[1999-D]

Unlocking the Value of Autodesk Construction Cloud for Infrastructure

Diego González Pascual
Autodesk

Keenan Bruni
Autodesk

Learning Objectives

- Discover how Autodesk Construction Cloud and Autodesk Tandem can be used with infrastructure assets and projects.
- Learn about Maps in Autodesk Construction Cloud, with Issues/Photos and Power BI maps in Autodesk Construction Cloud Insights, including use of chainages and GPS locations.
- Learn about moving from Autodesk Construction Cloud to Tandem for infra assets, and explore linear assets in Tandem, including road- and rail-related sensors.
- Learn about Autodesk Build Assets, Forms, and Data Exchange for infra assets, and explore using native tools and Power BI.

Description

Join us for an engaging session designed specifically for the infrastructure sector. Discover how Autodesk Construction Cloud can improve project management, foster collaboration, and streamline data environments for infrastructure projects, including Power BI, Autodesk Tandem, Autodesk Construction Cloud maps, and Esri. Learn to visualize maps and geographic information system (GIS) data using Power BI and Esri environments to provide actionable insights.

Speaker(s)

Diego González Pascual

Digital Innovation and Consultant. Technical Solutions Executive at **Autodesk**

MEng Civil Engineer and MArch Architect in the industry since 2005 in both infrastructure and architecture projects, as well as in roles as a digital consultant, digital director and lecturer in various BIM MSc about Digital & BIM methodologies. Diego's experience ranges from rail infrastructure projects, sport stadiums, urban developments to leading **Digital**, **BIM** & **Information Management** implementations for major Rail agencies. (Adif, Rail Baltica, and TELT)
Currently, Technical Solutions Executive at Autodesk, specializing in cloud solutions such as Autodesk Construction Cloud and Autodesk Tandem. Prior to his role in Autodesk, Diego worked as a Digital Lead for Transportation in AECOM EMEA and as a structural engineer in AECOM, Fhecor, Arenas & Asociados and CPV.

Hobbies: Music, languages, roller skating and videogames.

Linkedin: https://www.linkedin.com/in/diegogonzalezpascual/

Keenan Bruni

Technical Solutions Executive at **Autodesk**

Keenan Bruni is a construction technology veteran, combining over a decade of jobsite & software experience to inspire innovation for Autodesk customers around the world. While he started his career building complex MEP systems, his passion for coding and software development led him to his current role as a Technical Solutions Executive with Autodesk, focusing on the Autodesk Construction Cloud suite of tools.
Keenan likes to demonstrate that if it seems impossible in ACC, oftentimes we aren't trying hard enough. In his free time, Keenan is either performing music at a local dive or chasing thrills on his snowboard/surfboard. He lives alongside the foggy San Francisco coastline with his wife and French Bulldog.

Hobbies: Music, camping, and boardsports

Linkedin: https://www.linkedin.com/in/keenan-bruni/

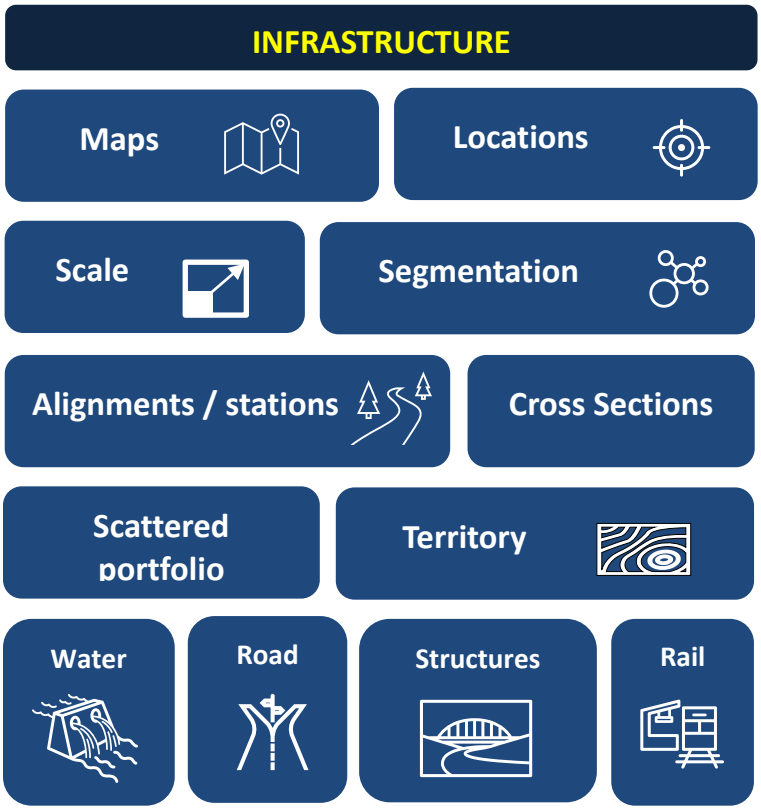
Introduction

The AEC sector faces unique Information Management challenges that must support the specific needs of each domain. Infrastructure is no exception, requiring versatile and construction-focused solutions that integrate seamlessly with its workflows and assets. The session demonstrates and showcase how **Autodesk Construction Cloud** (ACC) and **Autodesk Tandem** (together with ESRI ArcGIS Online) can address these needs, offering a unified approach to managing infrastructure data within Autodesk Cloud platforms.

Infrastructure particularities

Infrastructure projects & assets have unique characteristics:

- Infrastructure projects are unique in nature, large in scale, and require territorial integration, geospatial and maps support.
- These projects, if linear (rail / road / channels), have alignment and cross-section constraints and need greater segmentation.
- Infrastructure assets are usually diverse, scattered and technically different to typical vertical building ones.



Leveraging Infra Data

The general approach to manage infrastructure project / asset Information Management doesn't differ to the general one for buildings, as per ISO 19650, focusing on documentation management, project management, model management and any quality and delivery process, so ACC and / or Autodesk Tandem can manage these processes, but regarding the particularities mentioned in the previous chapter, these infra projects would need some additional geometry and data information that are common in the infra domain:

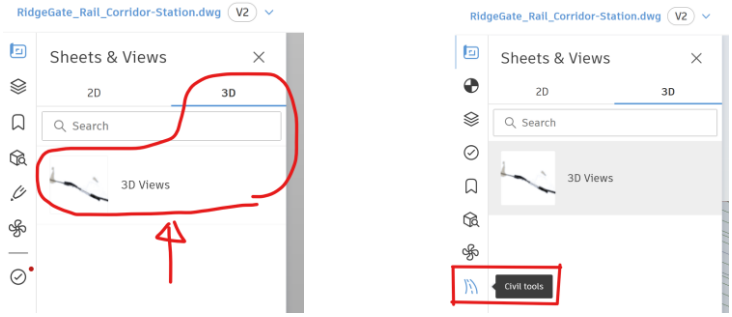
Geometry data

The key idea is bringing together to the project users, regardless of the lifecycle stage, the geometry information of either the infrastructure assets themselves or the context, which has a remarkable position in the infrastructure definition and understanding:

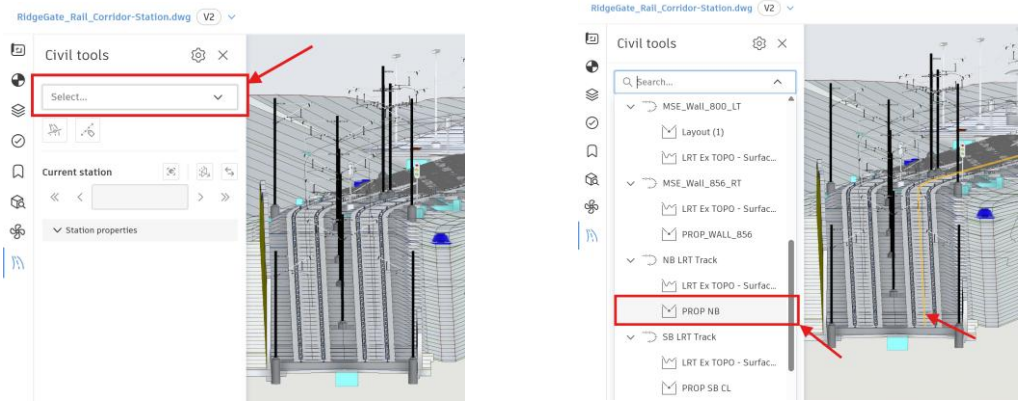
Managing Civil 3D alignments in Autodesk Docs (ACC)

ACC Docs Viewer includes the Civil Tools functionality:

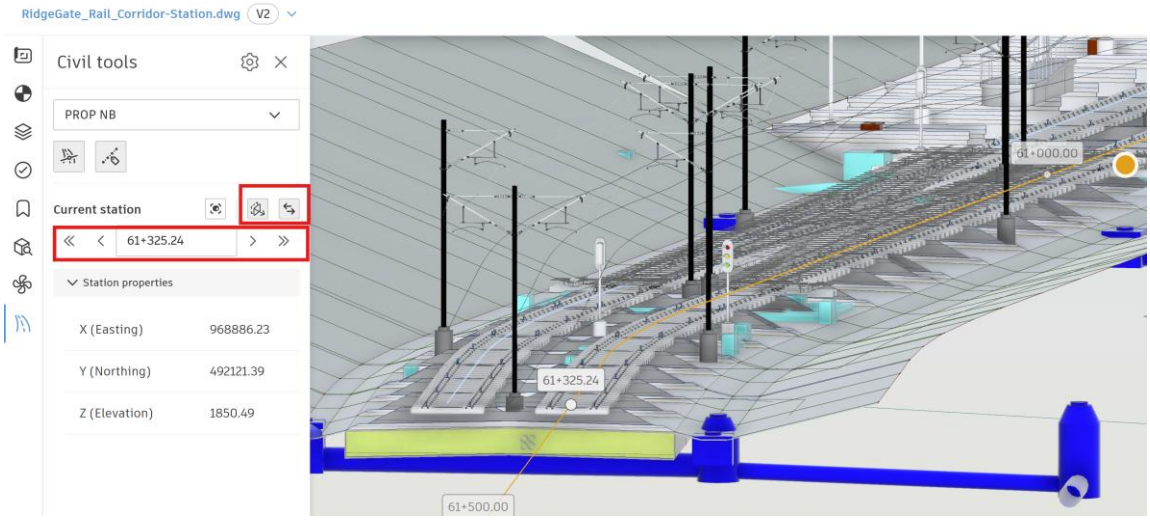
1) Open a Civil 3D model that includes corridor information (and therefore alignments).
2) Choose a 3D view. The Civil Tools submenu will then be visible.



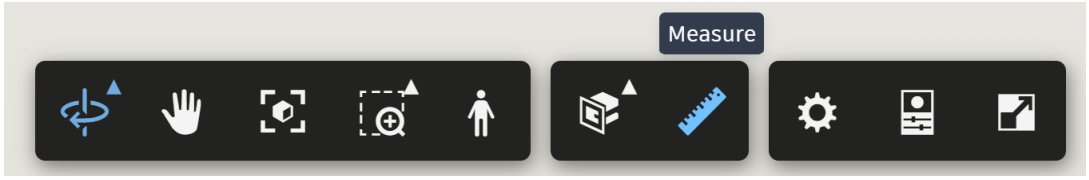
3) In the Civil Tools menu you can choose from among the existing alignments

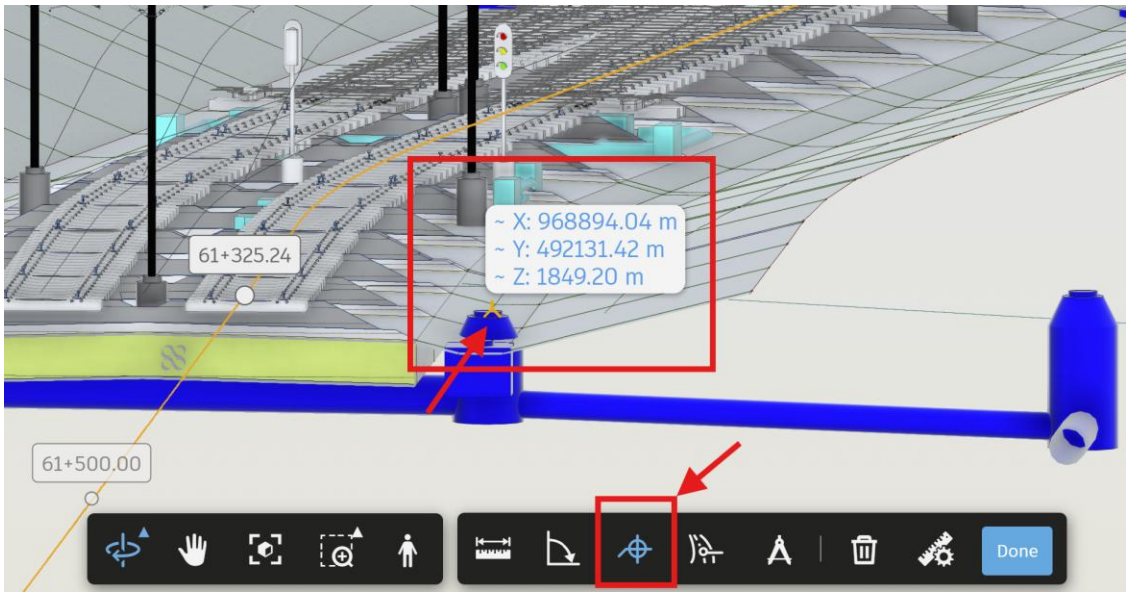


4) Along through the alignment, stations (chainages) can be chosen, either by writing in the field or simply picking against the alignment itself. Cross section can be generated as well.

