator 6 project backups can **not** be re-imported into Creator 3.

Downloads
Creator 6 manual
Creator 6 program

Cloud Player Evaluation

For evaluation the new Cloud Player works out-of-the-box.
No cloud setup is needed.

Just pick a project and publish your first Cloud Player right away.
For evaluation the publishing Regions are limited to EU-Frankfurt.
After purchasing and switching to your own Amazon AWS account all other AWS Regions will be available to you.

Please notice Cloud Players created during evaluation can not be converted into your own Cloud Player. You have to upload all the data again.
For this please keep it small.
We will delete all evaluation cloud players after 4 weeks.

Creator 6 Pro

Creator 6 Pro is Creator 6 with additional features.
Enabled by the **Creator 6 Pro** licence key.
There is no need to download **Creator 6** again.

Main Features
- Run Creator 6 Pro by command-line for fully automated mass-production.
- Export and Import of project configuration for mass-production.
- Skip generation of streetview-tiles.

Downloads
The download is the same as for **Creator 6**.
Pro features are enabled by the **Creator 6 Pro** licence key.

Automation is a feature of **Creator 6 Pro.** It is not available in Creator 6.
Automation is not available with the 2-week trial licence you get by registering for the free trial of Creator 6.
Please contact [sales](#) for a quote and a temporary licence key to test **Creator 6 Pro.**
For the **Pro** features see the [Automation](#) chapter.

Recommended Setup

It is strongly recommended to create the following folders to organise your data**.**
Mandatory folders
In, Out, Creator 6 backups, Camera calibration files.
Set these folders up in Preferences -> Folders.
Camera calibration files have the .pto and .xml file extension.

Recommended folders
Masks, Logos, Export, Project configuration.
Create the folders manually to keep your data organised.

Increase Performance

With a NVIDIA graphics card with 8 GB VRAM you should get a performance of about **240.000 streetviews and streetview-tiles in 24h**.

For best performance we recommend a SSD for your data.
Both local HDDs and even NAS will work fine, just not as fast.
If you use HDDs, try to process from one HDD to another HDD to speed things up a bit.

We strongly recommend adding the following exclusions to Microsoft Windows **Virus and thread protection.**
It can make Creator 6 up to **three** times faster.
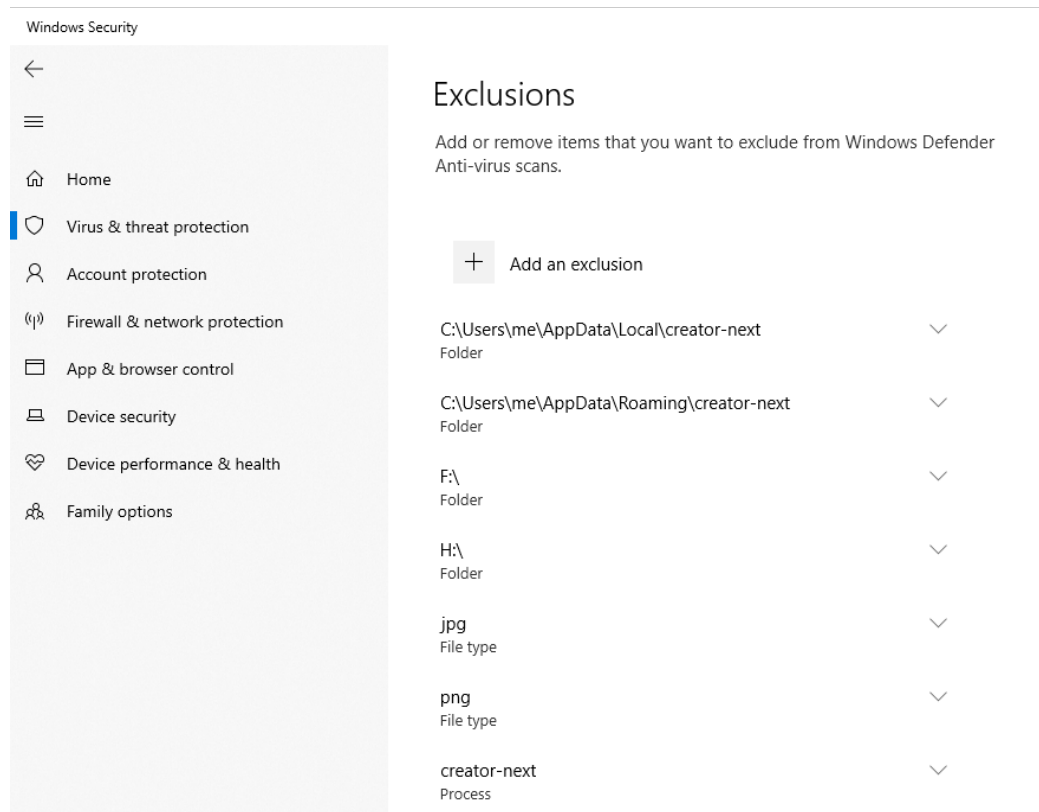
Please deactivate any third-party virus scanners.
Or apply the above settings correspondingly.

Projects

A list of all your Projects.

Add project

Click the **ADD** button in the top right corner.

Project folder
Specify the path to the project folder.

Project name
By default the project name will be taken from the projects folder name. This can be changed.

Click the **SAVE** button in the top right corner to add the project.

Open project

Click the project name to start working on the project. By default this will open the [Tours](#) page.

Edit project

Click the ⋮ button next to the project name and then on **Edit**.
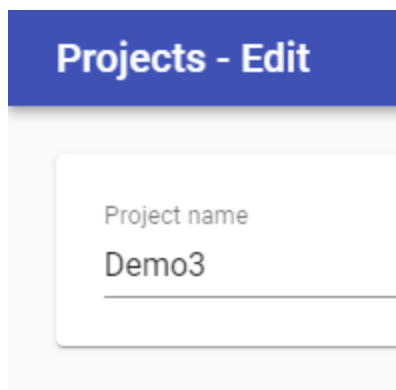
Project name
Adjust the project name.

Click the **SAVE** button in the top right corner to edit the project.

Delete project

Click the ⋮ button next to the project name and then click **Delete**.
Confirm the action.

Backup project

Click the ⋮ button next to the project name and then click **Backup project**.
to create a backup file of the selected project. Backup files are for safekeeping a project.

Export Configuration

Click the ⋮ button next to the project name and then click **Export Configuration**.
to create and export a configuration file of the selected project. Configuration files are
for the **Creator 6 Pro** [Automation](#) feature.

More ⋮

Backup all

Click the **Backup all** menu item to create a backup of all the projects and save them to
the **Creator 6 Backups** folder. This should be done weekly.

Import backups

Click the **Import backups** menu item to import a project from a backup file. One or
many backups can be imported at a time.

Add project from configuration

Click the **Add project from configuration** menu item to add a project from a
configuration file. This is for the **Creator 6 Pro** [Automation](#) feature.

Tours

A list of all the tours of a Project.

Show on map

Click the tour name to show in the [Map](#) page.

Change Serial

Select one or multiple tours.

Set Serial number

Serial number
200000000

CANCEL   OK

Provide a new serial number and click the **OK** button.

Change Folder

When migrating backups from one PC to another or when the project's folder is moved - select all the tours and Click **CHANGE FOLDER** button. Then select the new **Project** folder.

If the project has tours that have been moved or copied from a different project, select each tour group individually and Click **CHANGE FOLDER** button and select the new **Project** folder.

Move

Moves selected tours to a different project.

Copy

Copies selected tours to a different project.

Backup

Backup selected tours.
Source photos will not be backed up.

Delete

Deletes the selected tours from the project.
Source photos are **not** deleted.

Restore

Click the **RESTORE** button in the top right corner to import a tour backup. One or many tour backups can be imported at the same time.

Add

Click the **ADD** button in the top right corner to add one or multiple tour folders to this project.
E.g. when additional footage has been recorded months later.

Map

Cluster	●
Streetview	▲

In order to display a large amount of streetviews on the map, Creator 6 clusters nearby streetviews together, depending on the current map zoom level.
A cluster is basically a collection of streetviews.
Clusters are displayed for zoom levels 0 to 19 only. Not for zoom levels 20 , 21 etc.

Change map base layer

Click the ◆ button in the top left corner to change the map base layer.
Esri.WorldImagery is the default. Select a different provider from the list. Or provide your own custom map tiles by clicking the ⚙ button.

Custom map tiles

The slippy map tiles format is supported with both Google/Bing/OSM tile coordinates and TMS.

Label
Your custom tile provider name

URL
The URL can point to either an online resource like:
http://**www.your-company.com/map-tiles**/{z}/{x}/{y}.png

Local
A local folder or NAS drive:
file://**D:\folder**\{z}\{x}\{y}.png

Change the bold parts of the address.

{z} is the zoom level, and {x} and {y} are the coordinates of the top left corner of the tile in web mercator projection. For the TMS format use the {-y} placeholder.

Attribution

Copyright information displayed at the bottom of the map.

Mapbox

Mapbox is available for both the New Player and the Legacy Player.
Check Mapbox section for instructions on how to add your own style.

Display

Show or hide active and deactivated streetview icons.

Usually more footage than needed is recorded.
The Duplicate Remover and the Separation tool as well as manual deactivation on the map page can be applied to reduce the number of streetviews to be published.

Activated streetviews have a **white** outline.
Deactivated streetviews have a **grey** outline.

Tours

Show the selected tours on the map.

Click **ALL** to center the map on all the tours.
Untick to hide all tours. Then tick selected tours to show only them.

Timeline

Only available when there are timelines.
Show the selected timelines on the map.
Click **ALL** to center on all the timelines.
Untick to hide all timelines. Then tick selected timelines to show only them.

Select streetviews

Most of the actions like activate/deactivate, move, rotate, assign a road name or POI
are performed on one or many selected streetviews.

Click a streetview to select it. A selected streetview will change its color to orange.
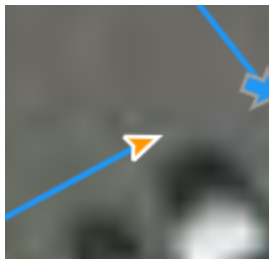
It's possible to select multiple streetviews by holding down the CTRL key when clicking
on the streetviews.

Holding down the SHIFT key and then drag the mouse to select all the streetviews in a
rectangle.
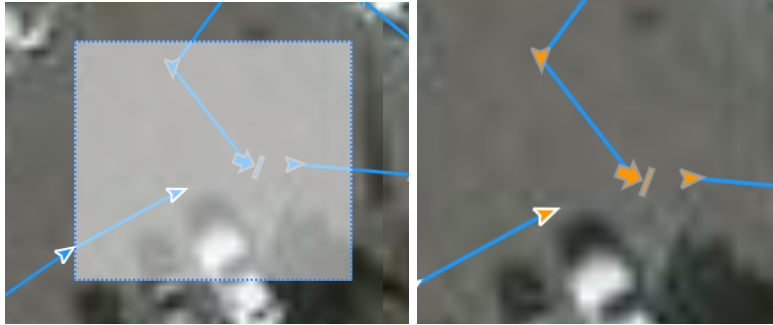
To select all the streetviews from first to last and everything in between, select the first streetview, then while holding down the ALT key, select the last one streetview.

To deselect click anywhere on the map or press the **ESC** key.

Deactivate and Activate

Select the streetviews.
To deactivate selected streetviews click the **DEACTIVATE STREETVIEWS** button.
To activate selected streetviews click the **ACTIVATE STREETVIEWS** button.

Meta Data

Check the metadata for a selected streetview.

This panel will only be shown if a single streetview is selected.

It is not available for clusters.

Information	^
Tour	camera-20180408-140357
Image Number	9
GPS Date	2018-04-08 12:04:13
Local Date	2018-04-08 14:03:55
Latitude	50.001144 °
Longitude	8.651546 °
Height	125.95 m
Heading	56.21 °
Speed	24.18 km/s
Release Mode	Distance 5.0 m

Road
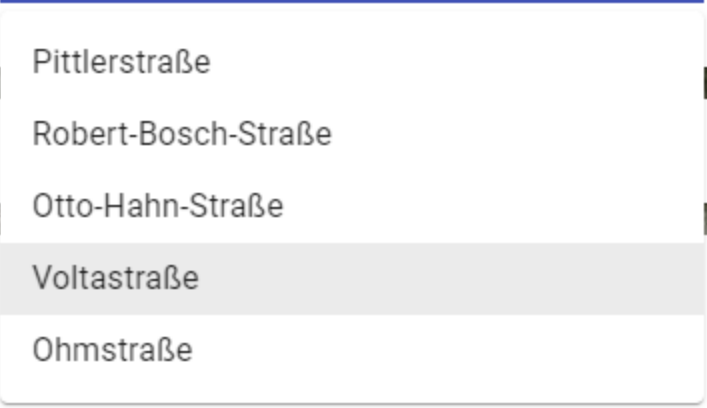
Enable **Show Road on Map** to display the road name as a label for each streetview.

Select all streetviews with the same road name
Select and zoom to a specific road by selecting it from the list in the panel.

Assign a road name to a streetview(s)
Select streetviews on the map to assign a road name to them.

Type the name of the road in the text box and click the **UPDATE STREETVIEWS** button.

POI

Enable **Show POI on Map** to display the POI name as a label for each streetview.
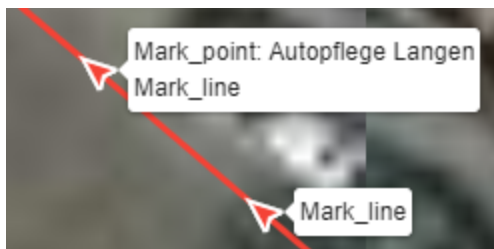
Select all streetviews with the same POI name
Select and zoom to a specific POI by selecting it from the list.

Select POI

Mark_point: Autopflege Langen

Mark_point: Kluge Luftfilter

Mark_line

Mark_point

Mark_point

Mark_line: New road surface

Mark_point

Assign a POI name to streetview(s)
Select streetviews to assign a POI to.

Type the name of the POI in the text box and click the **UPDATE STREETVIEWS** button.

If a single streetview is selected, a POI of type point will be assigned the new name.
If multiple streetviews are selected, a POI of type line will be assigned the new name.

Overlay

Add a vector overlay to the map.
Supported formats: KML.

Click on the clear button ✕ next to the overlay name to remove it from the map.

Overlay ^

Add a vector overlay to the map

CHOOSE FILE 📄

kml_WGS_84.kml   ✕

Level

Select a single streetview to open it in the Imagery pages **Leveling and brightness** tab.