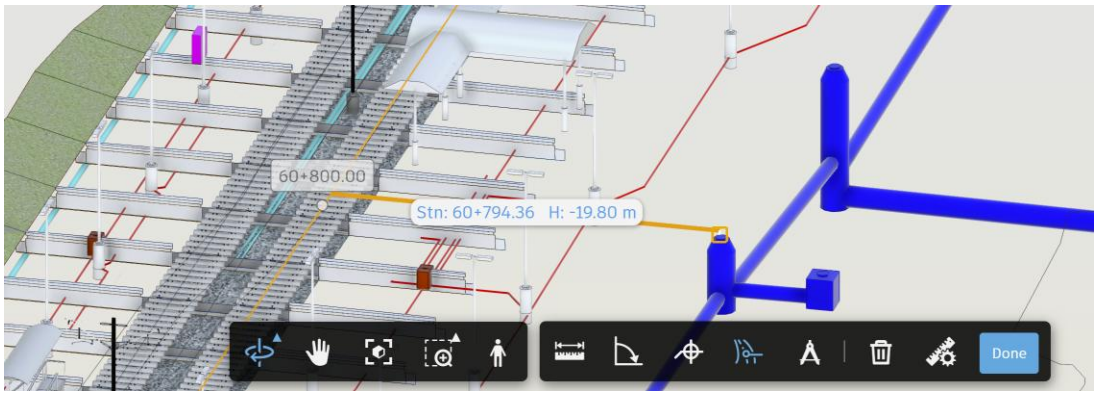


5) Measurement tools make possible obtaining Spot Coordinates for a specific point in the model, in general coordinates.



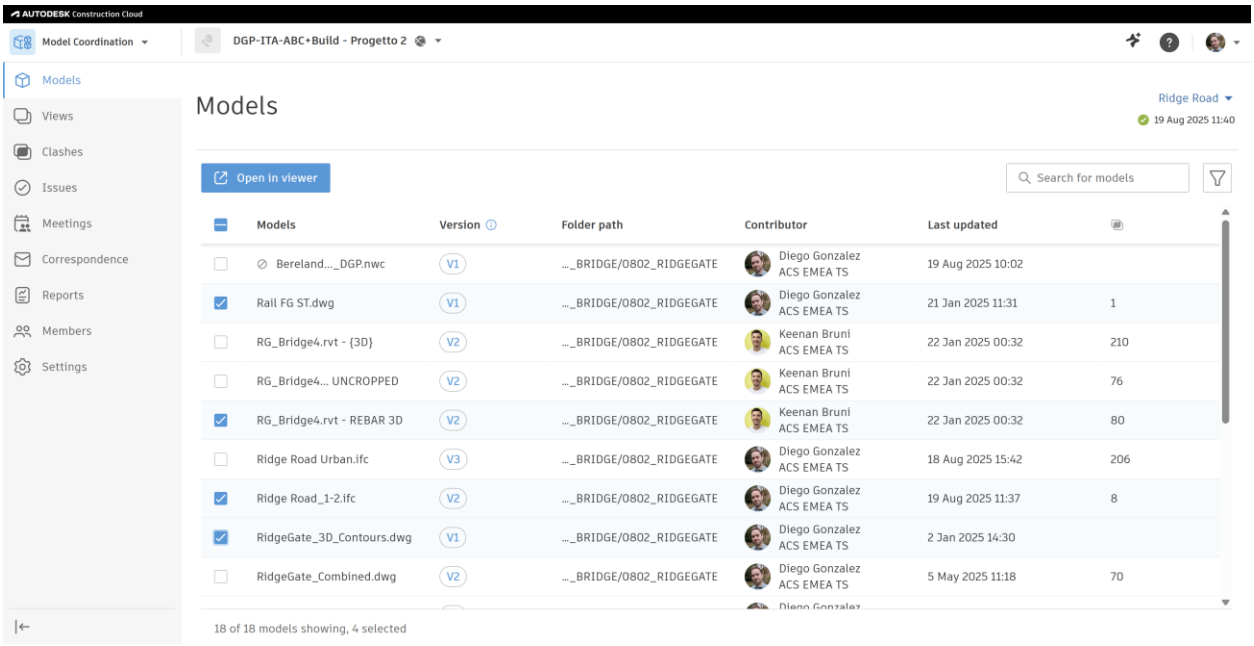


6) Measurement tools make possible obtaining Station Offset for a specific point in the model, perpendicularly to the chosen alignment.



ACC Model Coordination (Coordination Spaces)

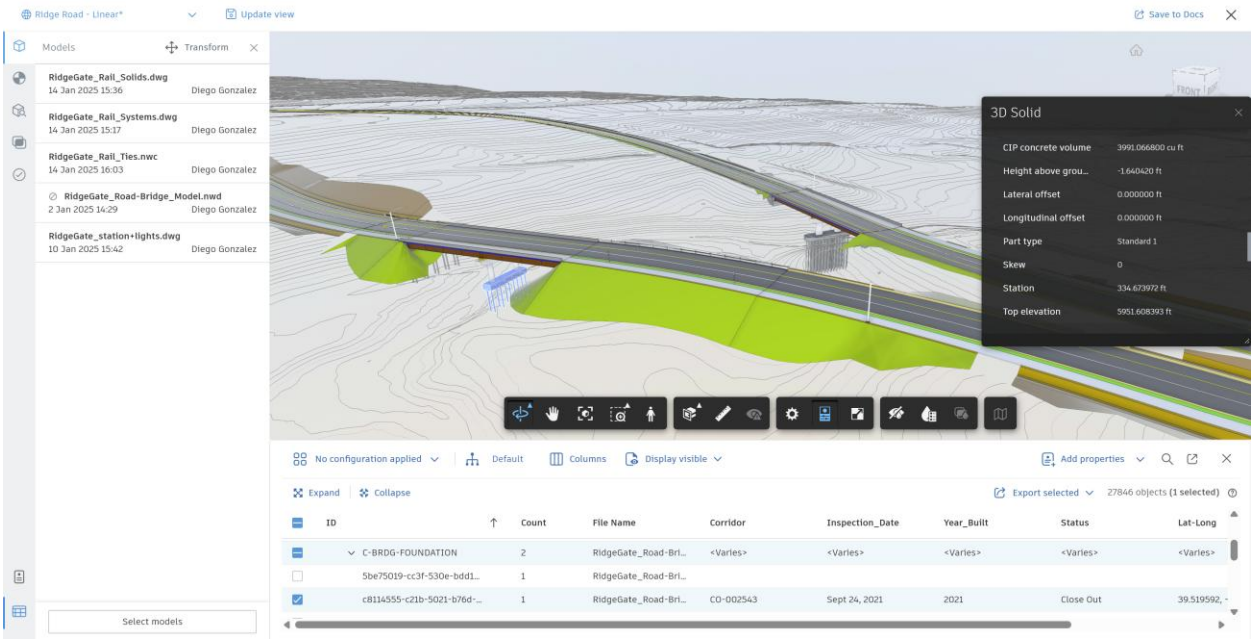
Autodesk Construction Cloud consents BIM model federation in the cloud, with the **Model Coordination** module, by aggregating different 3D models together, making possible the creation of 3D Coordination Spaces.



These are the key features of **ACC Model Coordination**:

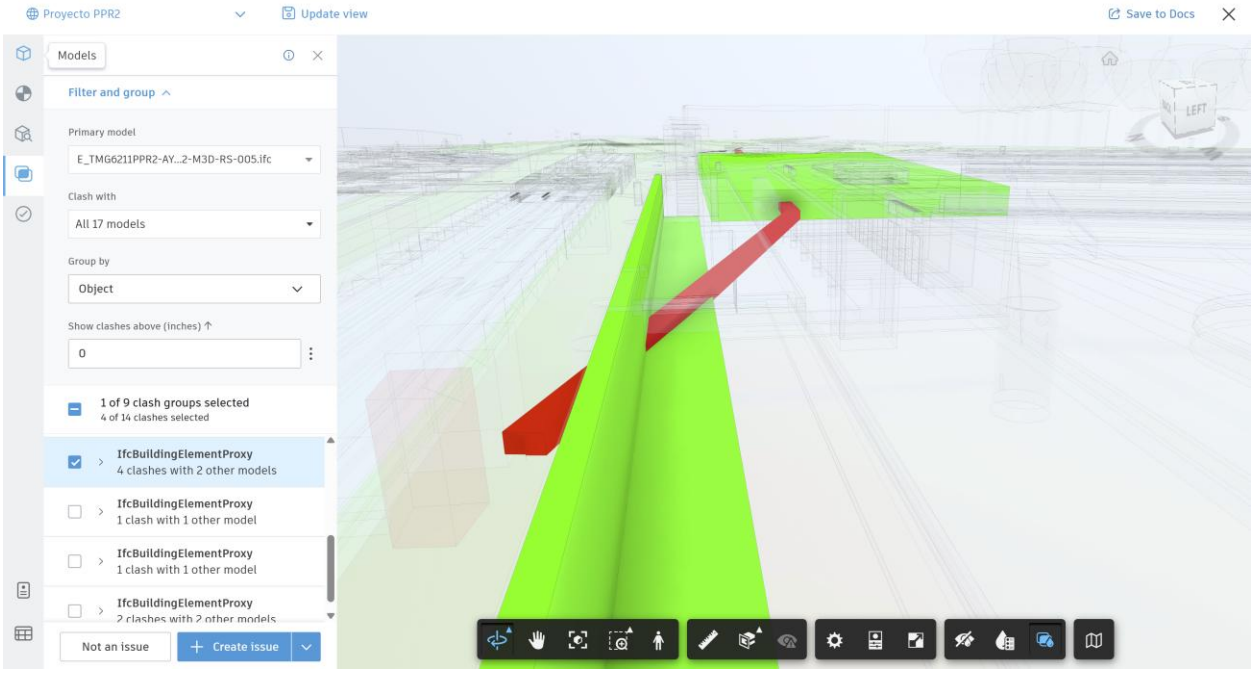
- **Cloud-Based Access**: Models are accessible via the cloud, enabling real-time collaboration across teams and geographies.

- **Federated Model Viewing**: Combine architectural, structural, and MEP models into a single federated view for holistic coordination.
- **Clash Detection Automation**: Automatically detects clashes across all project models, reducing manual effort and improving accuracy.
- **Clash Grouping & Issue Assignment**: Clashes can be grouped by object and assigned as coordination issues to specific team members for resolution.
- **Model Browser & Saved Views**:
    - Filter elements by discipline, assembly, or category.
    - Create and manage private or shared views for focused coordination.



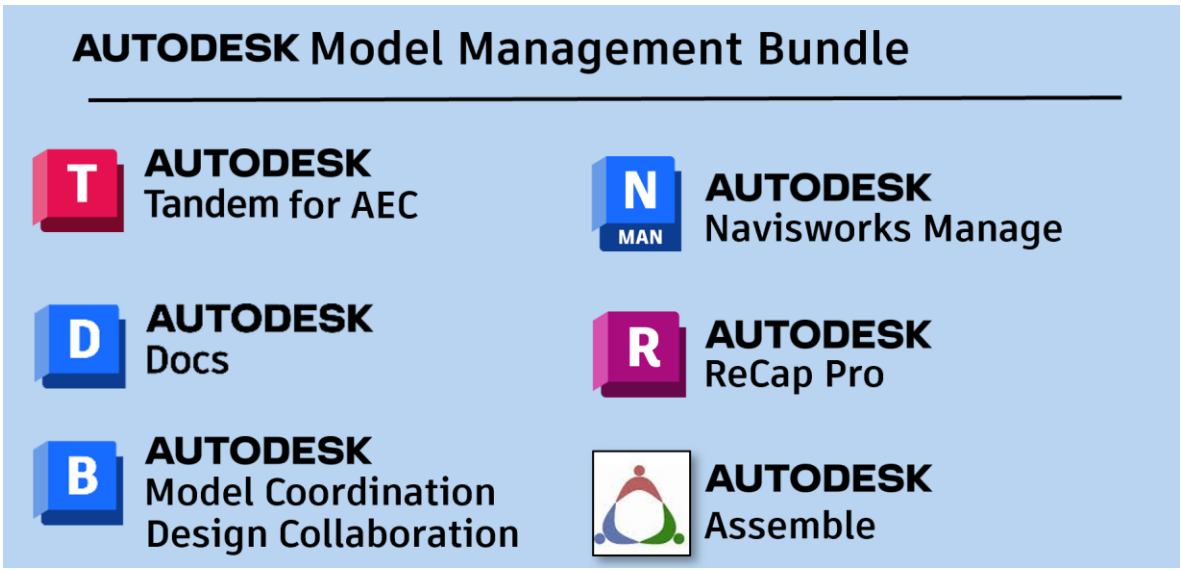
In the picture above, a Road Project including Navisworks models (NWC and NWD) and Civil 3D models (DWG). Attributes can also be visualized, either with the Properties panel (black top-right box) or the Object Table (bottom-left table-like icon), that opens a table that allows users to create tables with object attributes as columns and objects as raws.

In the picture below, an urban development project, with 18 files in IFC format aggregated in the Model Coordination “Coordination Space”, checking the automated clash detection in the cloud.