Level ^

OPEN IN LEVELING AND BRIGHTNESS

Keyboard shortcuts

Mouse	Move all selected streetviews
ESC	Unselect all selections
CTRL + A	Select all streetviews visible on the map
Click an arrow	Select a streetview
Hold CTRL + click a Streetview	Add a streetview to the current selection
Shift + draw rectangle	Select all the streetviews in the rectangle
Hold CTRL + SHIFT + draw rectangle	Add all the streetviews in the rectangle to the current selection
Hold ALT + click a Streetview	Line selection. Having a streetview selected hold ALT then Click a second streetview to select it and all the streetviews in between.
CTRL + L	Align all selected streetviews in a straight line.
DELETE	Deactivate all selected streetviews
INSERT	Activate all selected streetviews
HOME	Rotate all selected streetviews counterclockwise
END	Rotate all selected streetviews clockwise
PG UP	Go to the next streetview
PG DOWN	Go to the previous streetview
Arrow keys: Up, Down, Left, Right	Scroll the map.

Duplicate Remover

Removes duplicate recordings from roads recorded more than once.

We recommend recording with the Distance Mode set to 5m or less. E.g. 1m.
You can always deactivate excessive footage with the [Separation](#) tool after applying the Duplicate Remover. Make sure to run the [Separation](#) tool after Duplicate Remover for best results.

Process target
(Visible only when there are timelines)
Process either the selected tours or process the selected timelines.

Keep footage

Older - Provides best results for most situations.

Keeps the existing, older, streetviews (blue), adds new (red) streetviews for newly recorded roads.

Newer - Replaces existing streetviews (blue) with newer footage (red).

The overall data will be more up-to-date.

Disadvantage: When driving into a dead-end road, you get the bad footage from reversing out of it.

Road width (m)
Base setting.

Consider Altitude (m)
By default the altitude is ignored when detecting duplicates.
Try it when there are many bridges and tunnels.

Deactivate manually activated streetviews
By default manually activated streetviews are not deactivated by the Duplicate
Remover. Enable this option to force them to be deactivated.

Start
Start removing duplicates in streetviews.
Try a few times to find the optimum settings for your footage.

Reset
Reset all streetviews deactivated by Duplicate Remover and [Separation](#) tool.

Imagery

Watermarks

Add watermarks to the streetview. Changes can be previewed in the [Leveling and brightness](#) tab. During the free trial period the watermark is fixed to **DEMO.** It can not be changed or removed.

Add watermark
Enable watermarks.

Text
Watermark text.

Font
Pick a font for the watermark. The list of fonts is taken from C:\Windows\Fonts.

Size

Watermark text size.

Opacity

Watermark text opacity.

Number of watermark columns

How many watermark columns to show. (left-right).

Number of watermark rows

How many watermark rows to show. (up-down).

Add mask

Enable to add a mask to hide the car's rooftop.

Technically it is a transparent PNG image merged to the streetview.

Mask path

Path to the mask PNG image. Create your own mask file.

A Nadir logo can be added as a mask. Click [Nadir logo](#) and follow the instructions.

A sample mask can be found in

C:\Program Files (x86)\Creator\masks\example-car-roof-mask.png

Nadir Logo

A Nadir Logo is the only annotation Google allows when uploading streetviews as Photospheres to Google maps/streetview.

Add your company's logo to the Nadir (bottom) of your streetviews.
In **Creator 6** Player Preview it looks like this:
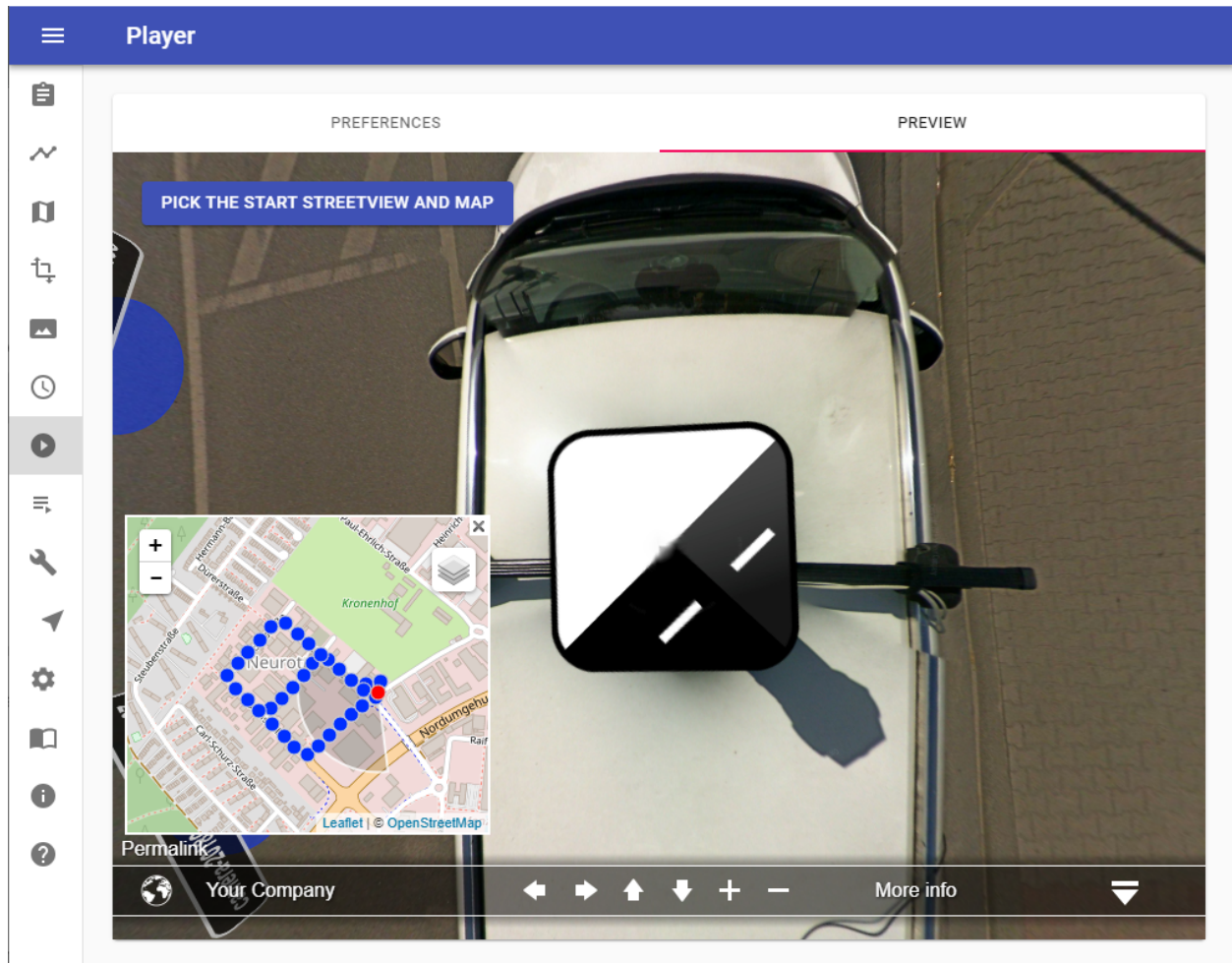
You have to change the value of Player - Preferences - **Look down limit (degrees)** from the default -50 to -90 to actually see the Nadir logo.

For your convenience change **Maximum Zoom Level** from default 120 to **150**. This way you can see the result better.
Change it back both when done reviewing.

Google Policy

When publishing to Google Streetview with our [G-Publisher](#) program it often is desirable to add your company's logo to the Nadir (bottom) of your Streetviews.

You can not have your company's logo displayed in the top right-hand corner of the screen like with all the Applied Streetview players.

This is the only annotation Google allows for in its Contribution Policy:

> [Maps User Contributed Content Policy Help](#)
> *For 360 photos, superimposed content must be limited to either the zenith or nadir (top or bottom 25% of the equirectangular image), but cannot be present in both.*

Logo

Have your logo at hand.
Recommended minimum size is 300 px x 300 px.
Supported formats: png, jpeg, tif

Hint:
Color logos will be automatically made into grayscale logos during processing. This can not be changed.

Mask

Download and save the provided mask template to your PC.
https://aplsv-new.s3.amazonaws.com/green-screen-template.jpg

Add Logo to Mask

Go to https://nadirpatch.com/logo2sphere/

1) Drop your logo image onto **Logo** or select it to upload.
2) Drop the downloaded the green-screen-template.jpg file onto **Equirectangular projection** or select it to upload.
3) After upload is complete click the **Create** button in the top right corner.
4) After the image is created click the **Download** button in the bottom right corner. Download and save the **pano.tif** image.
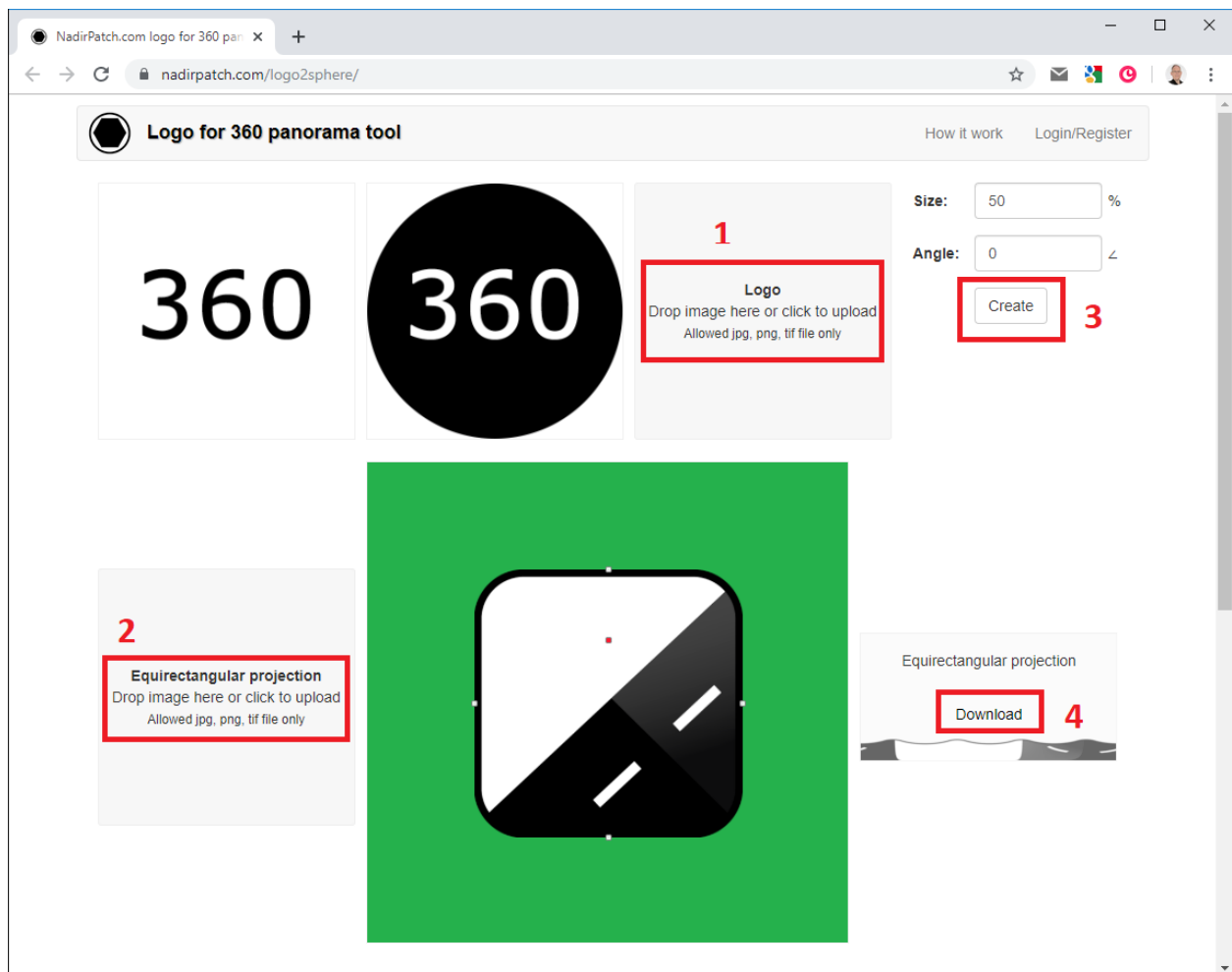
Set Transparency

On your PC right click the **pano.tif** image then select **Edit with Paint 3D**.
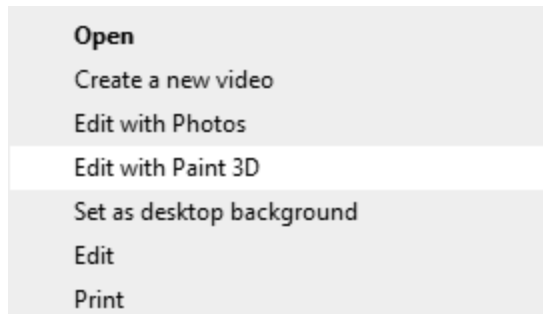
In the top navigation bar Click **Canvas** and then enable **Transparent canvas**.
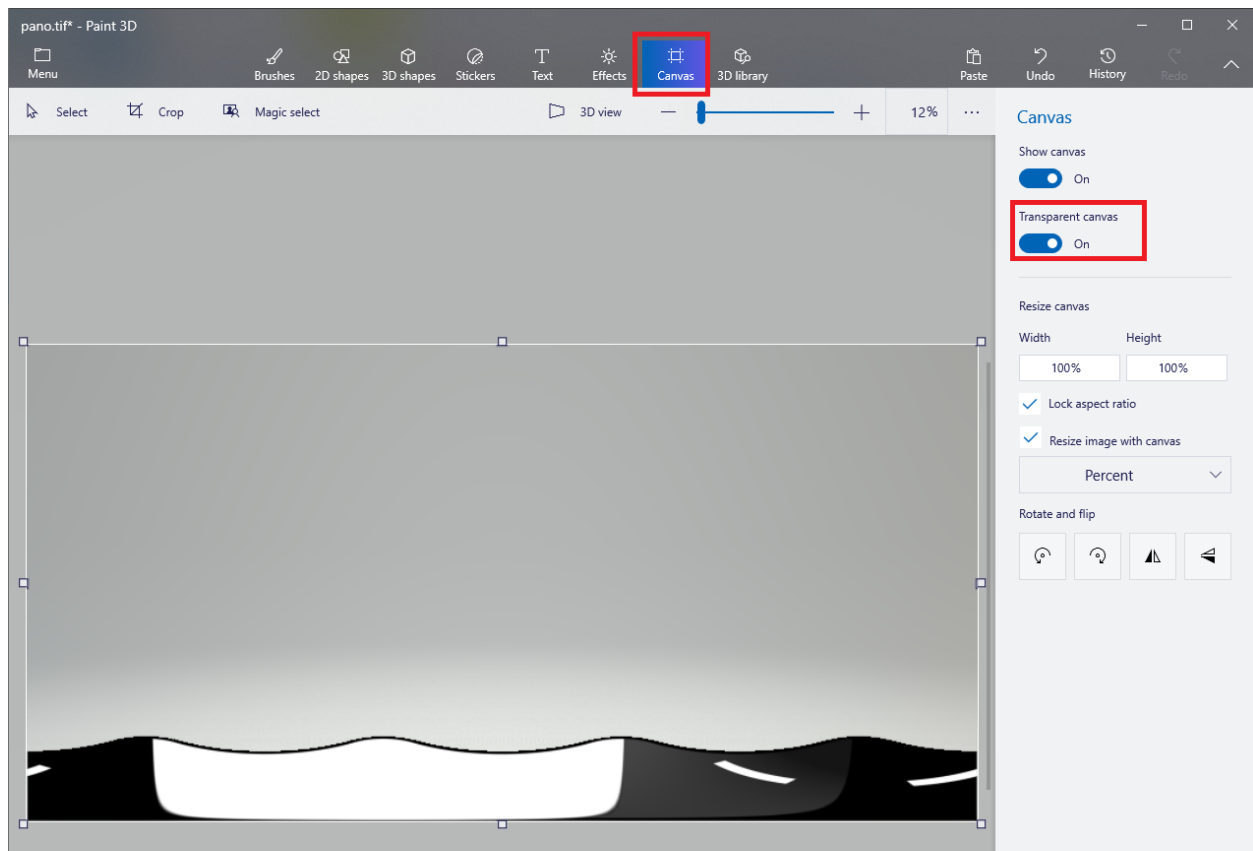
To save press CTRL + S then Click **Image**.
Change Save as type to **2D PNG** then click **Save**.

pano.png is now ready to be used as a Mask in Creator.