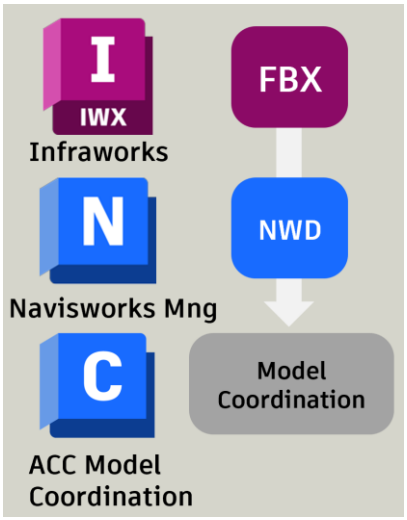
ACC Model Coordination consents the aggregation of different model formats, such as Civil 3D (dwg), Revit (rvt), OpenBIM (ifc), Navisworks Manage (nwc, nwd) and many others.
Check all supported formats in this link:
https://help.autodesk.com/view/COORD/ENU/?guid=Model_Coord_Supported_Files

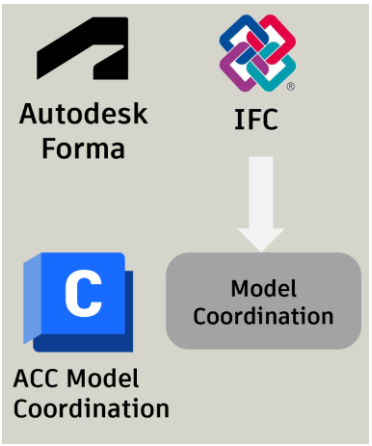
The **ACC Model Coordination** module is included in the **Model Management Bundle**:



Bringing Geospatial context to ACC Model Coordination

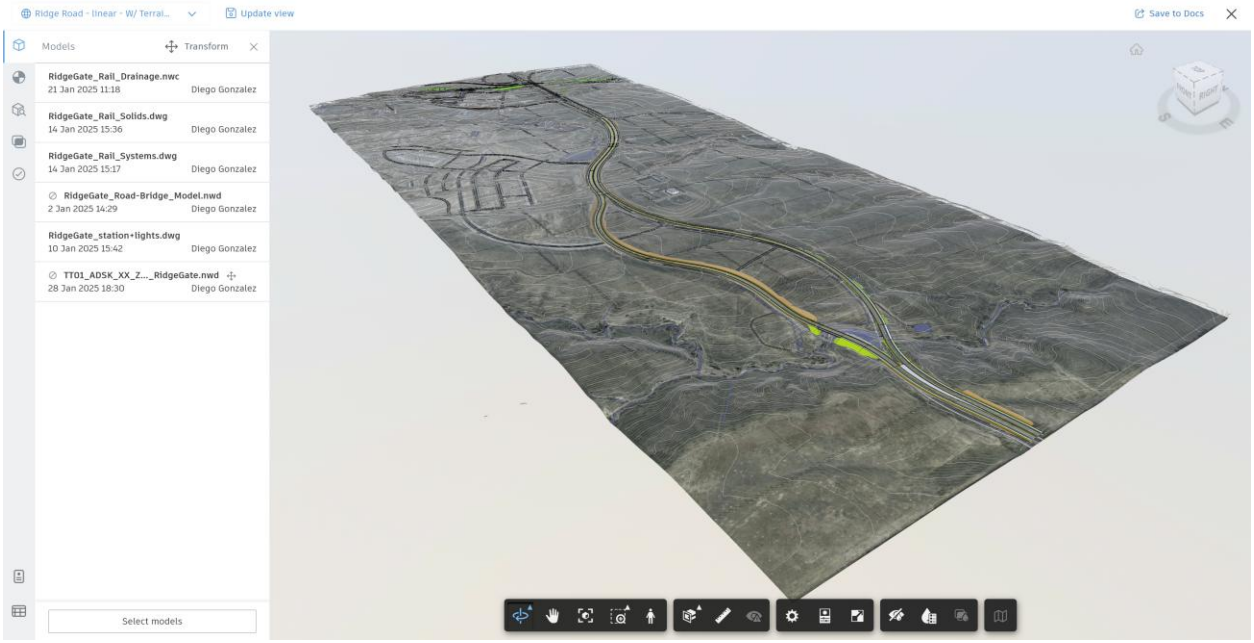
Model Coordination not only makes possible the aggregation of modelled objects but also supports the geospatial context extracted from other solutions, such as **Autodesk Infraworks** and **Autodesk Forma**.



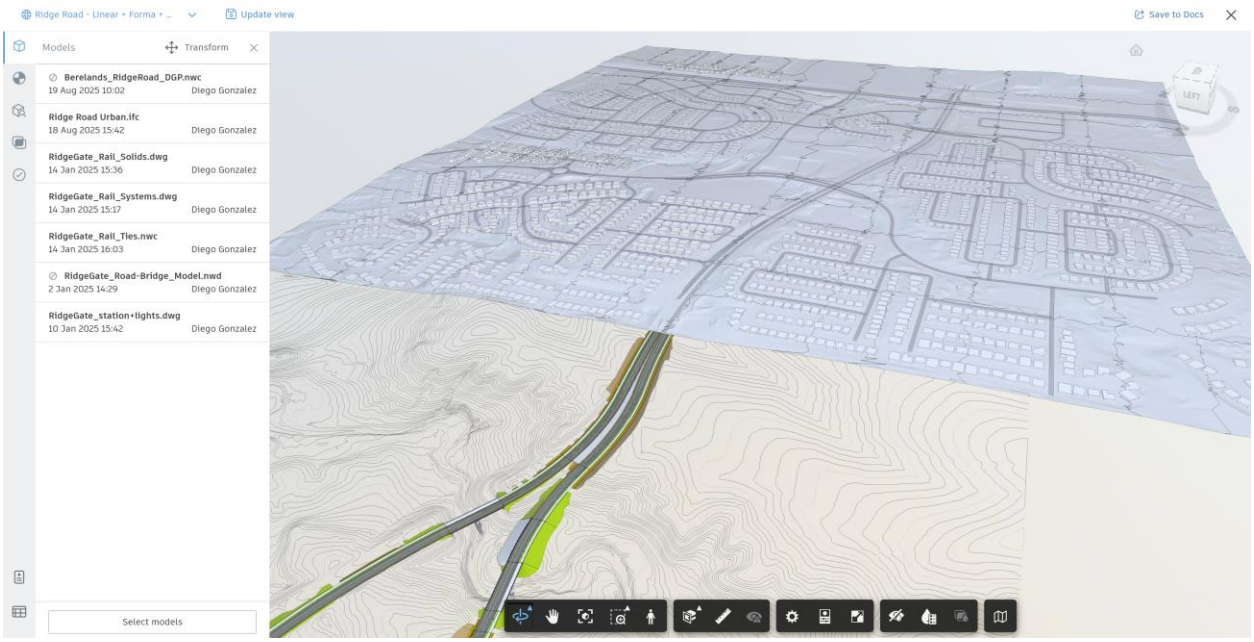


By means of the two workflows above, you can generate geospatial context, saved in supported formats to your Infrastructure Coordination Spaces.

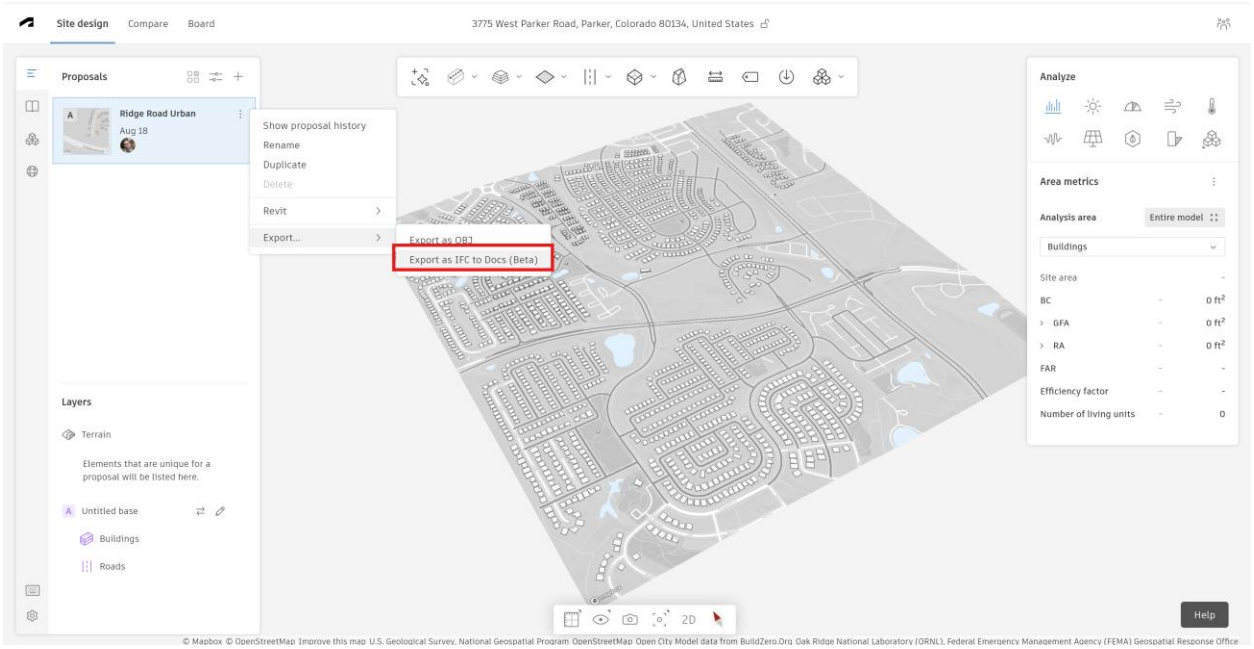
Here below, a Coordination Space including a NWD file with the FBX terrain export from **Infraworks**. The Terrain was generated in Infraworks from a GIS map database.



In the picture below, the Coordination Space includes an IFC file with the GIS context exported from **Autodesk Forma**.

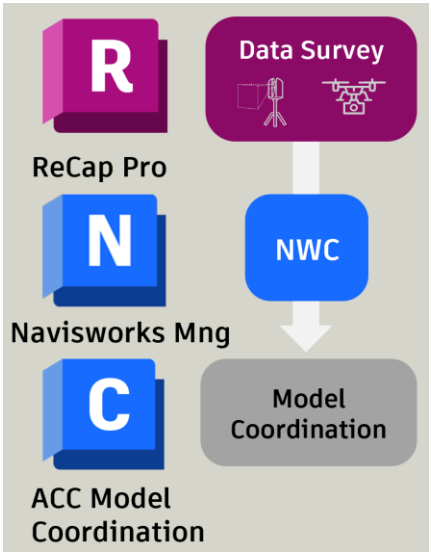


In **Autodesk Forma**, exporting the IFC format can be done in the menu shown below.

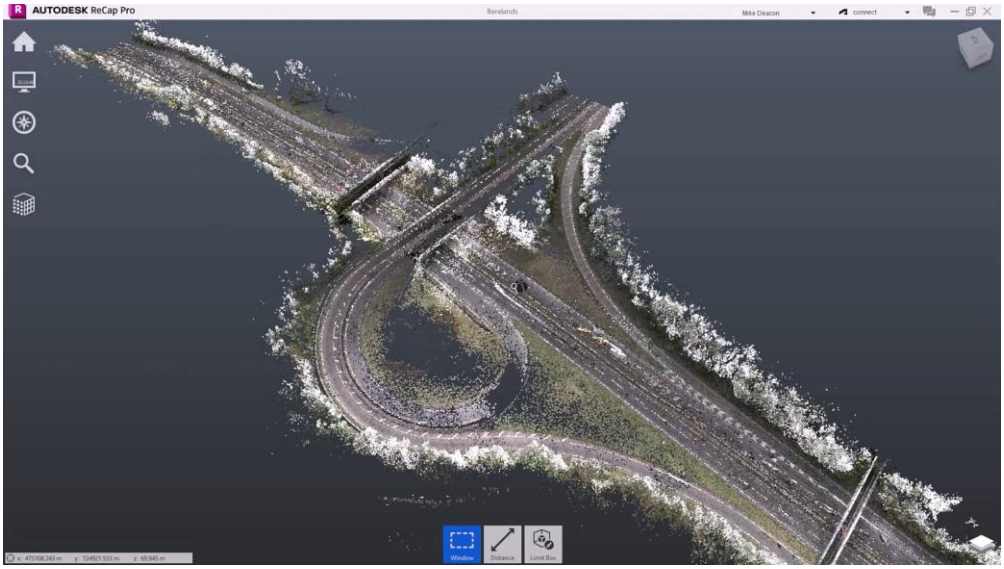


Bringing existing assets to ACC Model Coordination

Infrastructure projects **do not always have a 3D BIM model available**; this is common for existing assets. In this case, surveying the existing assets or the surrounding areas is a good practice. This survey usually takes the form of point clouds, which are not actually models but, as its name suggests, floating points in a 3D space. The proposed workflow in this case is the **creation of mesh models from the point clouds**, that will become **3D mesh models** which will be actually 3D models, which will potentially be aggregated in **ACC Model Coordination**.



In this case, the proposed workflow, involves **ReCap Pro**, which will make possible the point cloud classification and filtering, the mesh creation (or meshes if classified) and the NWC model export.



Model Coordination can aggregate Navisworks NWC models with the rest of the Coordination Space, and this way the existing assets / surroundings can also be brought to the aggregation.

It is worth noting that if the point cloud is classified within **ReCap Pro**, the meshes can be broken down into different sub meshes, this is particularly convenient because this makes possible the independent object creation of meshes, which will potentially be usable within ACC as objects for a proper **clash detection**, an Asset reference within either **ACC Build Assets** or **Autodesk Tandem**.

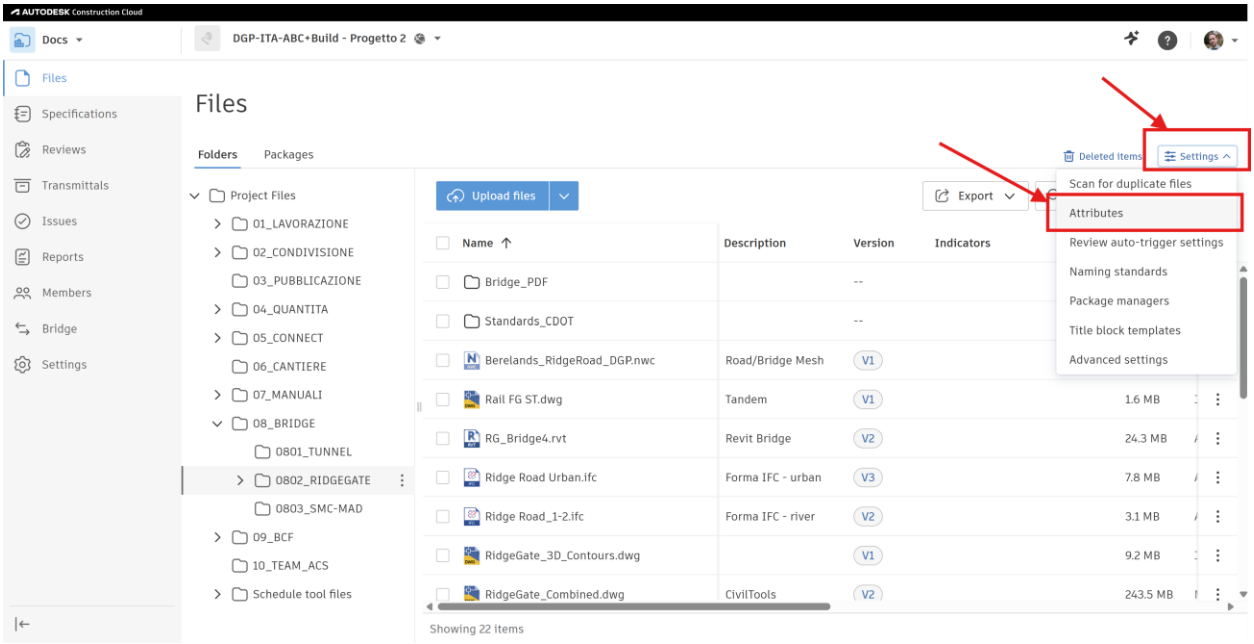
Information data

Any BIM model includes both geometry and information data, and the infrastructure BIM models are not different. In this case, **infrastructure** elements have **specific data** that is commonly used and **referenced in infra projects**, which is commonly based on **positioning**. Among this kind of information we can mention **locations, GPS locations, Stations** (American English) or **Chainages** (British English), just to name a few.
This kind of information is usually managed as a **tag** of different project information, such as files, BIM objects or different project entities (as Issues, Sheets, Assets, Forms...), or also in a very convenient way, referred and visualized in **maps,** or shown by means of Dashboards, where this information can be aggregated.
In this section we'll discover how to manage that kind of information and how we can put it together with PowerBI dashboards.

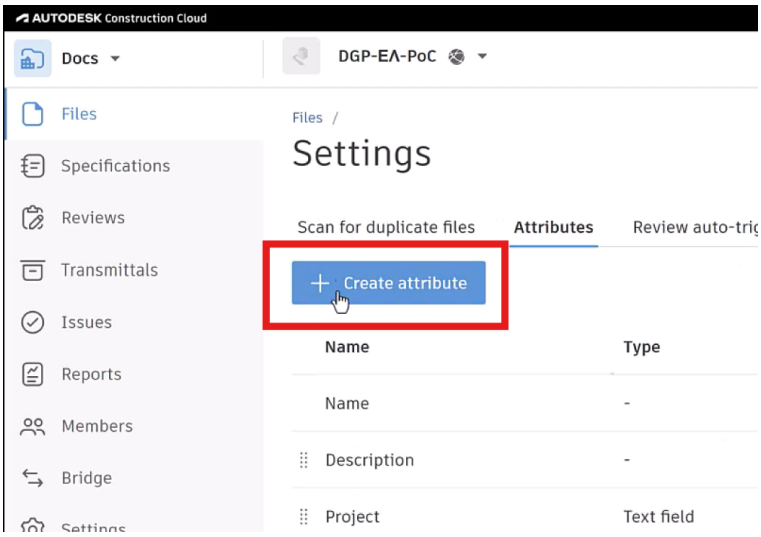
Managing Stations with Autodesk Docs

ACC Docs is the ACC Document Management System, which makes possible the customization of the metadata that is attached to every single file in the platform. The strategy with Stations / Chainages will be creating Custom Attributes with the stationing. This can be carried out in Settings (it requires Project Admin permission).

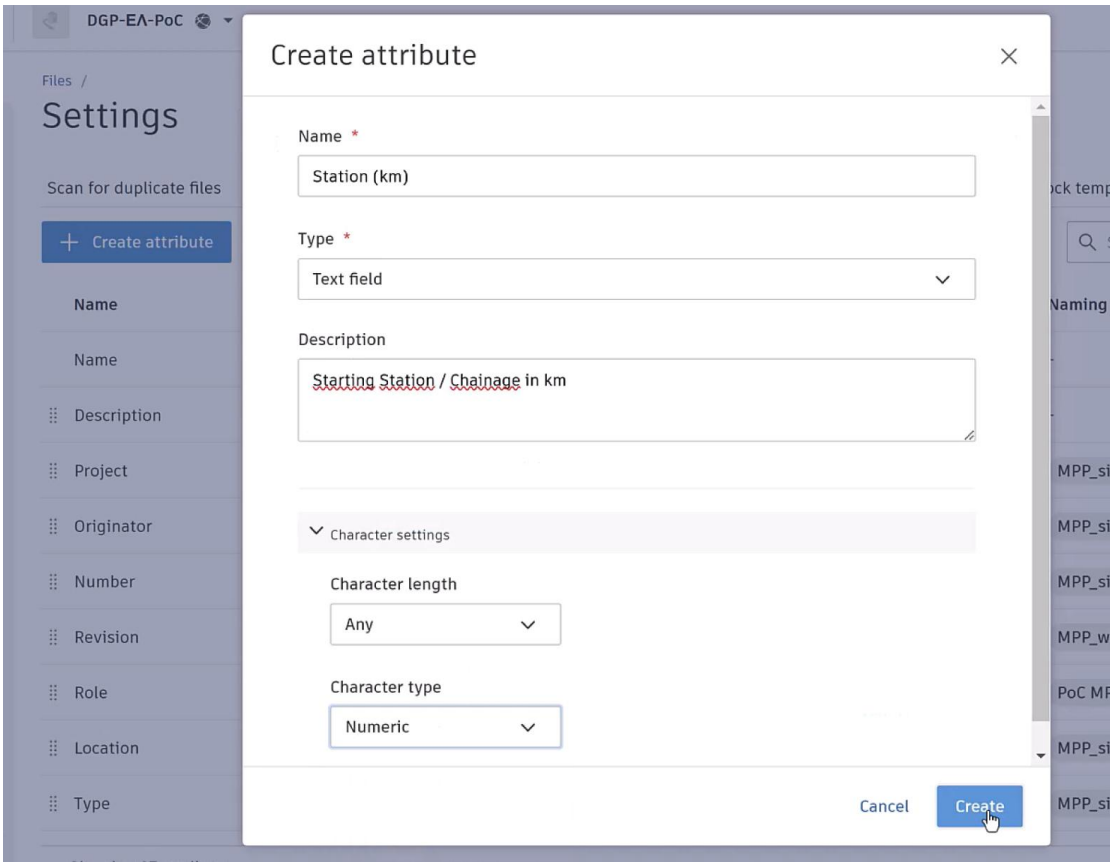
1) Open the Attributes menu in Settings.



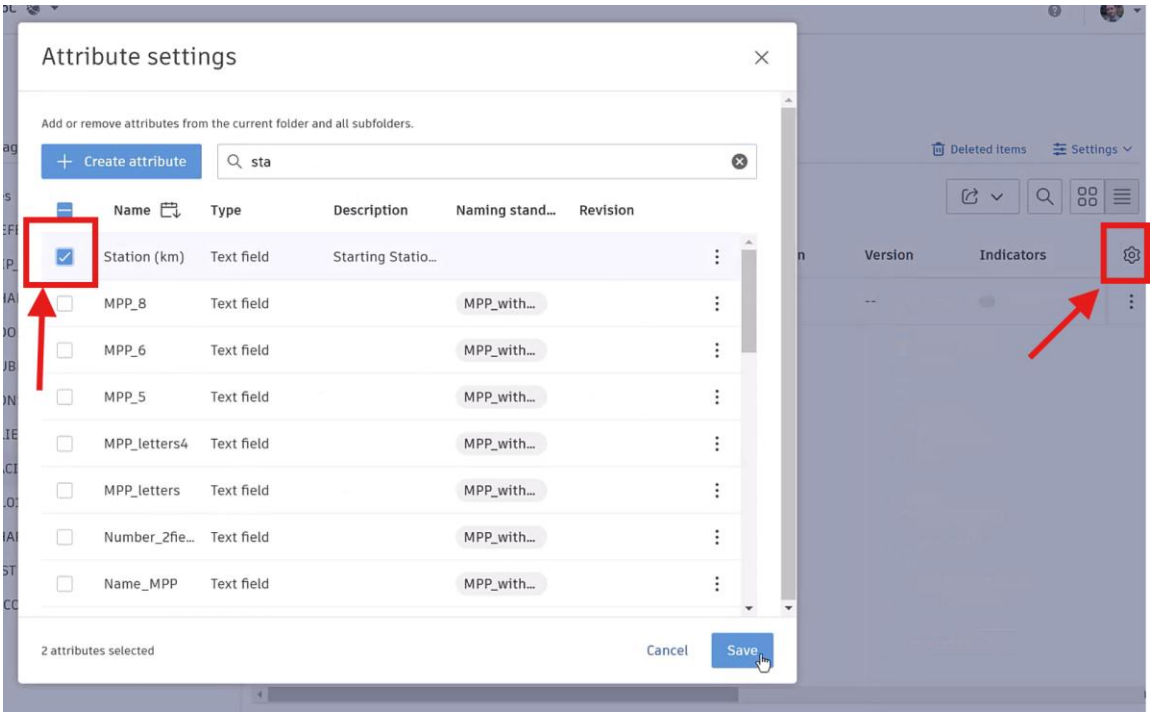
2) Create attribute by pushing the specific button.



3) Define your attribute as Text field with a Numeric character type.



4) Turn on the custom attribute in your folder/s by adding it with the wheel button.



5) Populate your custom attribute with your Station / Chainage positioning.

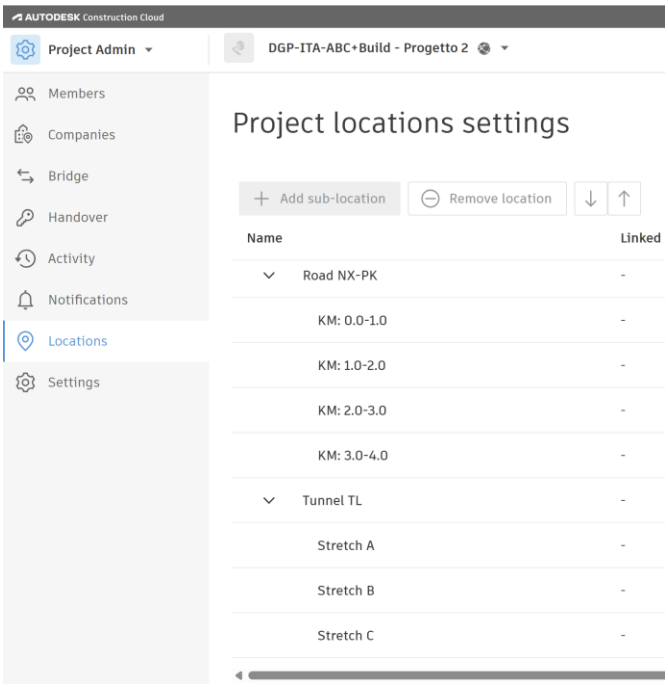
This approach will make possible that any file could be referred to a specific station or stretch, according to the project stationing reference strategy.

Note that Docs has a **filtering** option that will easily make possible that an user look for a file by looking for the first parts of the station, for instance “2+1” will show any file that has a station assigned within 2+100 to 2+199.999.

Managing Locations and GPS locations in ACC

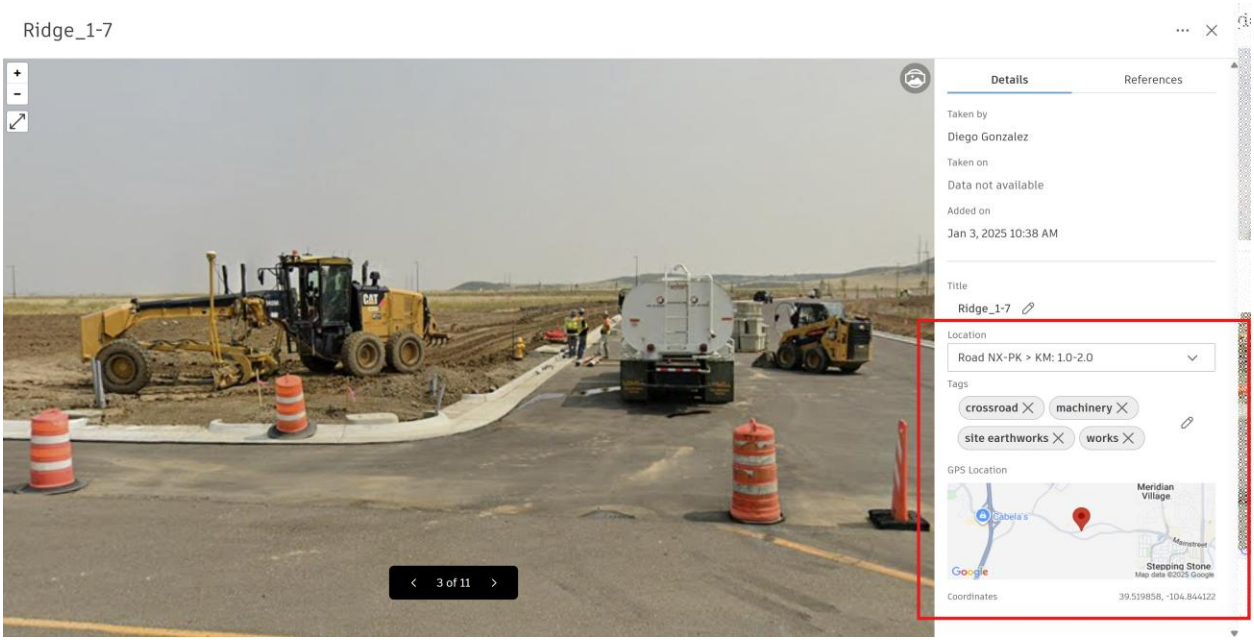
Not only ACC Docs supports custom attributes, but most of the ACC modules and functionalities have the option to include specific custom attributes. In this case we'll focus on **Locations** and **GPS Locations**.