Apply the Mask

In your project go to [Imagery - Watermarks](#) and activate the mask and set it to the new **pano.png** file.

Result

By default all our players are configured to not allow you to look down to see the logo you just added.
To change this, go to Player - Preferences - Streetview
Change **Look Down Limit** from default -50 to **-90**.
For your convenience change Maximum Zoom Level from default 120 to **150**. This way you can see the result better. Change back both when done reviewing.

Check what it looks like in Player - Preview:
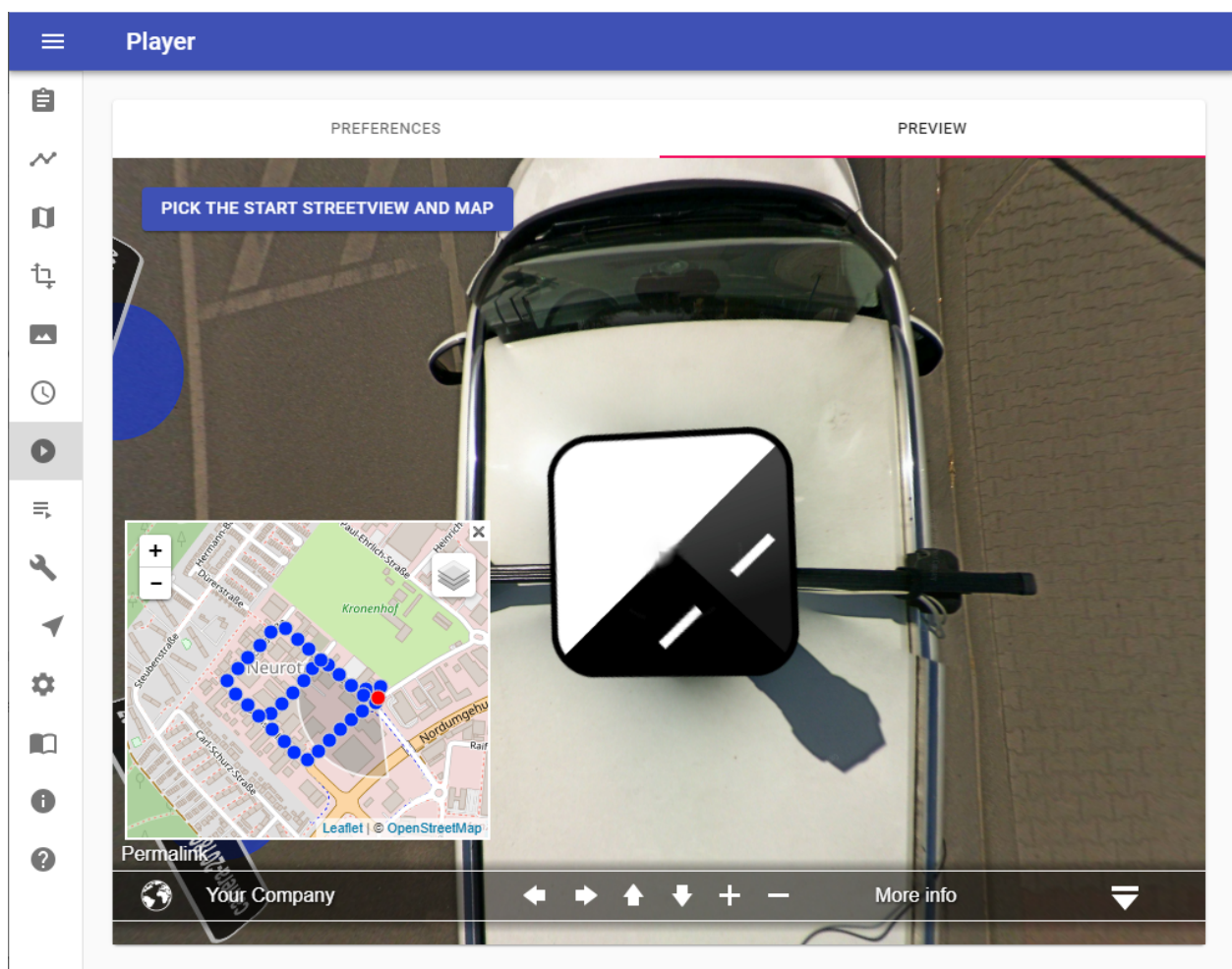
You now can process to create the 8192 x 4096 pixel streetviews needed to upload to Google streetview later with our G-Publisher program.

Leveling and brightness

Adjust for the angle between the camera on the car's rooftop and the leveling sensor inside the car.
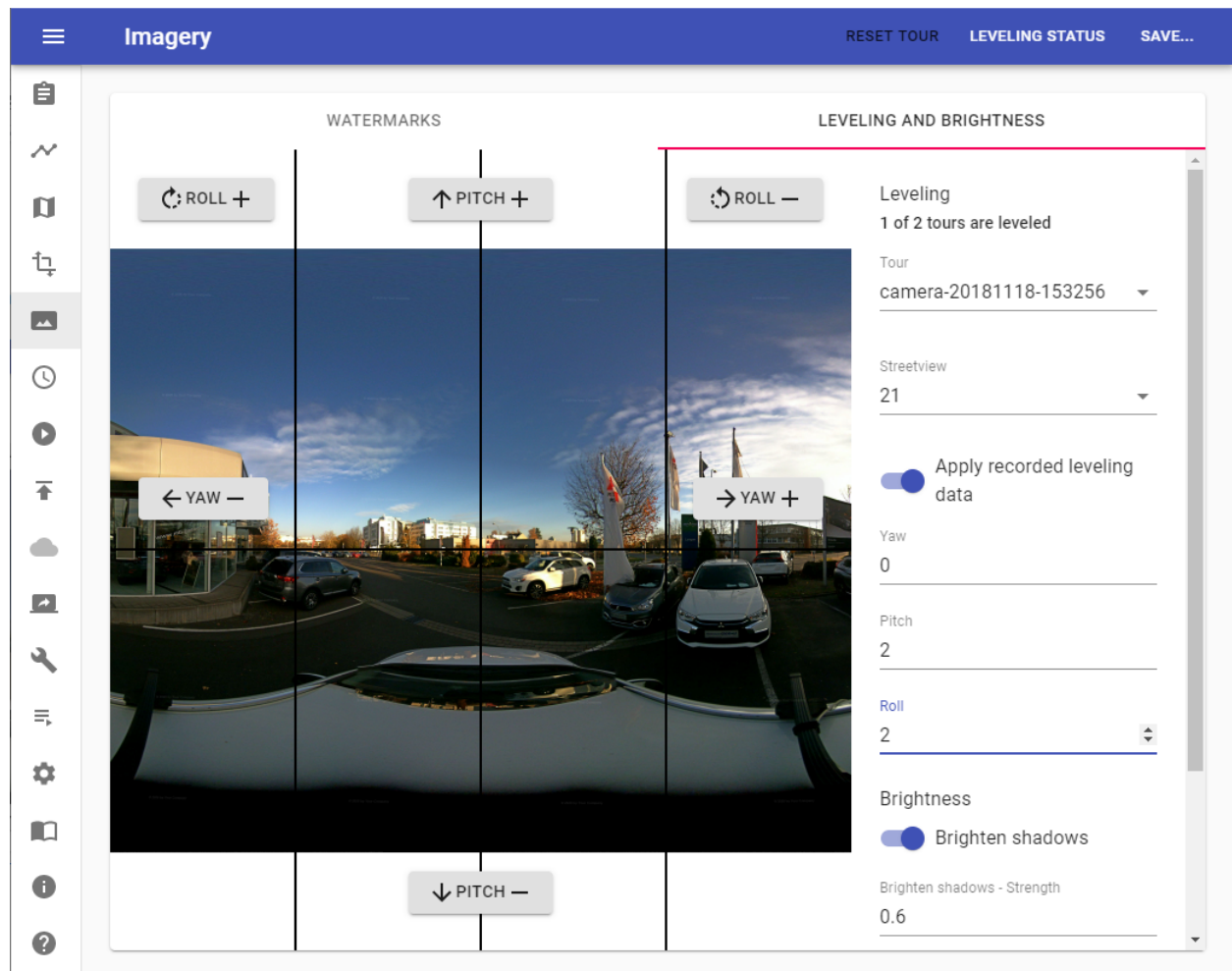
Leveling

In a perfect world
- the camera would be mounted 100% vertical.
- the leveling sensor would be mounted 100% horizontal.
- both would look forward, into the exact same direction.

In the real world this does not happen.

Because of this you need to adjust for the three angles between the camera and the sensor. Use the Pitch+, Pitch- and Roll+, Roll- buttons to adjust until the streetview looks leveled.

Alternatively you can directly enter numerical values into the fields on the right.

Check your findings with a few other streetviews of the same tour by entering a different number into the Streetview field.

In the top right corner click the **Save…** button and then:

Click the **Save to all tours** button to save the values to all the recorded tours.

Click the **Save to all tours of the same day** button to save the values to all tours recorded the same day as the current tour.

Click the **Save to all tours of the same timeline** button to save the values to all the tours that have the same timeline as the current tour.

If both the camera mount and the snap-in holder for the leveling sensor are kept mounted to the car all the time, you can use the same settings for all tours from many different recording days.
Click the **Save to all tours of this project** button to save the values to all tours of the project.

Leveling
If enabled log data from the recording are applied.

Yaw, Pitch, Roll.
Angles between the camera and the leveling sensor.

Brightness

Brighten shadows
Enabled automatic brightness adjustment for shadows.

Brighten shadows - Strength
Amplifies dark pixels to the threshold level. Value between 0.1 and 1. Default is 0.6.

Brighten Shadows - Threshold
The automatic brightness adjustment will be applied to areas where average brightness is less than the threshold. Value between 0.1 and 1. Default is 0.4.

Exposure

Adjust image exposure.

0 No change

5 Maximum exposure.

Default is 0.

Leveling Status

Click the **Leveling Status** button in the top right corner.
You can see the Yaw, Pitch and Roll values of all tours at once as well as how many tours are leveled.

Reset tour

Click the **Reset tour** button in the top right corner.
Resets the values of the current tour to its defaults.

Timeline
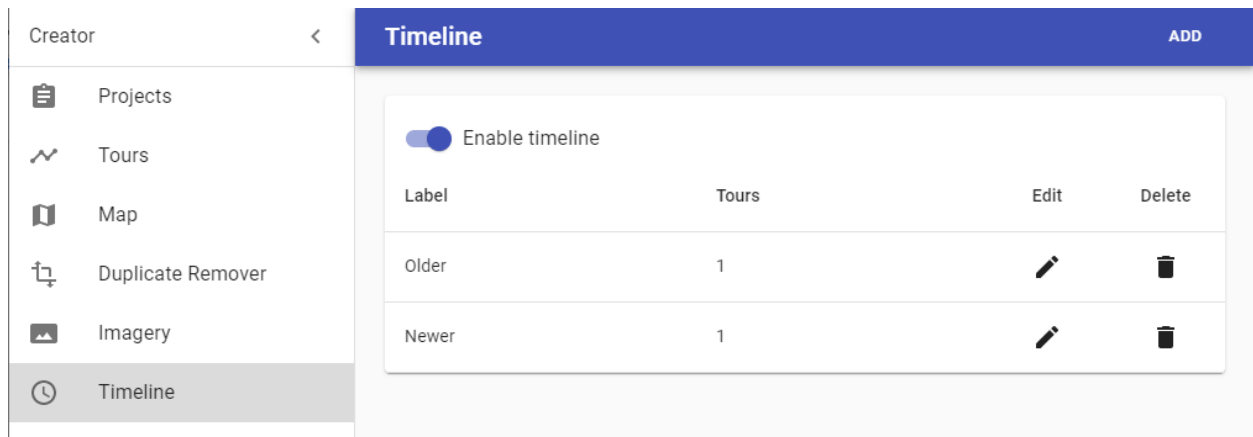
Record the same road or area multiple times to document change.

Create a few timeline labels, such as **Older** and **Newer** or dates like **2018** or **2019**.
Assign one or many tours to each timeline label.

The user will then be able to pick the labels in the player.

It looks like this:
http://players.applied-streetview.com/Timeline/

After assigning all tours to timeline labels you can use the Duplicate Remover to sort out duplicates in each timeline.

Enable timeline
Enable the timeline feature
Add
Click the **Add** button in the top right corner.
Set a **Label** for the timeline and which **Tours** belong to this timeline then click the **Save** button in the top right corner.
Edit
Click the ✏ button next to the timeline.
Modify the **Label** of the timeline and which **Tours** belong to this timeline. Then click the **Save** button in the top right corner.

Delete

Click the ⬛ button next to the timeline then confirm the delete operation.

New Player

Creator 6 comes with new **Player 2** enabled by default. Click on the **Preview** tab to check how your existing project looks with **Player 2**.

To use the **Legacy Player**, switch to it in the top right corner of the Player section.

Player	Legacy Player
PREFERENCES	PREVIEW
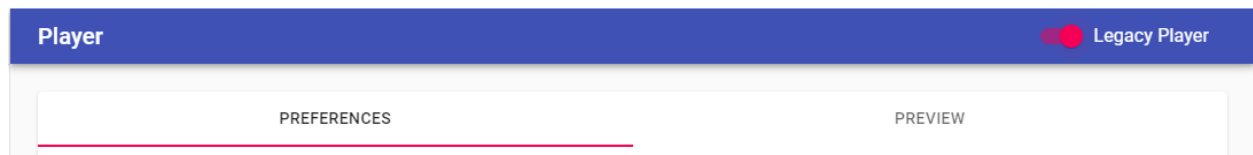
Preferences

General

Title	Demo3
Search	⬤ (on)

Layout

Fullscreen	Streetview
Popout minimized	◯ (off)

Logo

Large logo

Small logo

Large logo path   CHOOSE FILE

Small logo path   CHOOSE FILE

Click URL

Click URL target   Opens the linked document in a new window or tab. Value: _blank

Streetview

Minimum zoom limit (degrees)   50

Maximum zoom limit (degree)   120

Look down limit (degree)   -50

Look up limit (degree)   50

Hotspot label   Auto

Show image capture date

Streetview navigation

Enabled	⬤ (on)
Automatic start	⬤ (off)
Wait time	0
Speed	1

Map

Default Map Provider	**ESRI.WORLDIMAGERY**

Preview streetview on mouse over	⬤ (on)
Zoom level indicator	⬤ (off)

Mapbox

If you have your own custom data and would like to add it to the Player, [Mapbox](#) provides an easy way to do it.

Mapbox

Map provider label	Mapbox streets
Style URL	mapbox://styles/mapbox/bright-v9
Access token	
Map data legal notices	<a href="https://www.mapbox.com/abou

Map provider label

Text for the map provider in the Player - base layer selection panel.

Style URL

To get the URL of your style, in Mapbox studio click on the ⬀ Share button in the top right corner and then copy the value of **Style URL** field.

Access token

To get the URL of your style, in Mapbox studio click on the ⬀ Share button in the top right corner and then copy the value of **Access token** field.

Map data legal notices

Custom map data legal notices

Translations

The defaults shown below will be used except you enter something else.

Map

Translations

Link has been copied to clipboard

Sharing

Search

Minimize

Fullscreen

No streetviews nearby in {timeline} timeline.

Preview
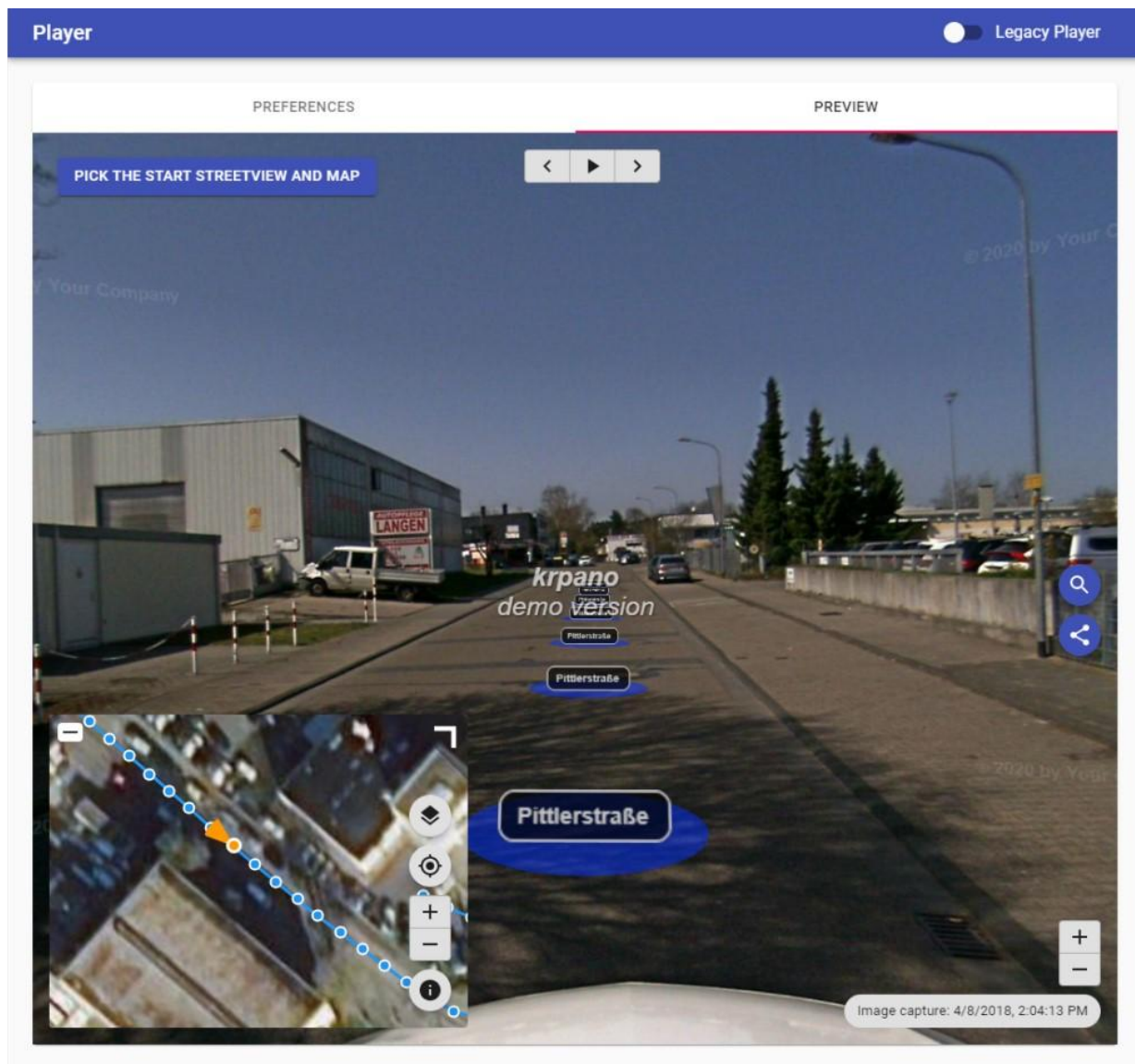
Press CTRL + SHIFT + H to toggle hotspot visibility.

Assets Visualisation

Have the player show your geo-referenced assets by a URL. No database is needed.
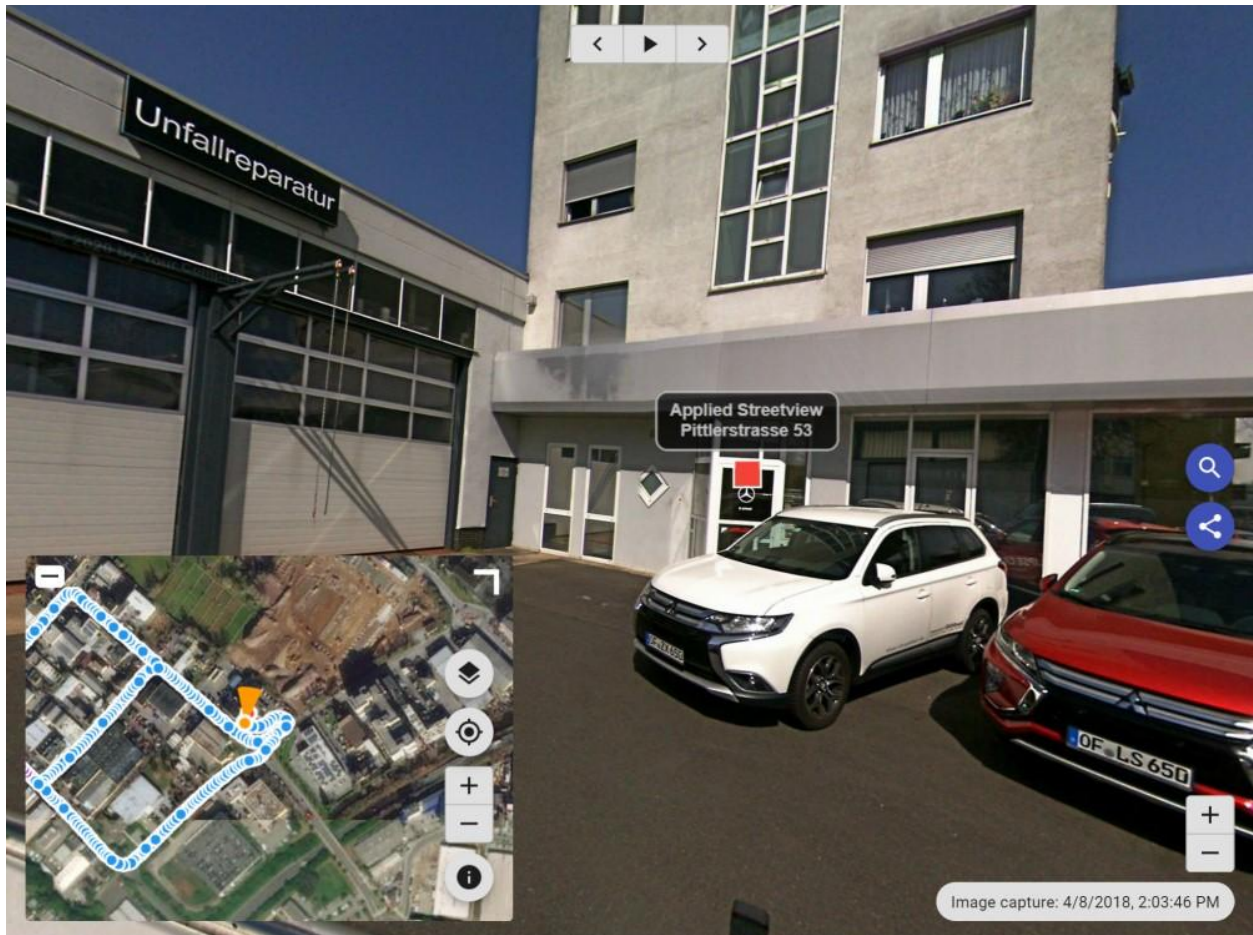
Let's assume your company already has a list of 100.000 geo-referenced assets in a database.
How can you link them to the 5.000 kilometers worth of streetviews you have just recorded?
Simply have your existing system generate a URL for each of your assets.

The player then will automatically open the streetview closest to the asset and look at it.
https://demo3-42be868b-8dd0-4272-ab75-bbcb72cf939d.s3.eu-central-1.amazonaws.c
om/index.html?v_lat=50.001217&v_lng=8.651100&v_alt=128&v_label=Applied%20Stre
etview%3Cbr%3E%0APittlerstra%C3%9Fe%2053%3Cbr%3E%0A63225%20Langen%
20%28Hessen%29%3Cbr%3E%0AGermany

Minimum requirement is the latitude and longitude values for your asset specified by **v_lat** and **v_lng** URL query parameters.

Optional parameters are **v_alt** - altitude and **v_label** - asset description. The v_label text must be url encoded. E.g. by https://www.urlencoder.org/ or similar websites.

For new lines use <br>. Have it URL encoded to:

Publish

By default Creator generates all players and all data formats at once:
- Data for the [Cloud Player](), [Instant Player]() and for any web-server.
- All the Legacy Players (Cloud, LAMP, for Instant Player) know from Creator 5.
- For [G-Publisher](), [Photogram]() and [Facades]() programs.
- 8192 x 4096 pixel equirectangular streetviews for 3rd-party workflows.

Click the **Start** button in the top right corner to start publishing.
Click the **Stop** button in the top right corner to stop the publishing at any time.

Create player
Creates the new player in **/Output folder/player2** folder.
Also creates the Legacy Player in **/Output folder/player** folder.

Create streetview-tiles
Create streetview-tiles from source images.
This is optional for [Instant Player]() and [Photogram]() since they support on-demand creation of streetview-tiles.

Create streetviews
For [G-Publisher](), review and a 3rd-party workflow.

Create project backup
Create a new project backup each time publishing is started. The backup file is to be found in the /**Output folder/backups** folder. It does not include source images or streetviews or streetview-tiles. Highly recommended to preserve a project's state.

Skip existing streetviews
In case you are updating a project and reprocessing: If the streetview-tiles for a specific streetview already exist, do not process again. Can save a lot of time.

Cloud

The Cloud Player is the easiest player to publish.
It is the most easy player to deploy.
It is the cheapest player to run.
It even scales automatically.

Only active streetview-tiles will be uploaded to the cloud. Even if you have a lot more.

Sharing the player

The cloud player URL is unique (UUID) and is not listed anywhere.
It can not be guessed.
Only users you tell the URL can access the player.

UUID:
https://demo3-**42be868b-8dd0-4272-ab75-bbcb72cf939d**.s3.eu-central-1.amazonaws.
com/index.html
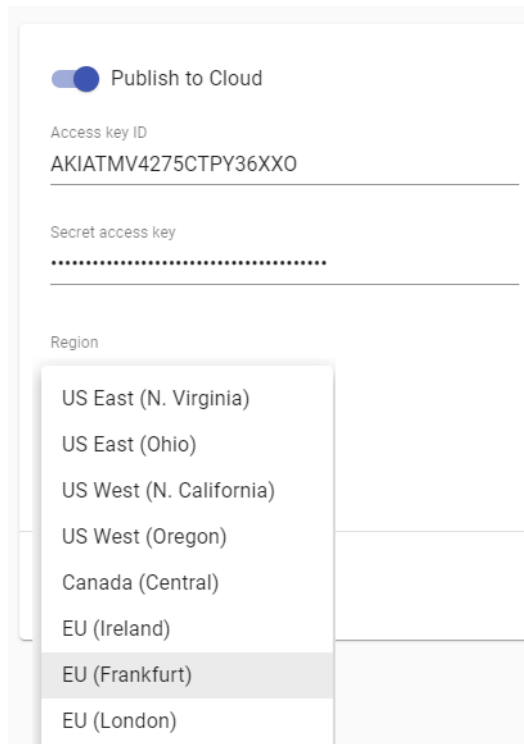
During the free two-week evaluation period a setup of AWS is not necessary at all. AWS regions are limited to the **EU (Frankfurt)** location.

US East (N. Virginia)

US East (Ohio)

US West (N. California)

US West (Oregon)

Canada (Central)

EU (Ireland)

EU (Frankfurt)

EU (London)

EU (Paris)

EU (Stockholm)

Asia Pacific (Tokyo)
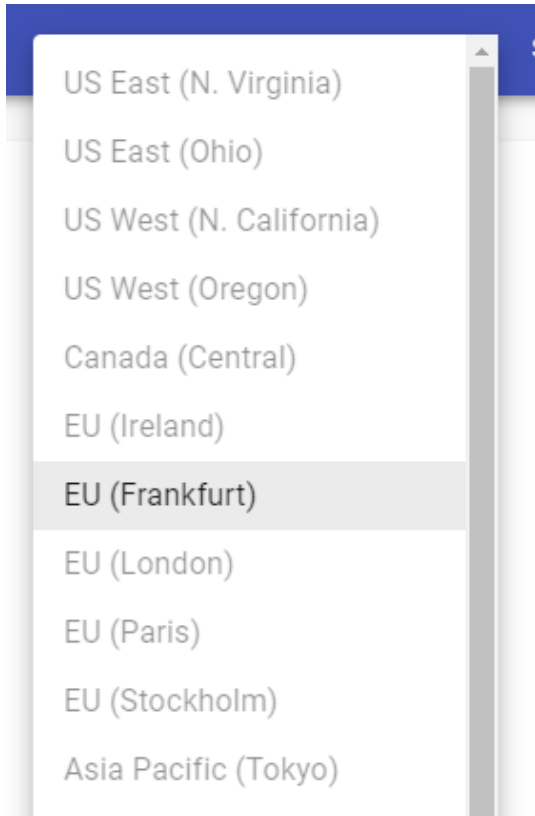
After purchasing Creator 6 more options become available:
1. **Access key ID** and **Secret access key**
   Follow [Amazon Web Services Cloud](#) on how to get your own AWS credentials.
2. **Any AWS region for publishing**.
   Pick the one closest to your audience.