Locations is a specific ACC built-in attribute that is accessible from Project Admin menu (with that name as supposed, it requires Project Admin permission), where the specific location breakdown can be set up with its specific hierarchy. In the example below, you can see a couple of examples of stretches by Station / Chainages, or by other non-numeric division.

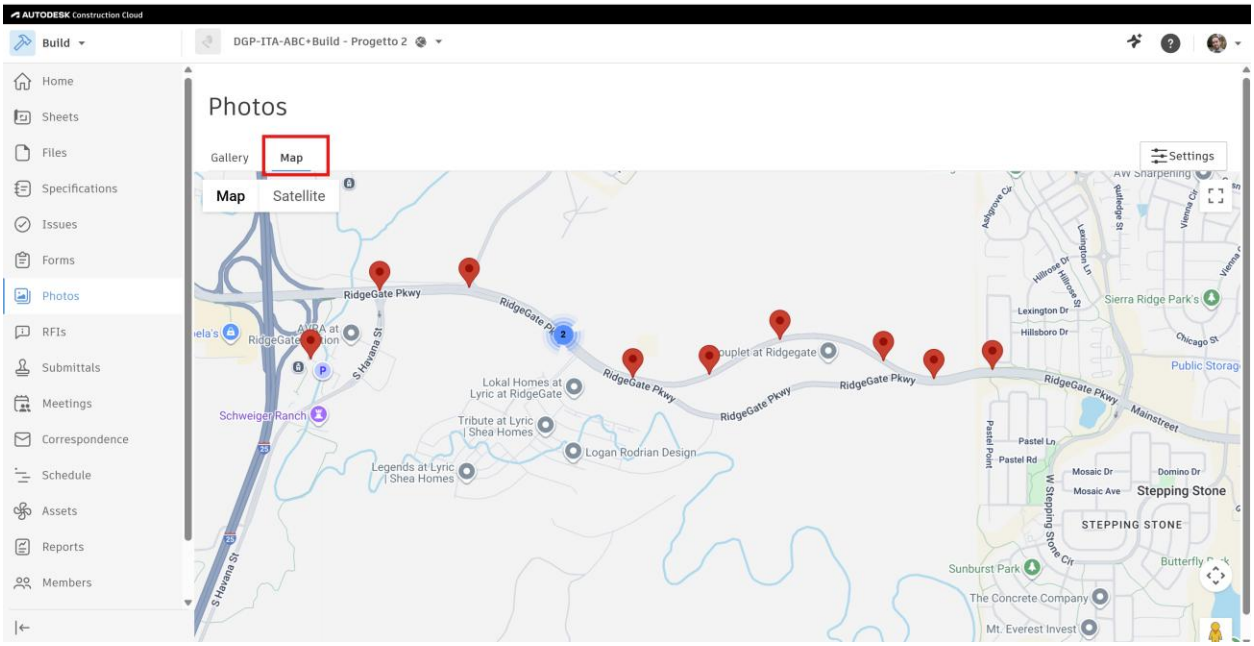


GPS Locations is another built-in attribute that, as per the date of this handout, is only available in **Issues** and (**Build**) **Photos** functionalities.

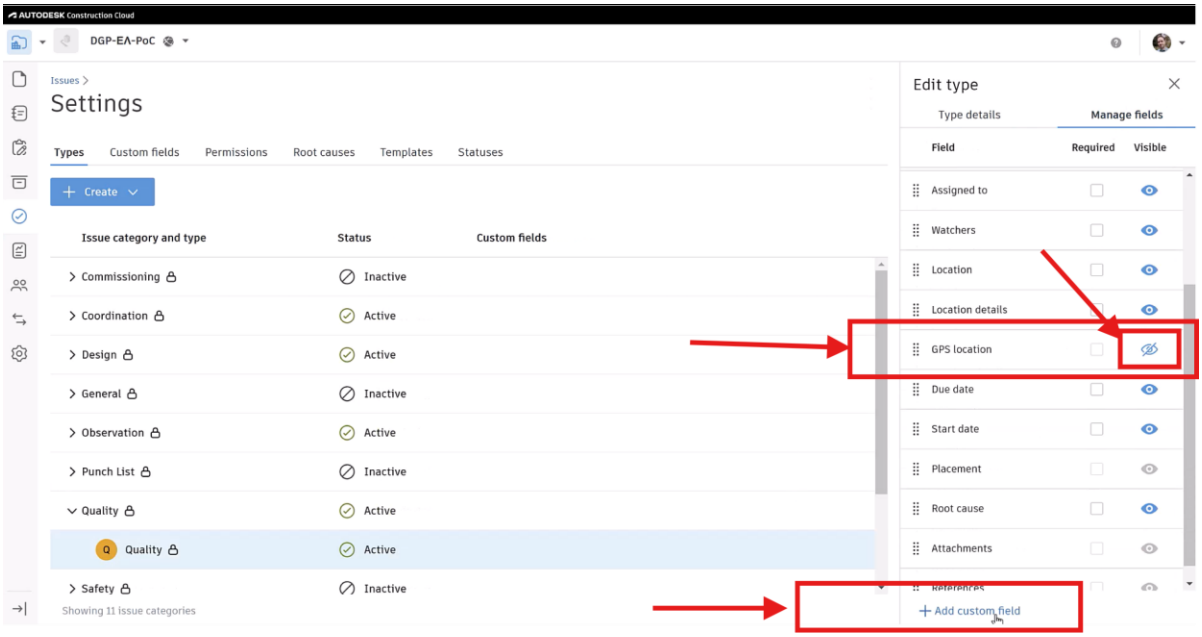
In **Photos** the **GPS location** information is automatically read from the picture metadata (for instance if the picture was taken with a mobile phone with GPS), and can be accessed simply switching between "Gallery" and "Map".
The **Location** information can be assigned in a drop down menu (showing the previously defined Locations).
Additionally, Photos has "Tags" and "Autotags". Users can only define tags, which will make possible filtering later, and Autodesk AI will match the user-defined tags and will populate Autotags in other photos.



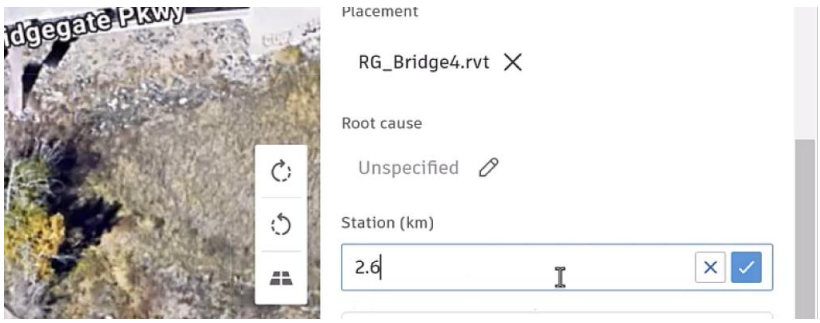
Here below, a Map showing the existing project Photos.



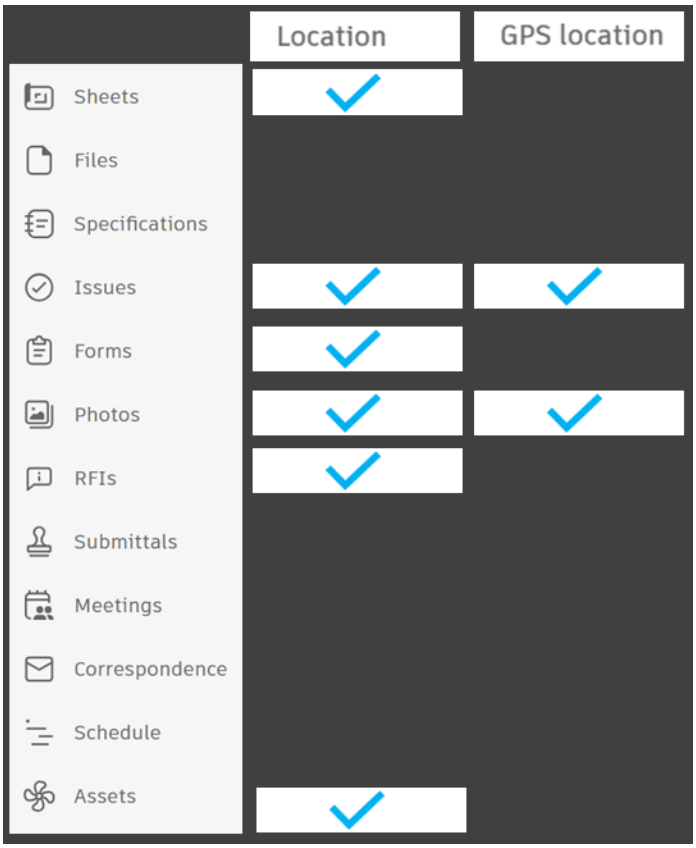
Regarding **Issues**, a custom attribute for **Station** could be created in the same way as in Docs and if we want to include **GPS locations** we can simply turn it on, because it is a built-in one. We can use Maps in Issues to see all Issues in a map as well.


AUTODESK Construction Cloud
DGP-EA-PoC
Issues
Settings
Types
Custom fields
Permissions
Root causes
Templates
Statuses
Create
Issue category and type
Status
Custom fields
Commissioning
Inactive
Coordination
Active
Design
Active
General
Inactive
Observation
Active
Punch List
Inactive
Quality
Active
Quality
Active
Safety
Inactive
Showing 11 issue categories
Edit type
Type details
Manage fields
Field
Required
Visible
Assigned to
Watchers
Location
Location details
GPS location
Due date
Start date
Placement
Root cause
Attachments
Add custom field


Map
Issues
(1)
#22 - Quality - barrier
Open • Quality
Gianfranco Alberti
No due date
#21 - Pavement damaged
In review • Observation
Owners Inc
Due Feb 12, 2025
#20 - Crossroad coordination
In review • Requirement Change
Owners Inc
Due Apr 15, 2025
#19 - Coordination of crossroad
Open • Quality
Owners Inc
Due May 13, 2025
#18 - Coordination crossroads
Pending • Requirement Change
Owners Inc
Due Apr 15, 2025
#17 - Coordination of urbanization site
Map
Satellite
Move
Delete
Ridgegate Pkwy
Issue #22
Details
Activity log
Unpublish
Delete
Gianfranco Alberti (Owners Inc)
Watchers
Gianfranco Alberti
Location
Unspecified
Location details
Unspecified
GPS location
39.51975729876959,
-104.83572140205979
Google
Unspecified
Start date


Ridgegate Pkwy
Placement
RG_Bridge4.rvt
Root cause
Unspecified
Station (km)
2.6

So far, we have added information that can be interesting for our project management. But if we want, we can use all these Location, GPS Location, Tags… and actually any custom attribute as data for **PowerBI dashboards**. We'll see that later, at this moment, what we need to know is that Location and GPS Location is usable in the different features as per this table. Th