AWS CloudFront (CDN)

If the Cloud Player is expected to
- Have a custom domain
- Handle high traffic across multiple regions

It's recommended to create a CloudFront distribution.

Go to https://console.aws.amazon.com/cloudfront/home and click on **Create Distribution** button.

Select the players S3 domain name in the **Origin Domain Name** drop-down field.
Example:
https://ghost-town-e6a1df59-15f6-45ea-9675-2de94703f92b.s3.eu-central-1.amazonaws.com/index.html
Set **Viewer Protocol Policy** to **Redirect HTTP to HTTPS.**
Scroll down and click the **Create Distribution** button.

Go to **CloudFront Distributions** list, and wait until the distribution is created (**Status** column changes to **Deployed**).
The CDN enabled domain looks like this: d2z6fc2o2b33zp.cloudfront.net

The complete URL for the browser or for embedding:

https://d2z6fc2o2b33zp.cloudfront.net/index.html

Hint:
Please notice that it will need 24 hours for the new CloudFront Distribution to deploy to work properly. Up until then it will forward to the S3 domain name.
URL query parameters like v_lat, v_lng, v_alt and v_label will start working with CloudFront once the deployment is done.

Create Distribution
Origin Settings

Origin Domain Name	bahamas-ab0cb550-585e-4f42-a5e0-827
Origin Path	
Enable Origin Shield	○ Yes ● No
Origin ID	S3-bahamas-ab0cb550-585e-4f42-a5e0-
Restrict Bucket Access	○ Yes ● No
Origin Connection Attempts	3
Origin Connection Timeout	10
Origin Custom Headers	Header Name Value

Default Cache Behavior Settings

Path Pattern	Default (*)
Viewer Protocol Policy	○ HTTP and HTTPS ● Redirect HTTP to HTTPS ○ HTTPS Only
Allowed HTTP Methods	● GET, HEAD ○ GET, HEAD, OPTIONS ○ GET, HEAD, OPTIONS, PUT, POST, PATCH, DELETE

Embed the Cloud Player into any webpage

What it looks like on our website:

http://www.applied-streetview.com

First publish the Cloud Player.
Get the URL from Creator 6.

In your page, add this code:

```
<iframe
src="https://ghost-town-d0a8e0c0-8d50-4f90-8b63-a731a4001704.s3.eu-cen
tral-1.amazonaws.com/index.html" width="100%" height="600"
frameborder="0" style="border:0" tabindex="0"></iframe>
```

```
Same player, but CloudFront CDN has been added:
<iframe src="https://d1hiuutentj66y.cloudfront.net/index.html"
width="100%" height="600" frameborder="0" style="border:0"
tabindex="0"></iframe>
```

Instant Player for Windows

For our Instant Player program for Windows 10 and Windows Server please see the separate Instant Player manual.

Apache, NGINX, IIS, clouds

The new player from Creator 6 can be deployed to literally any web server.
It is just a collection of static files (html, js, css, etc.), with no database.
Copy the **player2** and the **streetview-tiles** folders to your web server directory and then access it via **https://your-server.com/player2/**

Of course you can rename the player2 folder on the server.

Embed the player into any webpage

First publish the player to a webserver.

For this example, the player is installed into the **Demo3** folder:

https://www.your-server.com/players/**Demo3**/

In your page, add this code:

```
<iframe src="https://www.your-server.com/players/Demo3/" width="100%"
height="600" frameborder="0" style="border:0" tabindex="0"></iframe>
```

Cloud Player Management

Open Cloud player

Opens the published Cloud player URL in the browser.

Delete Cloud player

Deletes the published Cloud player from the internet and the Creator project.
The same URL can not be restored.

To only delete the cloud player from the internet, and to keep the URL in the project, use
[AWS Account](#) instead.

Legacy Player

The player from Creator 5.
Support for Mapbox.com has been added.

Preferences

Customize the Legacy Player to your needs.
Go back and forth between **Preferences** and **Preview** until you have the desired result.

General

Title	Demo4-5m
Left Menu text	Your Company
Left Menu URL	http://www.your-company.com
Left Menu URL target	Opens the linked document in a new window or t... ▼
Right Menu text	More info
Right Menu URL	http://www.your-company.com/example-project
Right Menu URL target	Opens the linked document in a new window or t... ▼
Timeline Label	Timeline
Navigation mode	Hotspots ▼

Logo

Enabled	⬤▢
Image path	CHOOSE FILE 📄
Click URL	http://www.your-company.com
Click URL target	Opens the linked document in a new window or t... ▼

Components visibility

Show Map	⬤
Show Menu	⬤
Show Map button	⬤

Streetview

Streetview ︿

View	Relative to Car ▾
Minimum zoom limit (degrees)	50
Maximum zoom limit (degree)	120
Look down limit (degree)	-50
Look up limit (degree)	50

Show Arrows	⬤
Show Arrow label	Mouseover ▾
Clickable Arrow labels	⬤
Arrow labels from this column of the Streetview table	Streetview ▾

Image captured date format

Show image capture date	⬤
Image capture date label	Image capture:
Image captured date format	Do MMMM YYYY, h:mm a

Formatted according to the format string.
See the formatting options at: https://momentjs.com/docs/#/displaying/format/

Default:
Do MMMM YYYY, h:mm a

With a timezone added:
Do MMMM YYYY, h:mm a, z

Map

Show Map Providers list	⬤
Default Map Provider	ESRI.WORLDIMAGERY
Map View	Data Extent ▾

To change the list edit the **/player/player.xml** file.

Mapbox
If you have your own custom data and would like to add it to the Player, Mapbox provides an easy way to do it.

Mapbox

Map provider label	Mapbox streets
Style URL	mapbox://styles/mapbox/bright-v9
Access token	
Map data legal notices	<a href="https://www.mapbox.com/abou

Map provider label

Text for the map provider in the Player - base layer selection panel.

Style URL

To get the URL of your style, in Mapbox studio click on the ⬈ Share button in the top right corner and then copy the value of **Style URL** field.

Access token

To get the URL of your style, in Mapbox studio click on the ⬈ Share button in the top right corner and then copy the value of **Access token** field.

Map data legal notices
Custom map data legal notices

POI

Points of Interest

Display POI list	
Show label for a POI	Streetview
Show POI name	Yes
Dropdown label	POI list
Dropdown select POI label	Select POI

Report a problem

Enabled	
Support e-mail	support@your-company.com
Label	Report a problem
E-mail subject	Report a problem
E-mail content	Thank you for helping us by reporting content which may be in violation of our standards.
	Why are you reporting this streetview:
	Streetview permalink: {{permalink}}

Automatic rotation

Enabled	
Wait time	0
Speed	3
Direction	Right
Horizon	0
Zoom to FOV	120
Click disables auto rotate	

Automatic play

Enabled	(toggle off)
Loop	(toggle on)
Wait time	3
Direction	Forward ▾

Preview

A preview of what the Legacy Player will look like.
Go back and forth between **Preferences** and **Preview** until you have the desired result.

Adjust the direction and zoom of the streetview and the area and zoom of the map.
Then click the **Pick the Start Streetview and Map** button to save the settings as the start-view for the player.

Assets Visualisation

Have the player show your geo-referenced assets by a URL. No database is needed.

Let's assume your company already has a list of 100.000 geo-referenced assets in a database.
How can you link them to the 5.000 kilometers worth of streetviews you have just recorded?
Simply have your existing system generate a URL for each of your assets.

The player then will automatically open the streetview closest to the asset and look at it.

Minimum requirement is the latitude and longitude values for your asset:
https://cloud-player.applied-streetview.com/**?v_lat=50.001217&v_lng=8.651070**

You can also provide the altitude value:
https://cloud-player.applied-streetview.com/?v_lat=50.001217&v_lng=8.651070&v_alt=140

Show extra data by adding a key/value pair:
https://cloud-player.applied-streetview.com/?v_lat=50.001217&v_lng=8.651070&v_alt=129**&v_Business=Applied%20Streetview**

With a lot of key/values pairs:
https://cloud-player.applied-streetview.com/?v_lat=50.001217&v_lng=8.651070&v_alt=129**&v_Business=Applied%20Streetview&v_Address=Pittlerstrasse%2053&v_Town=Langen&v_ZIP=63225&v_State=Hessen&v_Country=Germany&v_Telephone=%2B49%2D06103%2D37%2027%20494**

With a lot of key/values pairs, no Latitude & Longitude, no Altitude, but a header and a share link:
https://cloud-player.applied-streetview.com/?v_lat=50.001217&v_lng=8.651070&v_alt=129&v_Business=Applied%20Streetview&v_Address=Pittlerstrasse%2053&v_Town=Langen&v_ZIP=63225&v_State=Hessen&v_Country=Germany&v_Telephone=%2B49%2D06103%2D37%2027%20494**&vl_showlatlng=no&vl_showalt=no&vl_header=Business%20List%3A&vl_showshare=yes**

You even can set a streetview, it's heading and the and the map and zoom level to look at an asset, in case the view from the nearest streetview is blocked:
https://cloud-player.applied-streetview.com/?sv_startup_pano=camera-20180408-140357-000000010&sv_startup_heading=237.2&sv_startup_tilt=6&sv_startup_zoom=90&map_center=50.00116825162954,8.651610016822815&map_zoom=19&v_lat=50.001217&v_lng=8.651070&vl_showshare=yes

URL parameters with a special purpose:
&vl_showlatlng=yes/no
Show latitude and longitude values

&vl_showalt=yes/no
Show altitude value

&vl_header=Custom%20Header
Show a custom header at the top of the panel

&vl_showshare=yes/no
Show the share URL at the bottom of the panel

Publish

Click the **Start** button in the top right corner to start publishing.
Click the **Stop** button in the top right corner to stop the publishing at any time.

The source images are made into data fit for our four players: Cloud Player, Instant Player program for Windows, LAMP Player for Linux, Android Player app.
And our other programs: G-Publisher, Photogram and Facades.
And 8192 x 4096 pixel equirectangular streetviews for 3rd-party workflows.

Windows, Linux (LAMP) and Android
For the players it is recommended to enable all options to create both streetviews and streetview-tiles for flexibility. All players then can be used right away, without the need to re-process the footage for a specific player.

When processing for a specific workflow or program unnecessary formats can be deselected to save up to 50% of the space.

Create player
Creates the player in **Output folder/player** folder.

Create streetview-tiles
Create streetview-tiles from source images. This is optional for Instant Player and Photogram since they support on-demand processing.

Create streetviews
For G-Publisher, review and a 3rd-party workflow.

Create project backup
Create a new project backup each time publishing is started. The backup file is to be found in the **Output folder/backups** folder. It does not include source images or streetviews or streetview-tiles. Highly recommended to preserve a project's state.

Skip existing streetviews
In case you are updating a project and reprocessing: If the streetview-tiles for a specific streetview already exist, do not process again.

Preferences -> Advanced -> Skip streetview-tiles

For a 3rd-party workflow that only requires the 8192x 4092 pixel streetviews, and not the streetview-tiles, the generation of the streetview-tiles can be switched off, for all projects.

Please notice that the **panorama-tiles** folder and empty subfolders are still created. Skipping the streetview-tiles can speed-up processing by up to 100 percent. Depending on your specific setup.
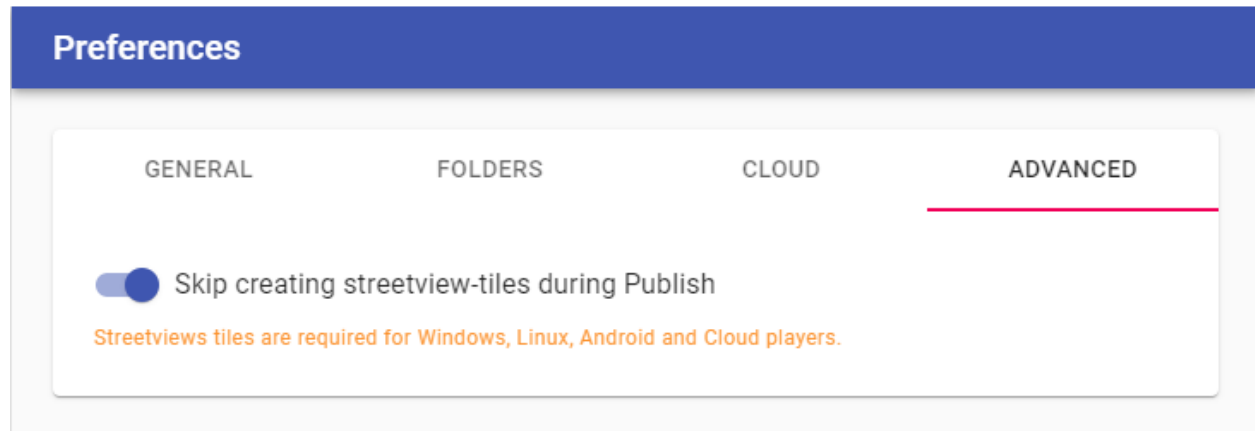
Cloud
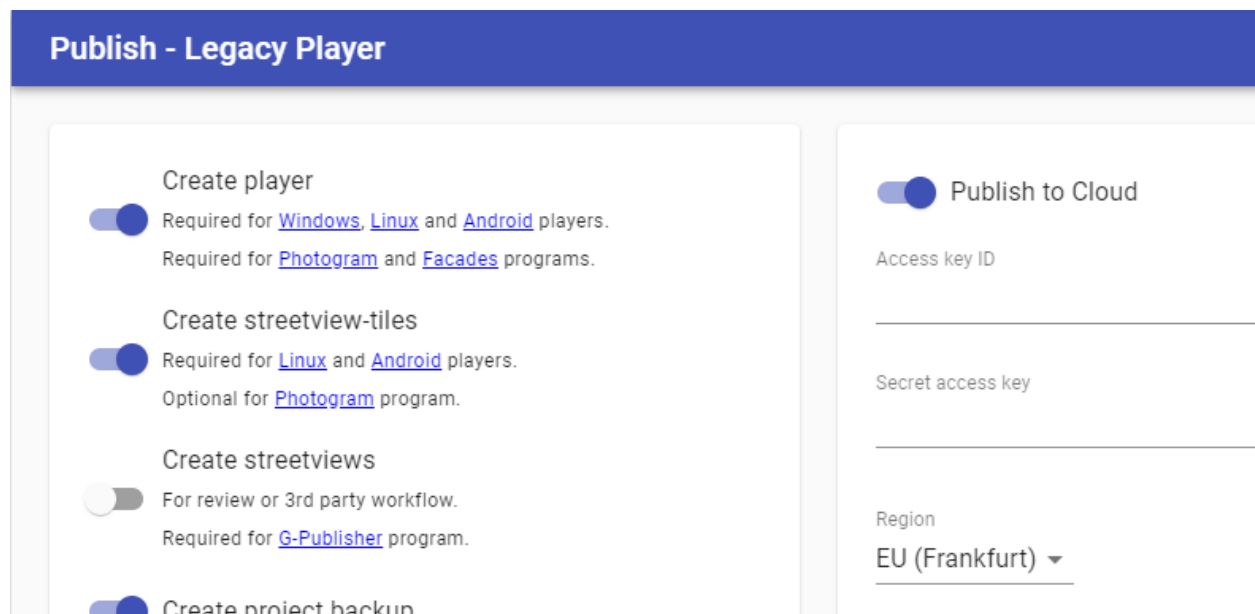
The Cloud Player is the easiest player to publish.
It is the most easy player to deploy.

It is the cheapest player to run.
It even scales automatically.

Only active streetview-tiles will be uploaded to the cloud.

During the free two-week evaluation period a setup of AWS is not necessary at all.
AWS regions are limited to the **EU (Frankfurt)** location.
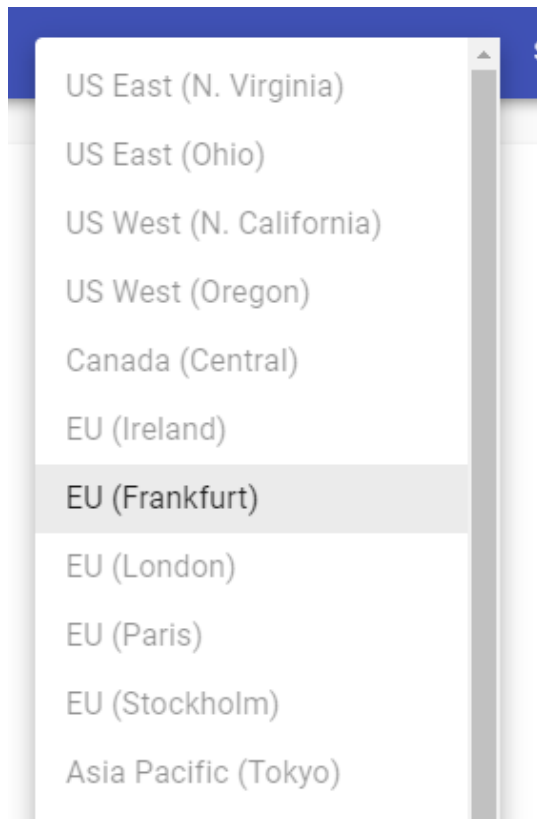
After purchasing Creator 6 more options become available:

3. **Access key ID** and **Secret access key**
   Follow [Amazon Web Services Cloud](#) on how to get your own AWS credentials.
4. **Update existing Cloud player**
   The player URL stays the same.
   It updates the existing cloud player and uploads new streetviews if available.
5. **Publish a new Cloud player**
   Creates a new player and uploads the streetviews into a new S3 bucket.
6. **Any AWS region for publishing**.
   Pick the one closest to your audience.

Instant Player

See the [Instant Player manual](#).

Android

See the [Android Player manual](#).

LAMP Player

For the LAMP stack. (**L**inux, **A**pache **M**ySQL, **p**hp).

The LAMP player has three major components: The player, the MySQL database and the streetview tiles folder.

For testing you can install all three to the same server.

For production, you should install the player and the MySQL database to the same server, and the streetview tiles to a different server, or a cloud.

An expert could install each component to its own server.

If you have never worked with FileZilla, cPanel or phpMyAdmin, you should ask your company's IT department to install the LAMP player for you.

To create your own LAMP player with Creator 6 the **Create streetview-tiles** option must be enabled. The player is generated in the **player** folder.
Minimum steps necessary:

Let's assume your project's name is **Demo3**.

Database:
Create a new MySQL database on your LAMP server.
Name it **Demo3**.
Import the **Demo3.sql.zip** file to it.

Panorama tiles:
Copy the **panorama-tiles** folder to your web-server.

Make the following adjustments before uploading the player to the server:

Player:
Adjust the **plugins\streetview\ajax\db.php** file for access to your MySQL database.
Fill in your own access data:
```
$con=mysqli_connect('localhost','user','password','DBname');
```

Adjust the **player.xml** file for the panorama-tiles folder address on your web-server.

Fill in your own URL:
tilespath="../panorama-tiles"

Finally copy the **player** folder to your web-server.

Embed the LAMP player into any webpage

What it looks like:

https://www.applied-streetview.com/players-creator-5-vs-creator-6/#player

First publish the LAMP player to a webserver.

For this example, the player is installed into the **Demo3** folder:

https://www.your-server.com/players/**Demo3**/

In your page, add this code:

```
<iframe src="https://www.your-server.com/players/Demo3/" width="100%"
height="600" frameborder="0" style="border:0" tabindex="0"></iframe>
```

Cloud Player

General
Open Cloud player
Open the published Cloud player URL in the browser

Delete Cloud player
Delete published Cloud player

Users

USERS	STATISTICS

🔵 Enable authentication

Username	Edit	Delete
admin	✏️	🗑️

Enable authentication for **Cloud player**
Enable the authentication feature

Add user

Click the **Add user** button in the top right corner.
Set a **Username** and a **Password** then click the **Save** button in the top right corner.

Edit

Click the ✏ button next to the user.
Modify the **Username** or the **Password** of the user. Then click the **Save** button in the top right corner.

Delete

Click the 🗑 button next to the user then confirm.

Note: For any modification to take effect the **Cloud player** needs to be republished. To republish go to Publish and then click the **Start** button in the top right corner. When adjusting the player itself only, the streetviews will not be uploaded again.
This is fast.

Statistics

After the Cloud Player is published it will start collecting usage statistics.
By default visits from the last 7 days are displayed.
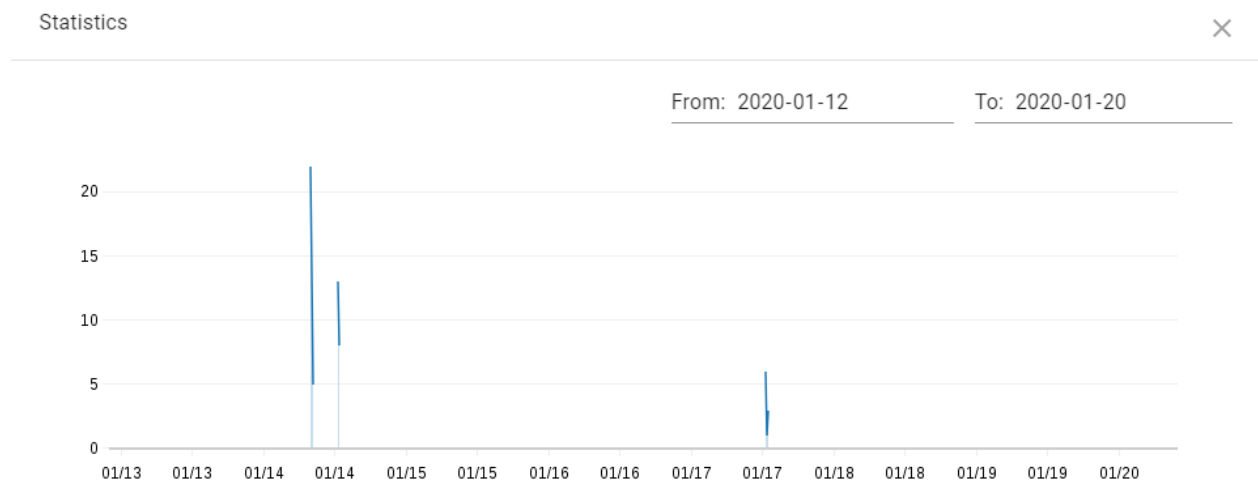
To adjust the statistics period change the **From** and **To** fields in the top right corner.

Cloud Player uses **CloudWatch Metrics** to gather and display statistics.

CloudWatch Metrics can be accessed directly with your Amazon account to create additional custom graphs. They will not be displayed here.
More information at:
https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/graph_a_metric.html

AWS CloudFront (CDN)

If the player is expected to get high traffic it's recommended to create a CloudFront distribution. This will increase the player performance and reduce AWS Lambda cost.

Copy the URL of the player. (Technically it is a Gateway API URL.)

Go to https://console.aws.amazon.com/cloudfront/home and click the **Create Distribution** button.

Paste the URL into the **Origin Domain Name** field.
The domain name your are pasting may not exist in the list of available domains names, this is expected.

Set **Viewer Protocol Policy** to **Redirect HTTP to HTTPS.**
Set **Allowed HTTP Methods** to **GET, HEAD, OPTIONS, PUT, POST, PATCH, DELETE**
Set **Cache and origin request settings** to **Use legacy cache settings**
- Forward Cookies: Whitelist
- Whitelist Cookies: lambdaplayerAuth
- Query String Forwarding and Caching: Forward all, cache based on all
- Compress Objects Automatically: Yes

Default Cache Behavior Settings

Path Pattern	Default (*)
Viewer Protocol Policy	○ HTTP and HTTPS ● Redirect HTTP to HTTPS ○ HTTPS Only
Allowed HTTP Methods	○ GET, HEAD ○ GET, HEAD, OPTIONS ● GET, HEAD, OPTIONS, PUT, POST, PATCH, DELETE
Field-level Encryption Config	[⌄]
Cached HTTP Methods	GET, HEAD (Cached by default) ☐ OPTIONS
Cache and origin request settings	○ Use a cache policy and origin request policy ● Use legacy cache settings
Cache Based on Selected Request Headers	None (Improves Caching) ⌄ Learn More
Object Caching	● Use Origin Cache Headers ○ Customize Learn More
Minimum TTL	0
Maximum TTL	31536000
Default TTL	86400
Forward Cookies	Whitelist ⌄
Whitelist Cookies	lambdaplayerAuth
Query String Forwarding and Caching	Forward all, cache based on all ⌄

Scroll down and click the **Create Distribution** button.

Go to **CloudFront Distributions** list, and wait until the distribution is created (**Status** column changes to **Deployed**).

The CDN enabled domain looks like this: dvbgnnizq7nyk.cloudfront.net

The complete URL for the browser or for embedding:
https://dvbgnnizq7nyk.cloudfront.net/latest/

Create Amazon Web Services (AWS) account

Creator 6 (and previous Creator 5) use Amazon Web Services (AWS) Cloud Computing Services to publish the player to the internet.

An **Access key ID** and **Secret access key** is required for publishing.
This needs to be done only once.

1. Go to https://aws.amazon.com/console/ and sign in with an existing Amazon account or create a new account.
2. Log in and continue to
   https://console.aws.amazon.com/iam/home?#/users$new?step=details to add a new **IAM user**
   a. **User name**: creator6
   b. **Access type**: Programmatic access
   c. Click **Next: Permissions** button

Add user

① ② ③

Set user details

You can add multiple users at once with the same access type and permissions. Learn more

User name* creator6

⊕ **Add another user**

Select AWS access type

Select how these users will access AWS. Access keys and autogenerated passwords are provided in the last step. Learn more

Access type* ☑ **Programmatic access**
Enables an **access key ID** and **secret access key** for the AWS API, CLI, SDK, and other development tools.

☐ **AWS Management Console access**
Enables a **password** that allows users to sign-in to the AWS Management Console.

3. Select **Attach existing policies directly**

👤 Copy permissions from existing user   📄 Attach existing policies directly
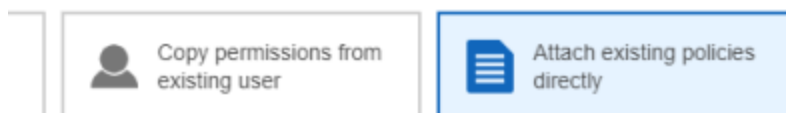
4. Select **AdministratorAccess** privileges.

✔	▶	📦 AdministratorAccess	Job function

5. Click the **Next: Tags** button
6. Click the **Next: Review** button. Make sure User details and Permission summary matches the image below.

Add user

① ② ③

Review

Review your choices. After you create the user, you can view and download the autogenerated password and access key.

User details

User name	creator6
AWS access type	Programmatic access - with an access key
Permissions boundary	Permissions boundary is not set

Permissions summary

The following policies will be attached to the user shown above.

Type	Name
Managed policy	AdministratorAccess

Tags

No tags were added.

7. Click the **Create user** button

Copy **Access key ID** and **Secret access key** into the appropriate fields in **Creator 6 Process page**. It is recommended to click the **Download .csv** button in order to save the credentials if you ever need to enter them again.

Second Screen

A second monitor is recommended to use this feature in full-screen mode.
Works for streetviews selected on the Map tab or in the Player Preview.

Shows the streetviews. You can zoom in and out.

Tools

Separation

Tours

camera-20180408-140557, camera-20180408-140357

Type

⦿ By Distance   ◯ By Interval   ◯ By Step

Seprate by meters between streetviews

5

◯ Deactivate manually activated streetviews

START   RESET

Always to be used after the Duplicate Remover.

To convert tours recorded in **1m** Distance Mode to **5m** Distance Mode.
To convert tours recorded in **Interval Mode** to **Distance Mode**.
Etc.
This greatly reduces the number of streetviews to process.

Process target
(Visible only when there are timelines)
Process either the selected tours or process the selected timelines.

By Distance

Separate by meters between streetviews.

By Interval

Separate by seconds between streetviews.

By Step

Process every x-th streetview.

Deactivate manually activated streetviews

By default manually activated streetviews are not deactivated. Enable this option to force them to be deactivated.

Start

Start separating the streetviews.

Try a few times to find the optimum settings for your footage.

Reset

Reset all streetviews deactivated by [Duplicate Remover](#) and Separation tool.

Road names from OpenStreetMap

Preferred language

⦿ Local language only

◯ Custom language only

◯ Custom language, fallback to local if not specified.

For Streetviews

☑ Activated

☐ Deactivated

◯▬ Overwrite previously assigned road names?

Maximum distance (m)

20

START   RESET

Preferred language
Local language only - "name" value of the OSM road.
Custom language - "name:language" value of the OSM road.
Custom language, fallback to local if not specified - If "name:language" value does not exist use "name".

For Streetviews
Activated streetviews
Deactivated streetviews

Overwrite previously assigned road names?

If enabled streetviews with an existing road name will be skipped.

Maximum distance (m)
Maximum distance to the closest road to be considered for geocoding.

Start
Geocode streetviews with road names from OSM

Reset
Remove all assigned road names, even those assigned manually via the [Map](#) page.

Direction from position

If the heading of the majority of the streetviews is not correct it's possible to calculate the heading from the streetviews position.

Click **Start** to calculate the healing from position.
Click **Reset** to revert to original values.

Clamp to ground

If the height of streetviews is not correct it's possible to simply calculate the height. We are using [NASA Shuttle Radar Topography Mission Global 3 arc second V003](#) dataset for this.

Click **Start** to calculate the height from the digital terrain model.
Click **Reset** to revert to the original values.

Once **Start** is clicked, Creator 6 will download the digital terrain model for your project location and cache them.
This tool requires an active internet connection.