Tracking Infrastructure Data with Assets

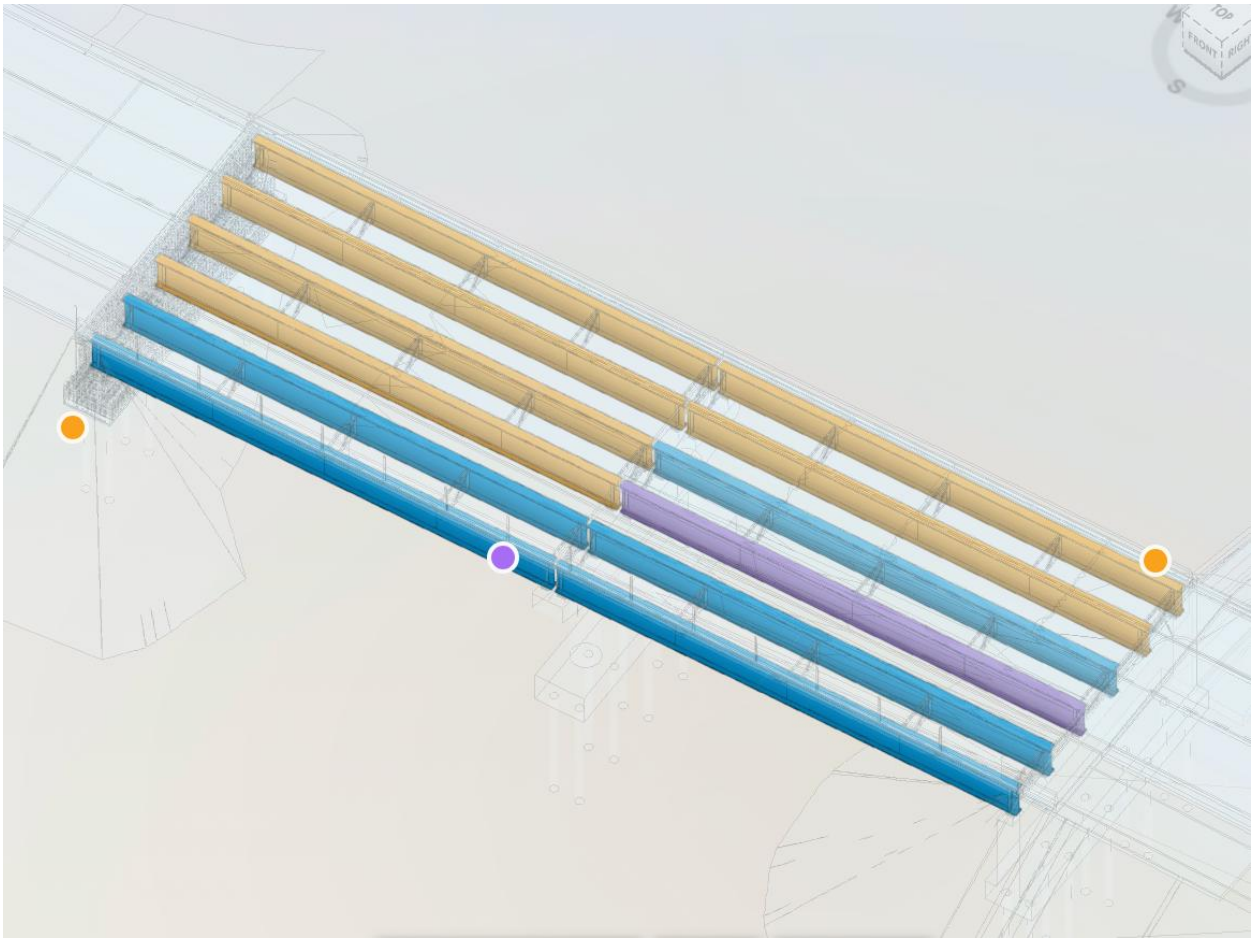
Assets are anything and everything we want to track during a project.

Light fixtures, steel girders, entire stretches of roadway – all can be tracked as Assets in the Assets module in ACC Build.

Asset Population

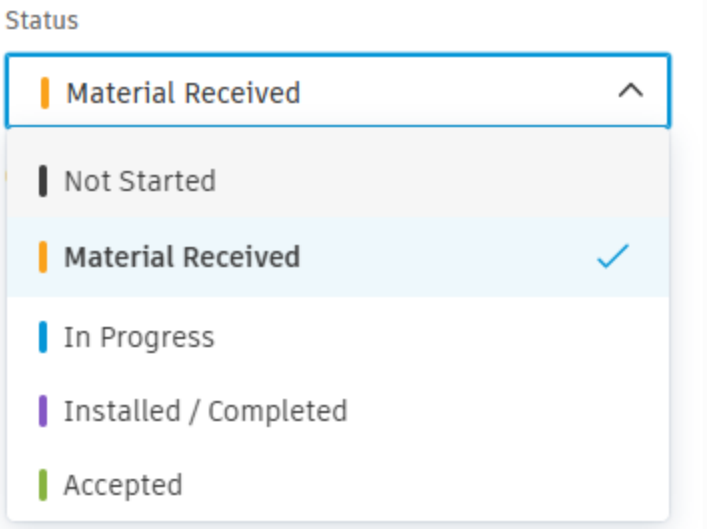
Assets can be quickly imported from CAD and RVT, or in bulk from spreadsheet import. Populating assets as early as conceptual design offers a deep level of insight as the project evolves.

3D/2D design files are not required for Asset tracking – it can be done via static lists as well. We just like to show off the cool stuff!



Statusing

Custom status lists can be assigned to assets to track Status – ***Specified, Installed, Inspected, etc…***



References

Relevant data in ACC can be linked to an Asset, making the Asset a great landing place for all its relevant documentation including Submittals, Issues, RFIs, Photos, Sheets, and more. **QR codes** can be generated from ACC – unlocked efficient field workflows for staff moving from asset to asset onsite.

Custom Fields

Custom fields can be added to an Asset Category to allow for scalable custom data input. **Inspection Notes, Condition, External URLs** are all examples of custom fields.

Adding Intelligence to your Infrastructure Data

Using ACC as a central data platform unlocks intelligent data analytics at scale.

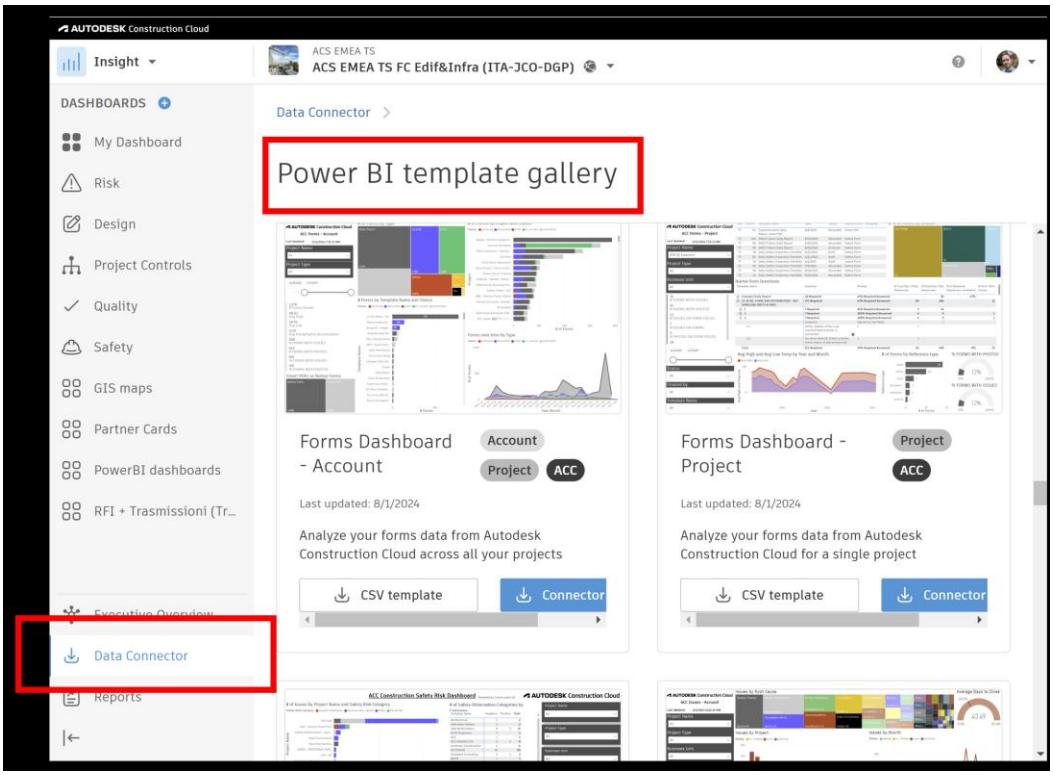
PowerBI dashboards. Leveraging Maps and Information data

The information data we have in Autodesk Construction Cloud (ACC) can be used directly in the platform, but also can be extracted as CSV databases (a folder with tables, one or more by each functionality) and enabled to be accessible from **PowerBI**.

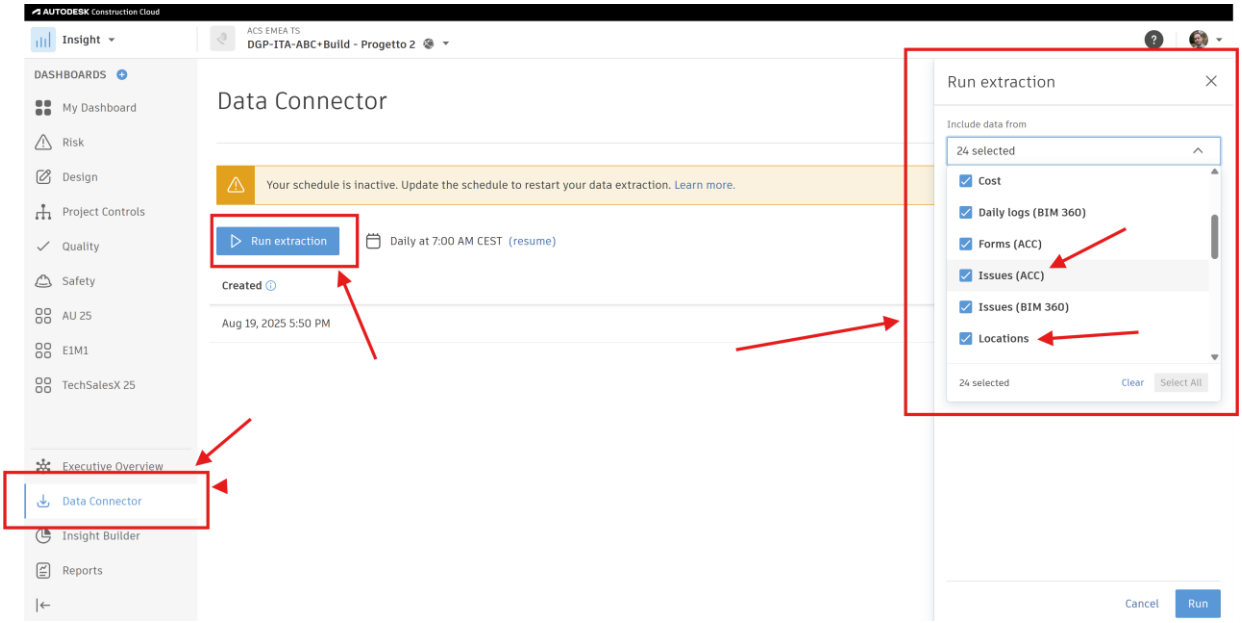
In essence, the ACC Insight module, which is always available with ACC, has a functionality that makes possible the creation of a snapshot of its underlying database to be used with PowerBI.

This process is largely documented online, and in ACC guides as well, as the one here below:

https://help.autodesk.com/view/DOCS/ENU/?guid=Connect_PowerBi



But the best recommendation is that, if it is intended to create a dashboard with ACC data, such as the one created in the previous chapters, it is important to choose the data that a user wants to use in Data Connector.

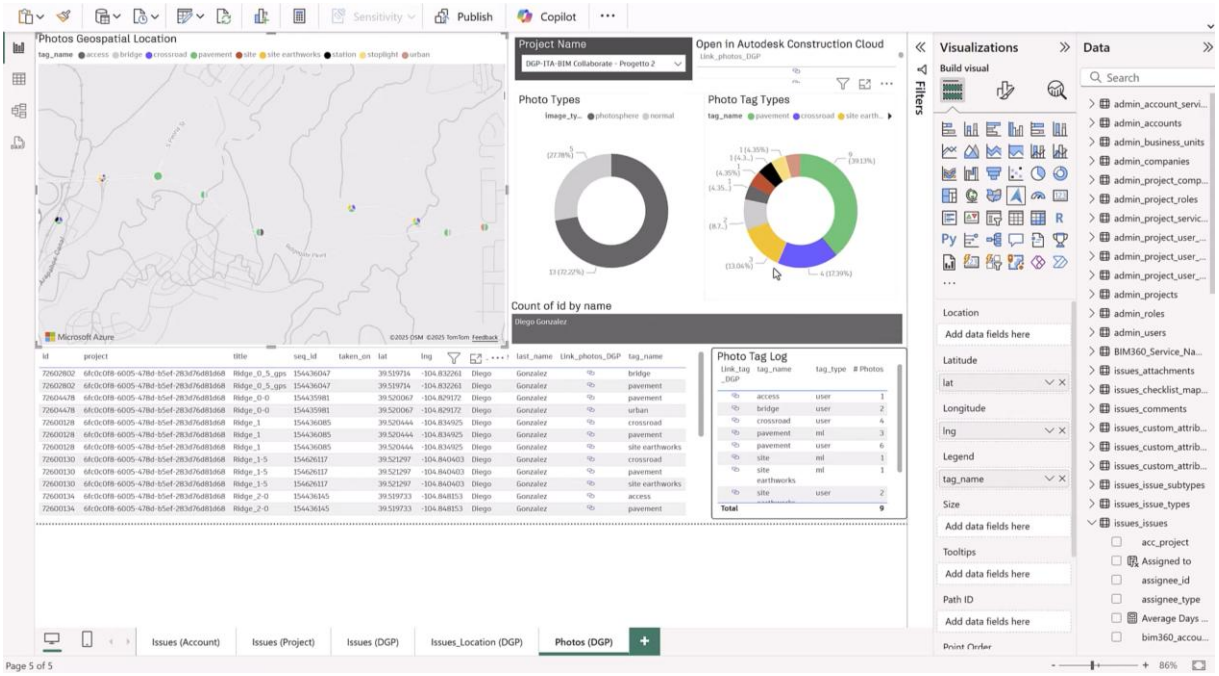


This way, ACC will create an extraction that we can use with PowerBI, or any else external Business Intelligence platform. Autodesk Construction Cloud includes a template gallery of **46 prebuilt PowerBI templates**, ready to download and use, which could be also customized.