The size of the height-data is about 3 MB for a 1x1 degree area.
The area is determined by a bounding box for all the streetviews in the Project, both active and deactivated.
A challenge might be streetviews deactivated for wrong positions. But they still will be considered for the bounding box. Please move them closer to the active stretviews.

Camera mounted backwards

This tool will fix if the camera was accidentally mounted looking backwards.
Click **Start** to change yaw by 180 degrees. Click **Start** again to revert to original values.

Export Metadata

Export streetview metadata. E.g. for a 3rd-party program.

Format

⦿ CSV

◯ GeoJSON

Streetview status

☑ Activated

☐ Deactivated

START

Streetview status
CSV (comma separated, double quote as as string delimiter),
GeoJSON

Streetview status
Activated: Metadata for activated streetviews
Deactivated: Metadata for deactivated streetviews

Start
Start the export process.

Copy Sources

This tool can be used to provide data for support or to copy a part of the data only.

Tour dolders "7" always contain all data. They are not adjusted for activated or deactivated streetviews.

Project backup
Adds the Creator 6 project backup to the archive.

Folders "7" (Small archive size)
Adds position data (tour folders 7) to the archive. No images.

Source photos (Large archive size)
Activated - Include sources photos of the activated streetviews
Deactivated - Include sources photos of the deactivated streetviews
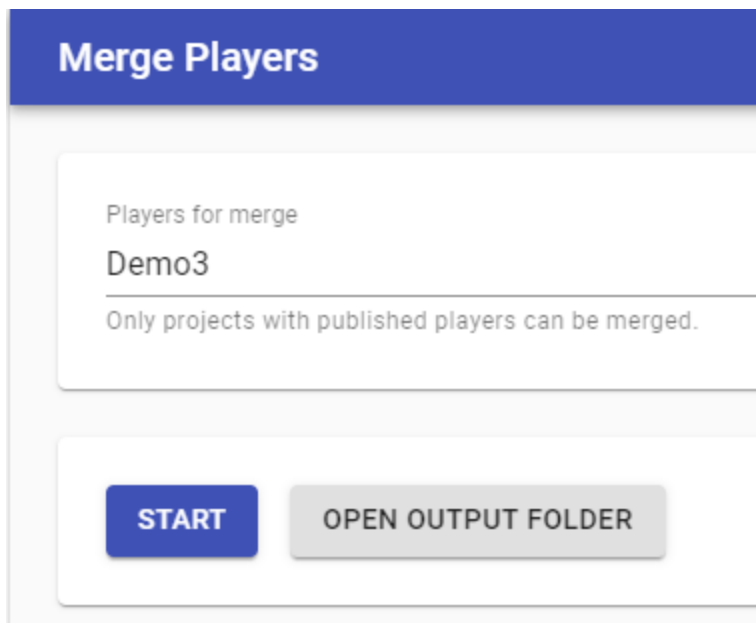
Start
Create the archive

Merge Players

Players to merge
List of the available projects.
Projects without a published player are disabled.
Create players first in all projects you like to merge.

Start
Create the merged player in a new folder.
Existing project folders are not changed.

Open Output Folder
Open the output folder of the merged player.
The new folder with the merged player is always saved to the Out folder.

Deactivate missing

If the source images of a streetview are missing, this tool will deactivate that streetview and write the result to the log.

Click **Start** to calculate the healing from position.

Click **Reset** to revert the changes. This will also reset the changes done by Separation and Duplicate Remover!

.

Post Processing

Post Processing is to increase the accuracy of the position data.
After the recording has finished.

There are different ways to increase the accuracy and robustness of positioning data:
1) Always use the OBD2 adapter cable for the car's wheeltick data.
2) Use RTK by NTRIP.
3) Apply Post Processing.

We recommend using all three together.
Not having RTK by NTRIP is not a problem.
Just use post processing.

Kinematika

To apply post processing first process your tours log data with Advance Navigation's KINEMATICA web based GNSS/INS post processing software to obtain the correction file:

https://hq.advancednavigation.com.au/kinematica/

Create an account. Log in.

Processing the first 15 minutes of recordings is free.
For this you can start immediately.

New Data Set

Data Set Name:	camera-20210119-134329
Rover File:	Choose file log.anpp
Base Station Source:	Download automatically
Ephemeris Source:	Download automatically
	Create

Data Set Name: Enter the **tour name** from the Creator project.
Rover file: The log.anpp file from the tours "7" folder

Click **Create**.

Edit Configurations

Device Information:

Device ID: [Select a device ▾]

Antennas:

Base Station Antenna [Automatically select using RINEX file ▾]

Rover Antenna [ACCG5ANT_3AT1 NONE ▾]

GNSS Offset: [From Log File ▾]

Odometer Offset: [From Log File ▾]

Dual Antenna Offset: [From Log File ▾]

Reference Point Offset: [From Log File ▾]

Base Station Type: [Stationary ▾]

[Process]

Device ID: **Spatial** or **Spatial Dual**

Click **Process**.

Process

camera-20210119-134329

Primary File: log.anpp

Status: Collecting required data

Current: [■■■□□□□□□□] 10.00%

Total: [■■■□□□□□□□] 10.00%

[Cancel Processing] [View files]

☐ Email me when processing is finished

Wait for the processing to finish.

When done click **View files** and download all files from Kinematika and save them to the tours "7" folder.

GNSS Post Processing

Process selected tour
Select a tour from the current project.

Corrected GNSS data
Select the **PostProcessed.csv.zip** obtained from KINEMATICA.
You should have saved the **PostProcessed.csv.zip** file to the tours **7** folder.

Start
Apply the post processing corrections to the selected tour.
This should need a few seconds only:

This replaces the existing Latitude, Longitude and Altitude values of the tour with the post processed Latitude, Longitude and Altitude values.
Accidentally doing this twice causes no harm.

Compare

This step is optional.

You can compare the post processed tour and the original tour on the **Map** page.
For this open the Windows File Manager and copy and past the tour folder to duplicate it.
Then rename the duplicate to e.g. **Original-003487-20210120-151515**.
On the **Tours** page click **Add** to add the renamed tour to your project.

It looks like this:
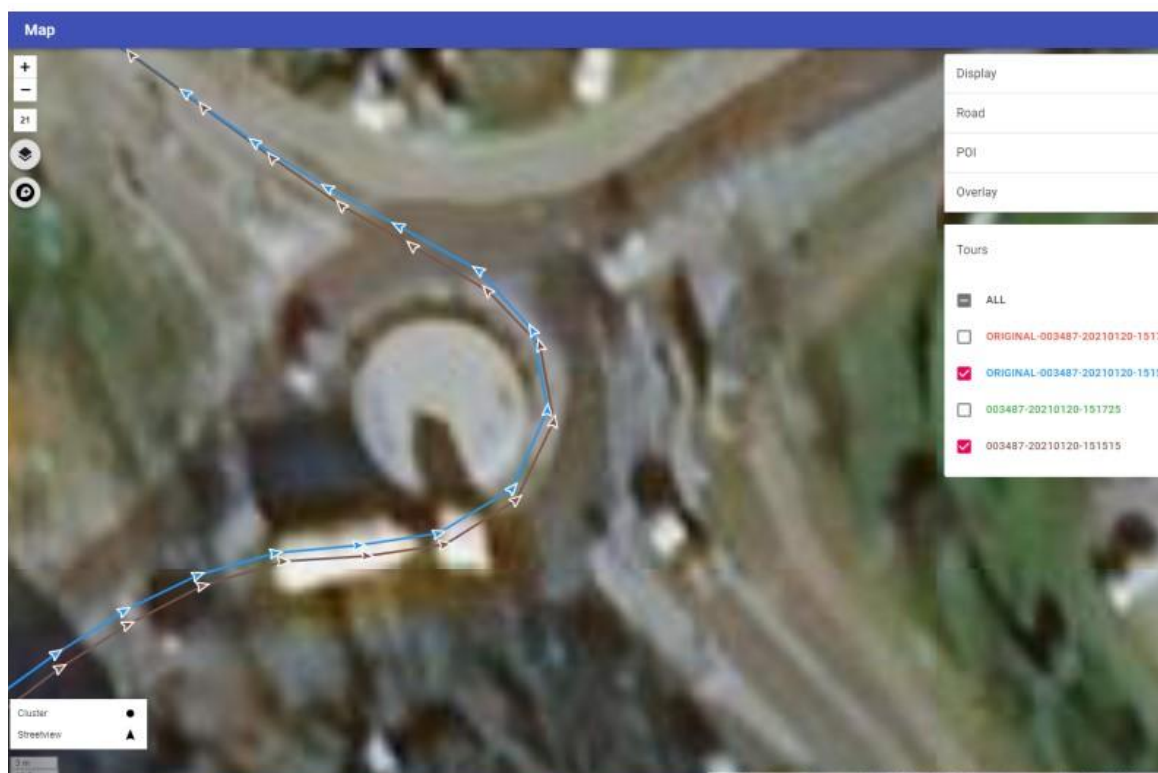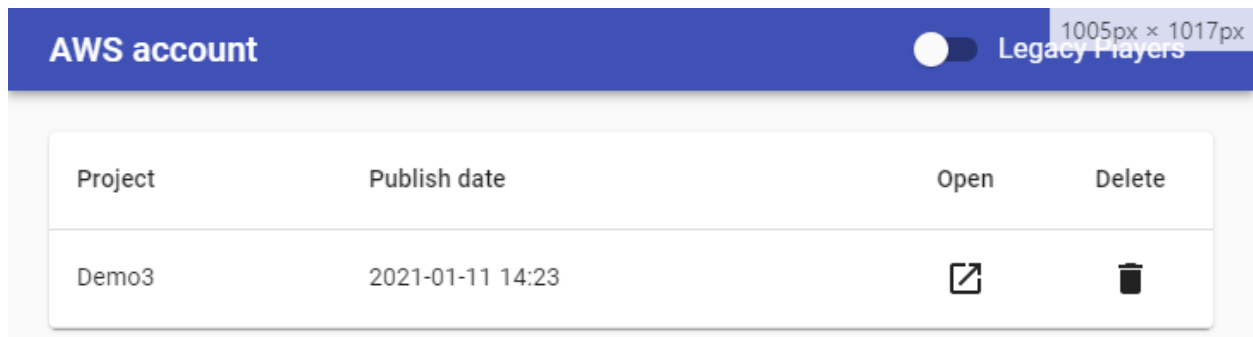
AWS account

This is to open or delete players published to your **AWS account**.
It does not need a Creator project to do so.

If you delete a player from your AWS account, the Creator project still knows the URL the player has been published too. Meaning you can re-publish to the same URL using the Creator project, or a backup of it.

To delete a player from both the Internet and a Creator project, use **Cloud Player -> Delete Cloud Player** instead**.**

Project
Project name

Published date
Date and time of the upload.

Open
Open the player URL in the browser

Statistics
Display visitor statistics. *Only available in Legacy Player.*

Delete
Delete player (incl. all streetviews) from the Amazon account.
Local Creator projects will not be changed.

Preferences

General

Language
Set the program language.

Automatically send usage statistics and crash reports to Applied Streetview.
Please help us make **Creator 6** better.

Folders

It is strongly recommended to create the following 4 folders to organise your data:
In, Out, Camera calibration files, Creator 6 backups.
Set the folders up in Preferences -> Folders.

Additionally you might want to consider creating two folders named **masks** and **logos** to organise additional, optional, files.

Input folder
Default location of the recorded projects

Output folder
Default location for publishing. A subfolder with the project name is created automatically.

Camera calibration files folder
Default folder for your camera(s) calibration file(s). They have the **.pto** and **.xml** file extension. First Creator 6 looks in the parent folder of a tour. Then in the **Camera calibration files** folder. In case you have many cameras the right file is picked fully automatic. You can even mix footage from different cameras in one project.

Backup folder
Default location for saving project backups.
Weekly or daily backups are recommended.

Cloud

An **Access key ID** and **Secret access key** is required for publishing.

See the [Publish to the Cloud](#) section for how to get your own AWS credentials.

Manuals

Opens this Creator 6 manual.

About

Creator license

Display current licence or add a new one by entering your **activation key**.

View Software License Agreement.

krpano license

Player is bundled with a demo version of krpano.
To remove the **krpano demo version** watermark from the player a license has to be purchased.
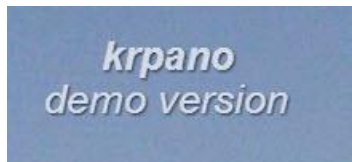
The krpano demo version watermark is visible in the:
- Player - Preview sub-tab
- Player tab
- All generated players

Get a krpano license for 159 Euro from http://www.krpano.com/buy

Then get back here and click the **Add activation key** button.
Paste your key into the field and click the **OK** button. You should see a confirmation message that the key is registered.

Version

Display current version, check for updates, view release notes.

Logs

Open the newest log file or open the folder with all the logs.

About this PC

Displays information about this PC.

About this PC ^

Windows version: Microsoft Windows 10 Pro 64-bit

Computer name: DESKTOP-3R08ESO

Processor: Intel(R) Core(TM) i5-3450 CPU @ 3.10GHz

Memory Total: 7.94 GB Available: 1.75 GB

Free disk space: C: 274.20 GB, D: 0.00 Bytes, E: 7.30 GB, F: 94.60 GB, G: 38.34 GB

Graphics Card: GeForce GTX 1650 (4096 MB)

CUDA versions: 10

Copy to Clipboard
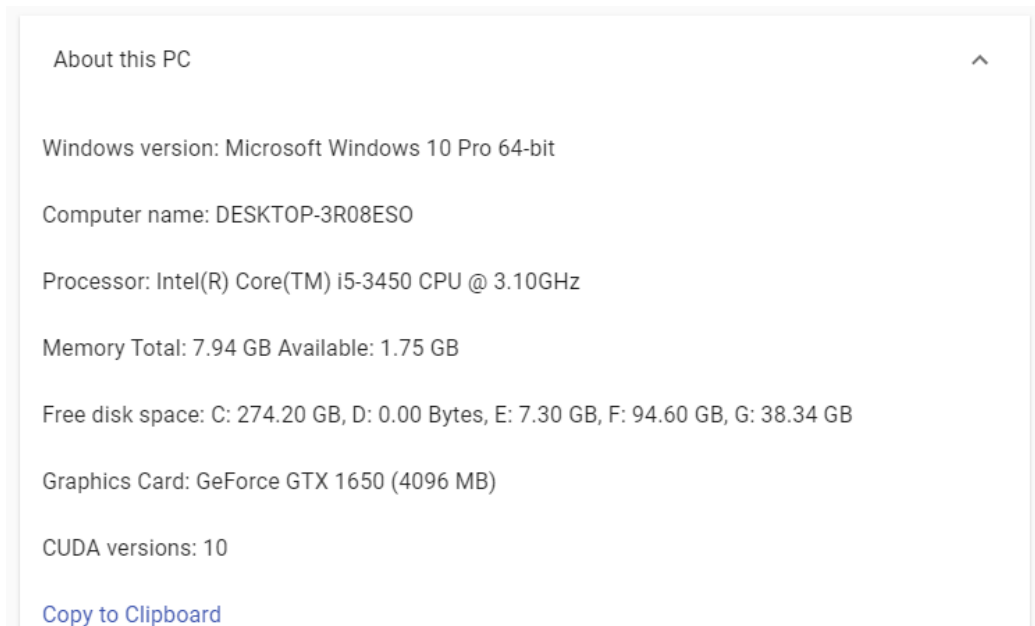
Creator 6 PRO - Automation

Automation is a feature of **Creator 6 Pro.** It is not available in Creator 6.
Please contact sales for a quote and a temporary licence key to test **Creator 6 Pro.**

Overview

How did the User Interface (UI) change?