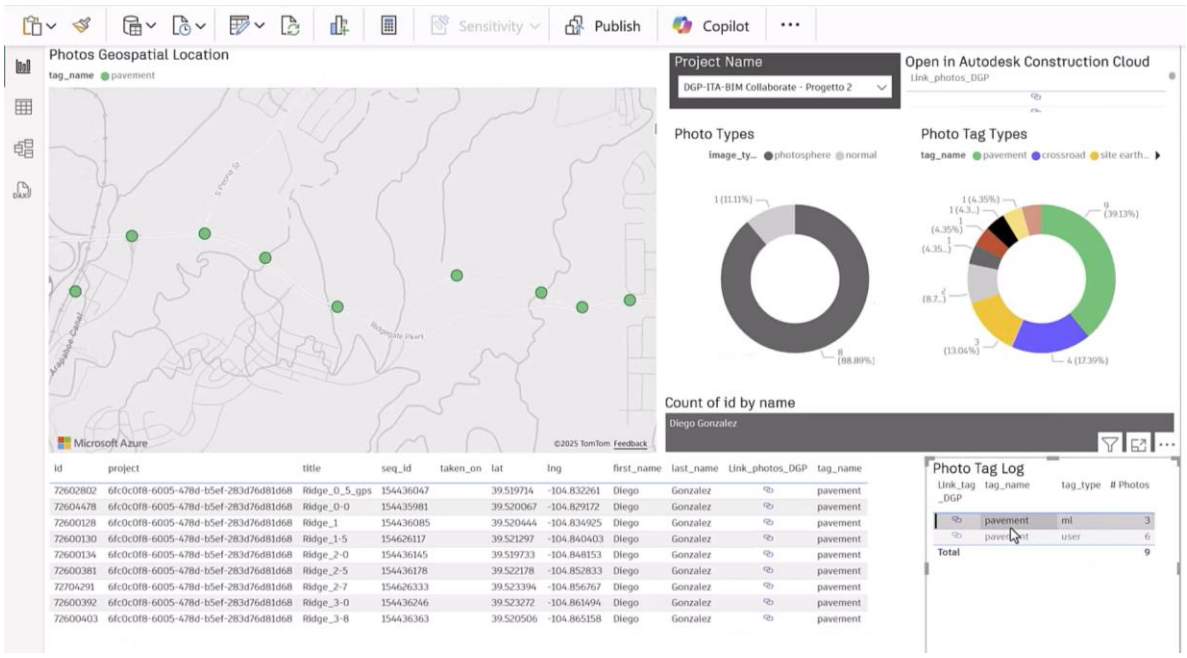
Maps and GIS data can be visualized in PowerBI Maps and cross referenced with ACC Data such as Issues and Photos to produce **insightful project status dashboards** for executive stakeholders. Here below you will find some examples of dashboards created with the data we created in the previous chapters.

The key idea is that, for infrastructure projects, where the location and the scattered situation of the different elements is something to be taken into consideration, it is recommended to use a map visual, using the GPS location (latitude, longitude), so that every single element could be geo-referenced.

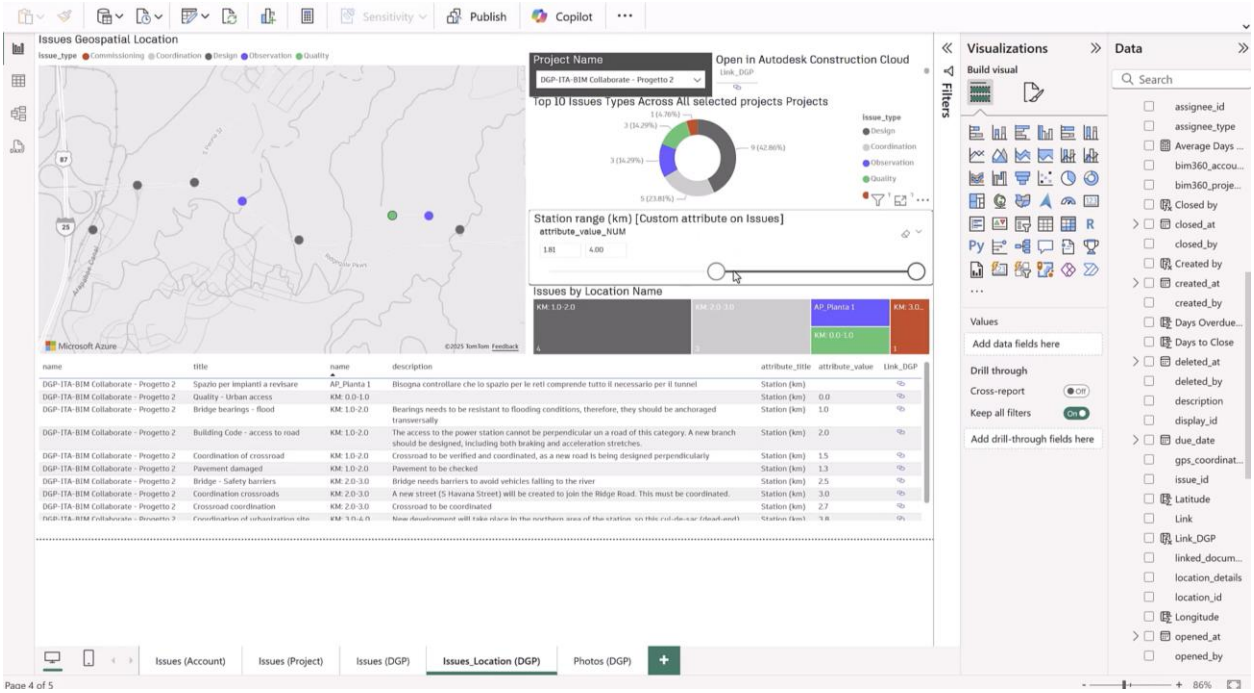
A) **Photos** dashboard, with a map visual (Microsoft Azure map) showing the position of the Photos. Including a table with tags and links to the photos on ACC.



Above the dashboard, and below an example of filtering by a photo tag, “pavement”.

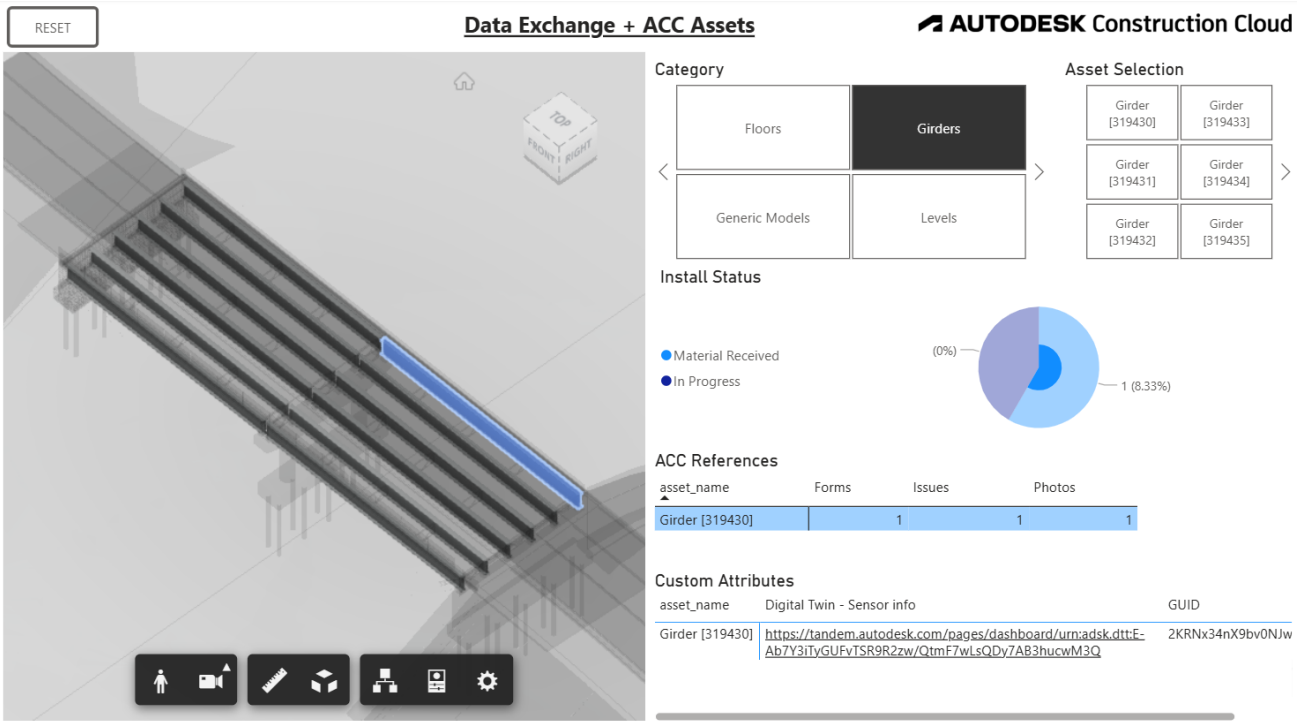


B) **Issues** dashboard, , with a map visual (Microsoft Azure map) showing the position of the Issues. In this case, the Station custom attribute is used to filter by Station alongthrough the alignment. Locations (the built-in attribute) can also be used to filter Issues depending on the position,.



Asset + 3D Model Dashboards

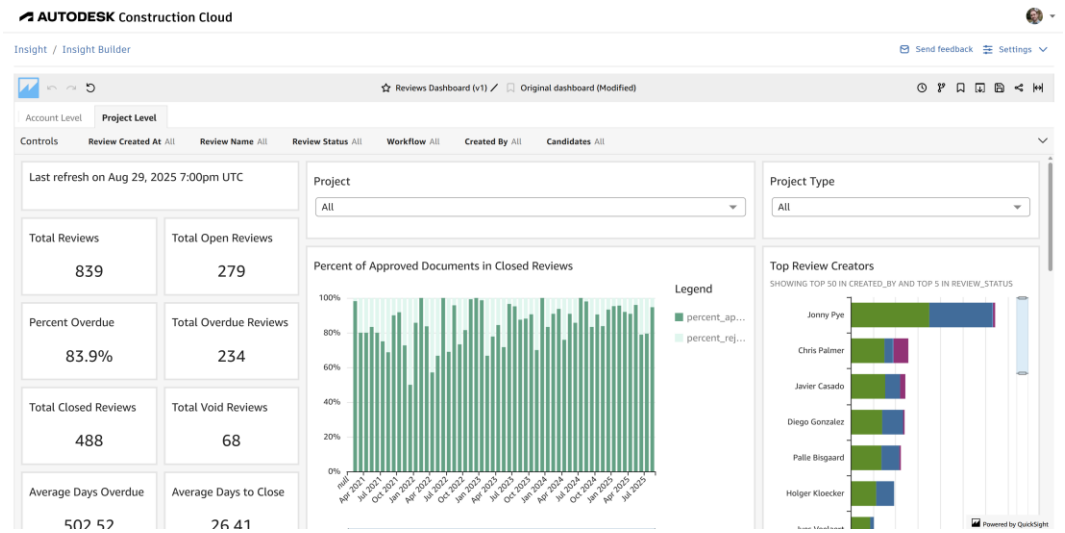
Asset data in ACC can be **cross referenced with visual 3D data** in PowerBI to track install status with a powerful visual component.
Note that 3D data can be imported from both Autodesk & **third-party design tools** such as Tekla and Solidworks using **Autodesk Data Exchange** plugins.



ACC Insight Builder

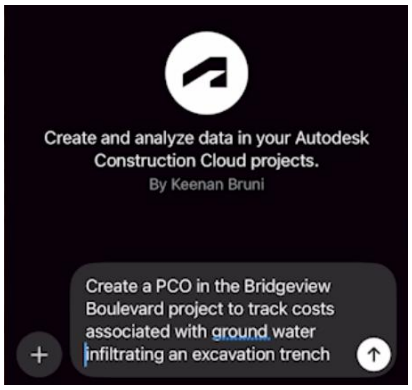
Autodesk has added a native custom dashboard builder directly into ACC Insight – no PowerBI or ACC Data Connector extracts required. Currently the tool can track data from **Cost Management, Schedules, Document Reviews, Forms, Admin, RFIs, Issues, and Submittals.**

This native dashboard builder is included in EBA and Value Based (Account Based) ACC licensing.



Custom GPTs

What good is having an open API if you can't do cool things with it? The Autodesk Construction Cloud API can be wired to a **custom GPT** to unlock agentic data creation methods such as **voice command change order creation from the field** as shown in our example. Such custom AI workflows are only limited by available endpoints and the user's imagination.



Infra Digital Twinning: Tandem

Infrastructure assets can be digitally managed with different Autodesk solutions.

- **Autodesk Construction Cloud – Build module** – Assets functionality: originally focused on Asset Management during construction (CAPEX: project + construction delivery). Strengths like direct ACC integration, traceability, mobile approach availability, commissioning, as-built, 2D+3D support.