Added:
Preferences -> Advanced -> Skip creating streetview-tiles during Publish
Projects -> PROJECTNAME -> More (3 dots) -> Export Configuration
Projects -> More (3 dots) -> Add project from configuration

What is covered by the automation?

Creation of a project.
Creation of the projects tours.
Loading of project and tours settings.
Clicking of "Start" buttons.
Close Creator 6 when processing is finished.
Delete all projects.

Things not covered
Only settings on the project and tour levels are part of the configuration.

All settings applied to a streetview are not part of the configuration for an automation workflow.

Examples:
- Position
- Heading
- Status (activated/deactivated)
- Road name

Full Automation with the command line

Licensing

Automation is a feature of **Creator 6 Pro.** It is not available in Creator 6.
Automation is not available with the 2-week trial licence you get by registering for the free trial of Creator 6.
Please contact [sales](#) for a quote and a temporary licence key to test **Creator 6 Pro.**

Mass production

When running **Creator 6 Pro** from the Windows command line make sure that the **current working directory** is set to the directory of the creator-next.exe file.

Typical Example

cd C:\Users\me\AppData\Local\creator6
creator6.exe --actions="ImportConfiguration,DuplicateRemover,Publish,Close"
--importConfiguration="S:\Downloads\Demo4-20200930-103027.project-config"
--processSkipTiles=false

- --actions
    - **ImportConfiguration** - Add a project from a configuration file and open it. --importConfiguration must be set to the path of the configuration file.
    - **DuplicateRemove**r - Run Duplicate Remover with current project settings.
    - **Separation** - Run Tools - Separation with current project settings.
    - **RoadNamesFromOsm** - Run Tools - Road names from OSM with current project settings.
    - **DirectionFromPosition** - Run Tools - Direction from position.
    - **CameraMountedBackwards** - Run Tools - Camera mounted backwards.
    - **Publish** - Starts the publishing process with current project settings.
    - **Close** - Closes Creator 6 when finished
    - **DeleteProjectsAndClose** - Delete all projects and close Creator 6 when finished
- --importConfiguration - Specify a .**project-config** file created by exporting a project configuration. This field is required for the **ImportConfiguration** action.
- --processSkipTiles - Adjusts the value of Preferences - Advanced Skips creating streetview-tiles during Publish. Can be **true** or **false.**

Actions are executed in the sequence they are listed.

If any of the actions trigger an error no other actions will be executed.

Each action creates an entry in the log.
Errors triggered by an action are logged too.

Each action logs a start and finish message to stdout.
This allows for optional progress tracking.

Configuration export and import

This is the workflow to duplicate your project settings.
This way data is processed identically. If you press all required "Start" buttons manually.

Steps
Export a configuration as template: You get a .**project-config** file
Edit it
Import it
Press all the Start buttons needed manually. **Make sure not to miss a Start button.**
Close Creator

Export a configuration as template

It is strongly recommended to configure a project as the template in Creator 6 first.
Do not try to build a configuration file from scratch with a text editor.

Suggested workflow
Create the project.
Configure it.
Run it for testing.
Check results.
Export it:
Projects -> PROJECTNAME -> More (3 dots) -> Export Configuration

Make adjustments manually to the exported configuration file.

Example configuration file:
Demo4-20200930-103027.project-config

Edit the configuration file

A project can have tours from different cameras (and recording vehicles).

The **yaw**, **pitch** and **roll** values then must be set per the cameras serial number/car.

Minimum change the tours name. If needed the tour path.

```
….
  "name": "Demo4-5m",
 "created_at": 1597652281375,
 "tours": {
   "camera-20181218-104940": {
     "yaw": "0",
     "pitch": "3",
     "roll": "0.5",
     "imu": true,
     "exposure": "0",
     "brightenEnabled": true,
     "brightenStrength": "0.8",
     "brightenThreshold": "0.4",
     "tourPath": "E:\\2020\\in\\Demo4-5m"
   },
….
```

Import the configuration

Projects -> More (3 dots) -> Add project from configuration

Apply settings

Click the "Start" buttons in the desired sequence.

Processing

Publish -> Start

Preferences: Skip streetview-tiles

In case only the 8192x 4092 pixel streetviews are needed, and not the streetview-tiles, the generation of the streetview tiles can be deactivated globally. (For all projects.)

Please notice that the **panorama-tiles** folder and empty subfolders are still created. Skipping the streetview-tiles can speed-up processing by up to 100 percent. Depending on your specific setup.
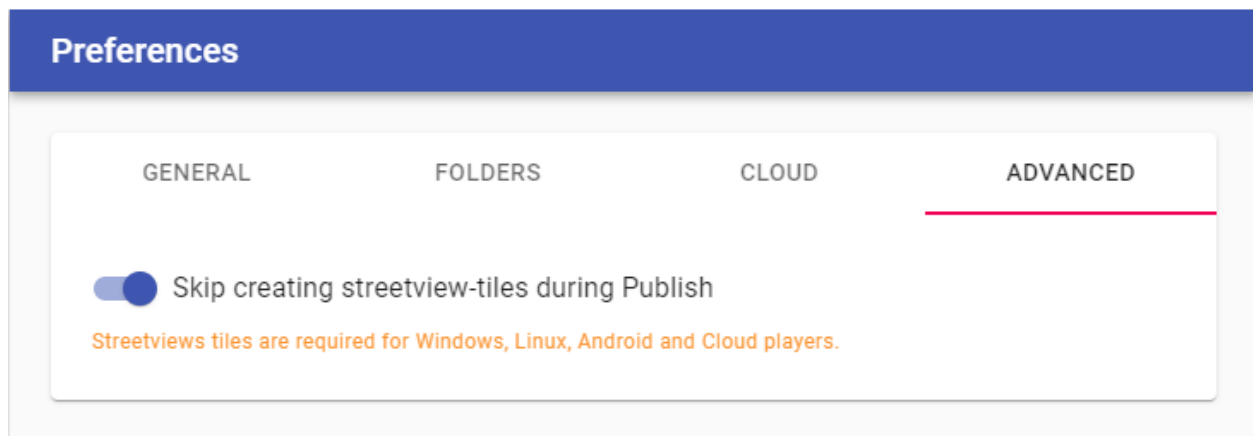
Running Creator 6 (Pro) in a Cloud

Creator 6 (Pro) can be installed on a Windows PC for local processing, or in a cloud. On the following pages we cover Google Cloud, Amazon EC2, Microsoft Azure Cloud.

When installed in a cloud Creator 6 can be accessed easily by Remote Desktop Connection (RDP).

The following NVIDIA graphic cards provided by the clouds have been tested: M60, P100, V100.

Google Cloud

Set Up

1. Go to https://console.cloud.google.com/compute/instances
2. Click on **CREATE INSTANCE**
3. In **Machine type** click **customize**
4. Set **Cores** to 8 and **Memory** to 8 GB
5. In the **GPUs** section set **Number of GPUs** to 1 and **GPU type** to NVIDIA Tesla P100 or V100. V100 is about 80% faster for creating streetview tiles.
6. Click on **Boot disk** and select Windows Server 2019 Datacenter. Then set **Boot disk type** to SSD persistent disk.
7. Click **Create**

Machine type
Customize to select cores, memory and GPUs.

Basic view

Cores

8   vCPU   1 - 96

Memory

8   GB   7.2 - 52

☐ Extend memory ⑦

CPU platform ⑦

Automatic ▾

GPUs
The number of GPU dies is linked to the number of CPU cores and memory selected
for this instance. For this machine type, you can select no fewer than 1 GPU die.
Learn more

Number of GPUs

1 ▾

GPU type

NVIDIA Tesla P100 ▾

ⓘ Machines with GPUs can't migrate on host maintenance

Choosing a machine type ⤢

Container ⑦
☐ Deploy a container image to this VM instance. Learn more

Boot disk ⑦

New 50 GB SSD persistent disk
Image
Windows Server 2019 Datacenter

Change

After connecting to the instance:
1. Download and install CUDA 10.0
2. Download and install Creator 6.x.x
3. Exclude the **in** and **out** Creator 6 folders from Windows Security.
   https://support.microsoft.com/en-us/help/4028485/windows-10-add-an-excl
   usion-to-windows-security

Performance & Cost

For 24 hours:

8 Cores, 8 GB Memory, 1 GPU NVIDIA Tesla P100:

    Performance

Streetviews:	864,000
Streetviews + tiles:	393,000

    Cost

Instance:	53.58 USD
1 Streetview + tiles:	0.00014 USD

8 Cores, 8 GB Memory, 1 GPU NVIDIA Tesla V100:

    Performance

Streetviews:	1,234,000
Streetviews + Streetview tiles:	480,000

    Cost

Instance:	76.38 USD
1 Streetview + tiles:	0.00015 USD

DATA handling

In order to run **Creator 6** cost effectively in a Google Virtual Machine you should set up separate instances for data-transfer and processing.

PROCESS
Is a GPU instance. It is expensive.
For this you want to spin it up only for the actual data processing. Spin it down when not using it.

DATA
Is a tiny CPU instance. It is very cheap.
With just 1 core, 2 GB RAM and no GPU.
Use it for time-intensive data-transfer like upload and download.

1. Assuming your source images are 1 TB, create a new disk with the size of 2 TB and attach it to the **DATA** instance.
2. Start the **DATA** instance, install an FTP server on it and start the data transfer. The data transfer will need some time, and you save money by using a cheap instance for this.
3. Stop the **DATA** instance, and detach your 2 TB disk.
4. Attach your 2 TB disk to the **PROCESS** instance.
5. Start the **PROCESS** instance and process with **Creator 6** from and to the 2 TB disk.
6. Stop the **PROCESS** instance, and attach our 2 TB disk back to the **DATA** instance.
7. Either download the streeview-tiles directly via FTP or upload them to Google cloud storage. (Google enables it's CDN by default).

Amazon EC2

Set Up

1. Go to e.g. https://eu-central-1.console.aws.amazon.com/ec2
2. Click on **Launch Instance**
3. Step 1: Choose an Amazon Machine Image (AMI): Choose **Microsoft Windows Server 2019 Base**
4. Step 2: Choose an Instance Type: Choose **p3.2xlarge** - 1 x V100 GPU.
5. **Review and Launch**

After connecting to the instance:

1. Download and install CUDA 10.0
2. Download and install Creator 6.x.x
3. Exclude the **in** and **out** Creator 6 folders from Windows Security.
   https://support.microsoft.com/en-us/help/4028485/windows-10-add-an-exclusion-to-windows-security

Performance & Cost

For 24 hours:

8 Cores, 8 GB Memory, 1 GPU NVIDIA Tesla V100:

Performance

Streetviews:	1,234,000
Streetviews + Streetview tiles:	480,000

Cost

Instance:	100.584 USD
1 Streetview + tiles:	0.00021 USD

DATA handling

In order to run **Creator 6** cost effectively in an Amazon Virtual Machine you should set up separate instances for data-transfer and processing.

PROCESS
Is a GPU instance. It is expensive.
Instance type: **p2.xlarge** or **p3.2xlarge**.

For this you want to spin it up only for the actual data processing.
Spin it down when not using it.

DATA
Is a tiny CPU instance. It is very cheap.
Instance type: **t2.small**.
Use it for time-intensive data-transfer like upload and download.

1. Assuming your source images are 1 TB, create a new disk with the size of 2 TB and attach it to the **DATA** instance.
2. Start the **DATA** instance, install a FTP server on it and start the data transfer. The data transfer will need some time, and you save money by using a cheap instance for this.
3. Stop the **DATA** instance, and detach your 2 TB disk.
4. Attach your 2 TB disk to the **PROCESS** instance.
5. Start the **PROCESS** instance and process with **Creator 6** from and to the 2 TB disk.
6. Stop the **PROCESS** instance, and attach our 2 TB disk back to the **DATA** instance.
7. Either download the streeview-tiles directly via FTP or upload them to Amazon S3.

Microsoft Azure Cloud

Set Up

1. Go to e.g. https://portal.azure.com/#blade/HubsExtension/Resources/resourceType/Microsoft.Compute%2FVirtualMachines
2. Click on **Add**
3. Image: **Windows Server 2019 Datacenter**
4. Size: **Standard NV6**
5. **Review + create**

After connecting to the instance:

1. Download and install CUDA 10.0
2. Download and install Creator 6.x.x
3. Exclude the **in** and **out** Creator 6 folders from Windows Security. https://support.microsoft.com/en-us/help/4028485/windows-10-add-an-exclusion-to-windows-security

Performance & Cost

For 24 hours:

6 Cores, 56 GB Memory, 1 GPU NVIDIA Tesla M60:

> **Performance**
>
> Streetviews: 455,000
> Streetviews + Streetview tiles: 176,000
>
> **Cost**
>
> Instance: 38.4 USD
> 1 Streetview + tiles: 0.00021 USD

DATA handling

In order to run **Creator 6** cost effectively in an Azure Virtual Machine you should set up separate instances for data-transfer and processing.

PROCESS
Is a GPU instance. It is expensive.
Instance type: **Standard NV6**.

For this you want to spin it up only for the actual data processing.
Spin it down when not using it.

DATA
Is a tiny CPU instance. It is very cheap.
Instance type: **B2s**.
Use it for time-intensive data-transfer like upload and download.

8. Assuming your source images are 1 TB, create a new disk with the size of 2 TB and attach it to the **DATA** instance.
9. Start the **DATA** instance, install an FTP server on it and start the data transfer. The data transfer will need some time, and you save money by using a cheap instance for this.
10. Stop the **DATA** instance, and detach your 2 TB disk.
11. Attach your 2 TB disk to the **PROCESS** instance.
12. Start the **PROCESS** instance and process with **Creator 6** from and to the 2 TB disk.
13. Stop the **PROCESS** instance, and attach our 2 TB disk back to the **DATA** instance.
14. Either download the streeview-tiles directly via FTP or upload them to the cloud.

Downloads

[Creator 6 manual](#)
[Creator 6 program](#)

Support

Please update first.
Support is provided for the [newest Creator 6](#) release only.
Maybe your problem has already been solved?

Contact
Support is available in English language.

Helpdesk: [support.applied-streetview.com](#)
E-Mail: [support@applied-streetview.com](#)
Skype ID: applied-streetview
Phone: +49 6103 - 37 27 494