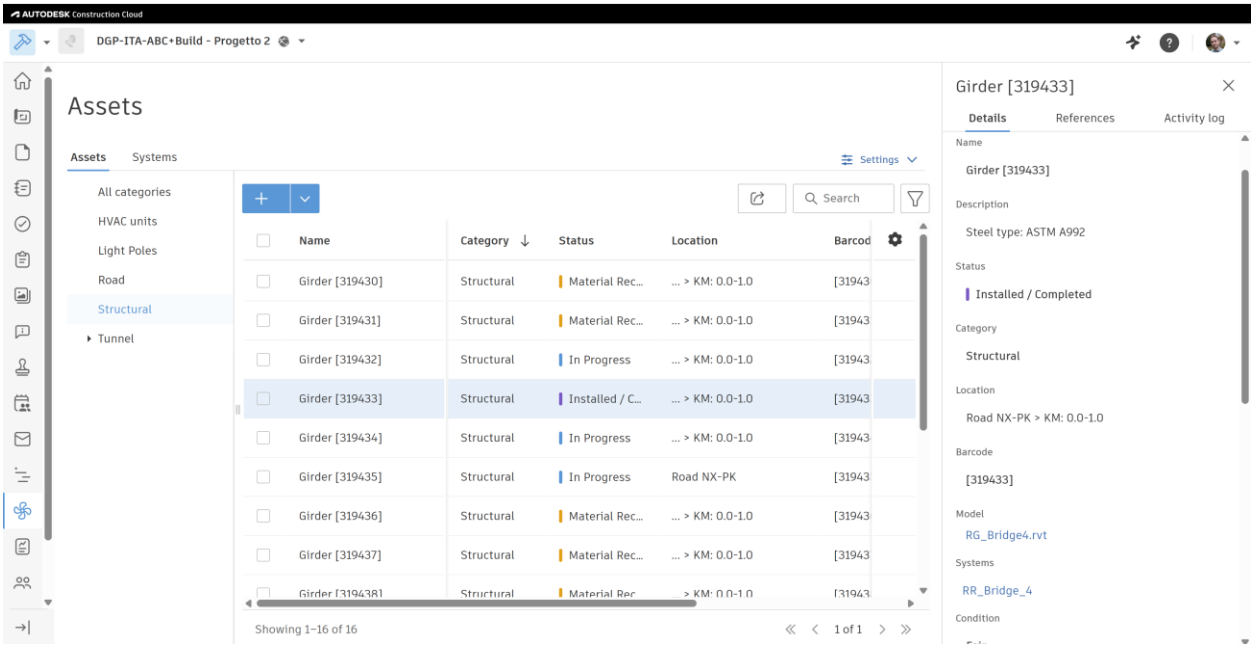
- **Datum360 (pim360)** – data governance & standarization. Strengths like enterprise integrations, standards, compliance, very data-driven and no visual support.

- **Autodesk Tandem** – Assets functionality focused on digital twin for Operations & Maintenance (OPEX: O&M). Strengths like digital handover, IoT integration and CMMS / EAM integrations (becoming a middleware for this kind of solutions), 3D support.

In other words, the infrastructure asset lifecycle can be managed with ACC-Build-Assets during delivery (engineering firms and contractors) and then Autodesk Tandem supports the hand over to owners and facility-asset managers / operators so that they can use a digital twin during the O&M period.

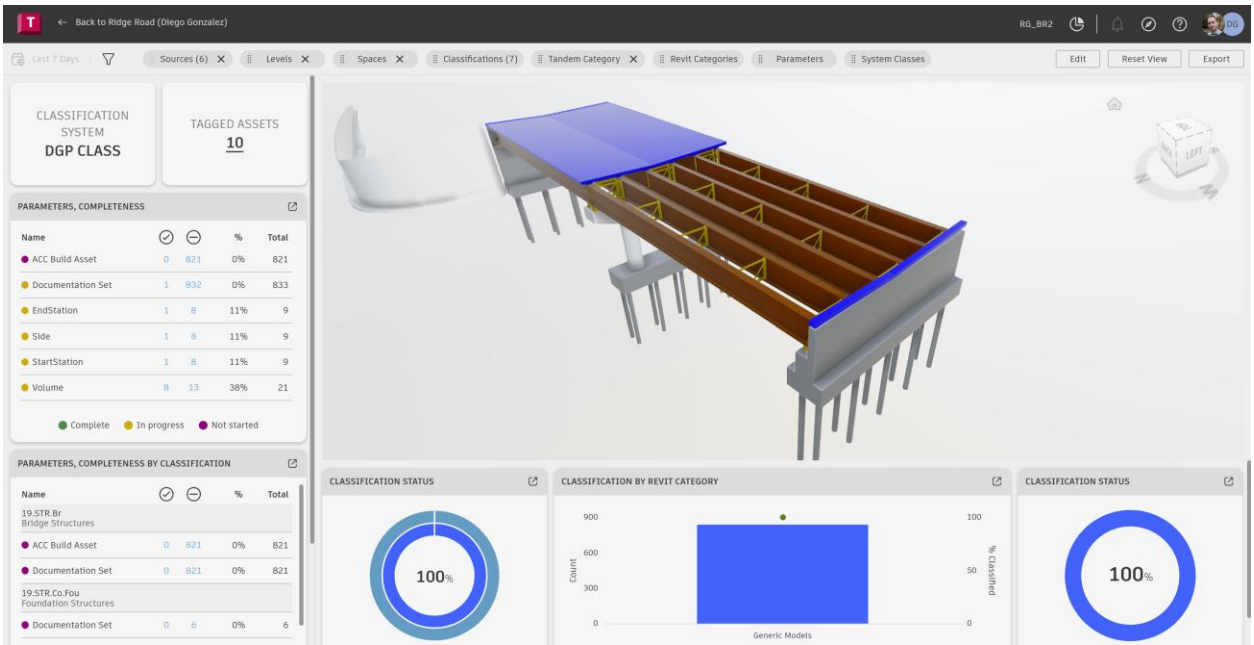
ACC Build Assets VS Autodesk Tandem Assets

ACC Build Assets:



In essence, both ACC Build Assets and Tandem can manage infrastructure assets, including a visual representation of the assets and a database creation tied to Asset Categories or Asset Classifications. Build has a direct integration with ACC functionalities and Tandem includes sensors and streams and an integration-focused structure, so that it can be connected with 3rd party asset management systems.

Autodesk Tandem:

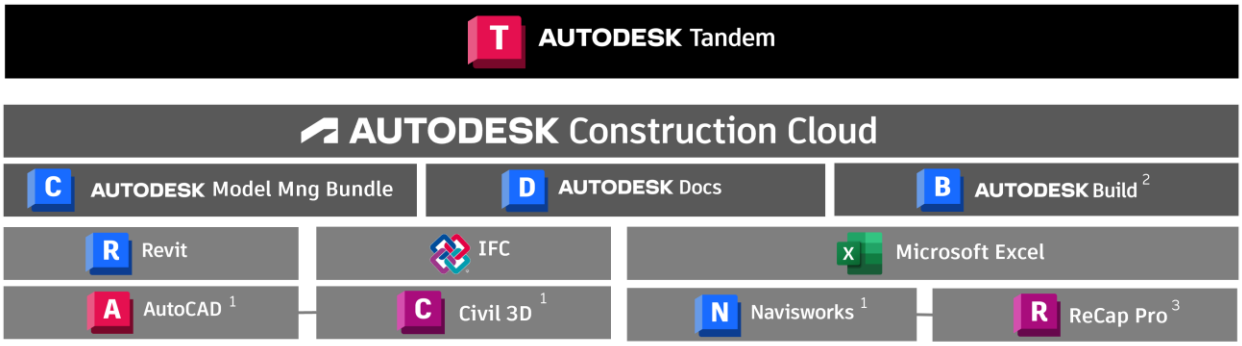


Autodesk Tandem can:

- Manage (also) ***infra* asset data**, supporting ACC for assets
- Visualize near real-time **sensor data** with 3D visualization
- Connect with **3rd party asset software** (CMMS, EAM…)

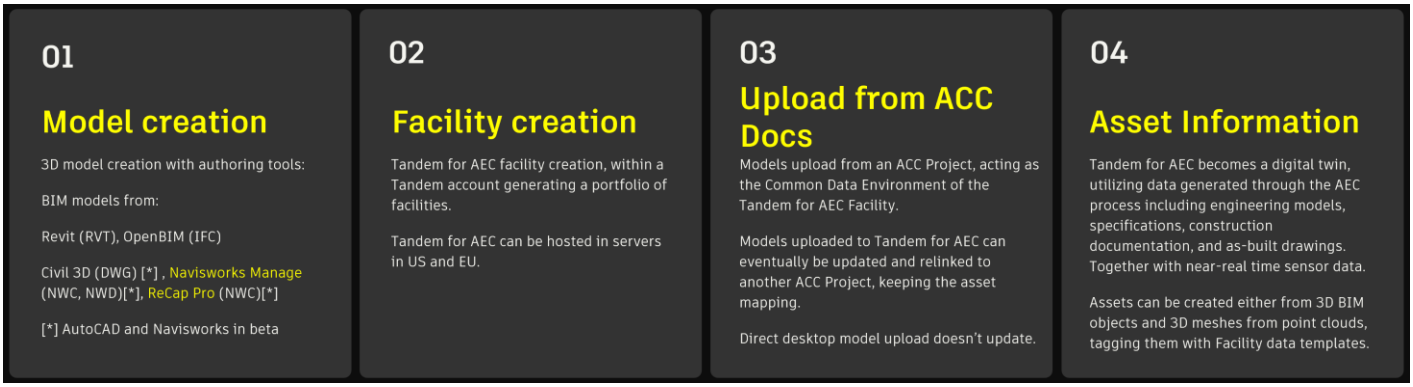
Infra BIM models and Autodesk Tandem

Autodesk Tandem, as a 3D digital twin solution, is used to manage assets taking 3D BIM models as a base. It supports different formats, as shown below:



[1] *AutoCAD / Civil 3D (DWG) and Navisworks (NWC+NWD) currently in Beta*
[2] *Autodesk Build supported via Hyperlinks / APIs / Tandem Connect*
[3] *Autodesk ReCap Pro supported via Navisworks NWC, as meshes*

The **Tandem** facility **creation**, understanding that facility is the equivalent to “project” in ACC, follows the next steps, from the model creation to the asset information population and data management:

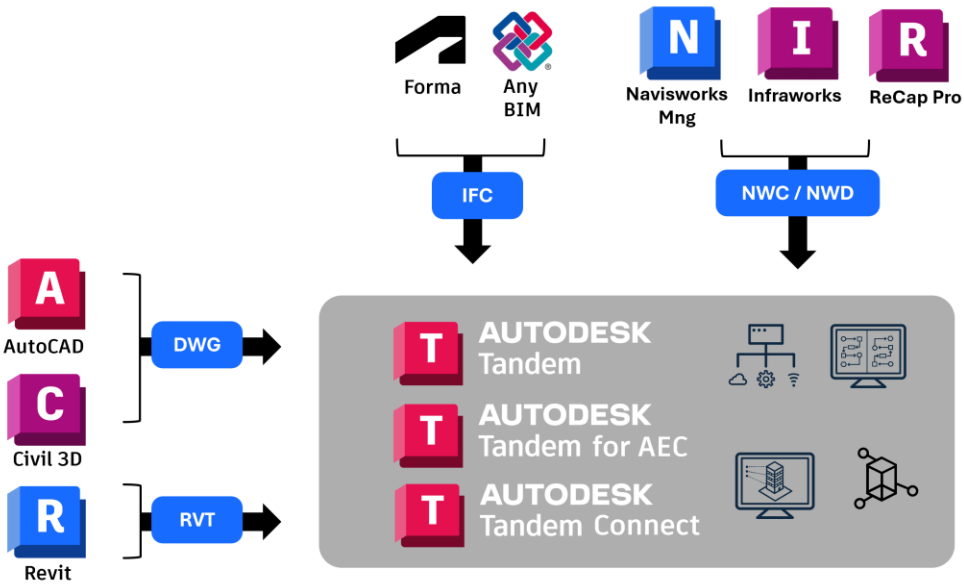


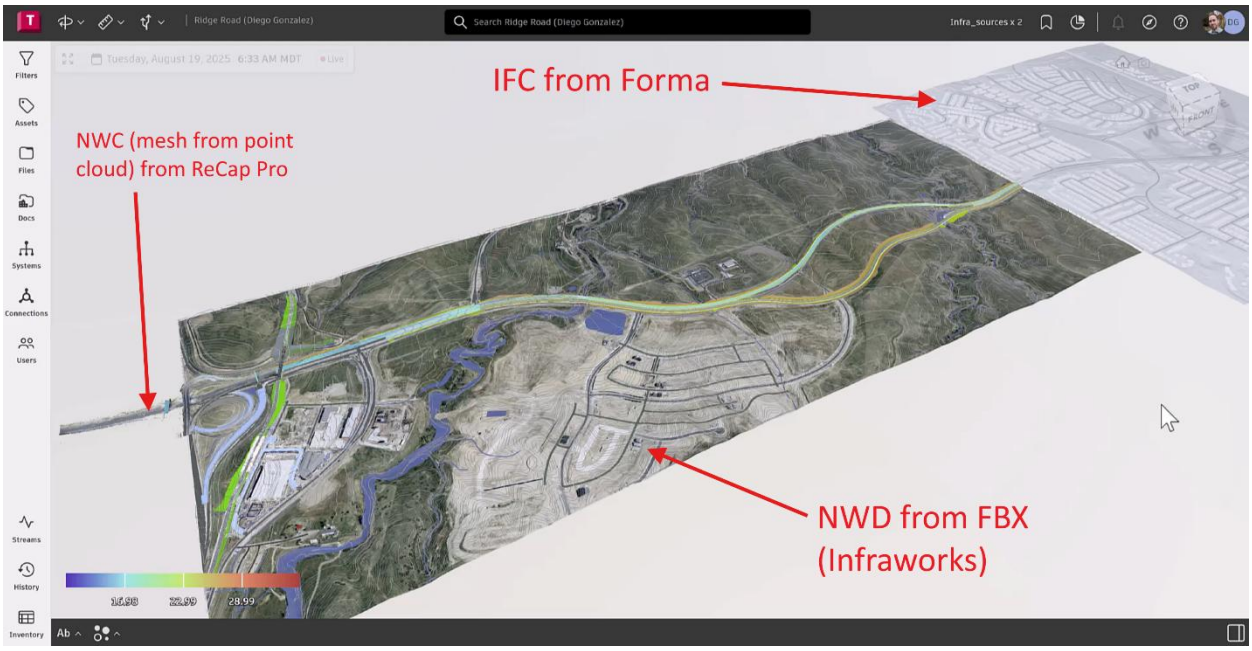
It is important to note that, even if the standard formats are RVT (Revit) and IFC openBIM), Tandem supports AutoCAD based software like AutoCAD, Plant3D and Civil 3D (DWG) and Navisworks Manage formats (NWC + NWD).

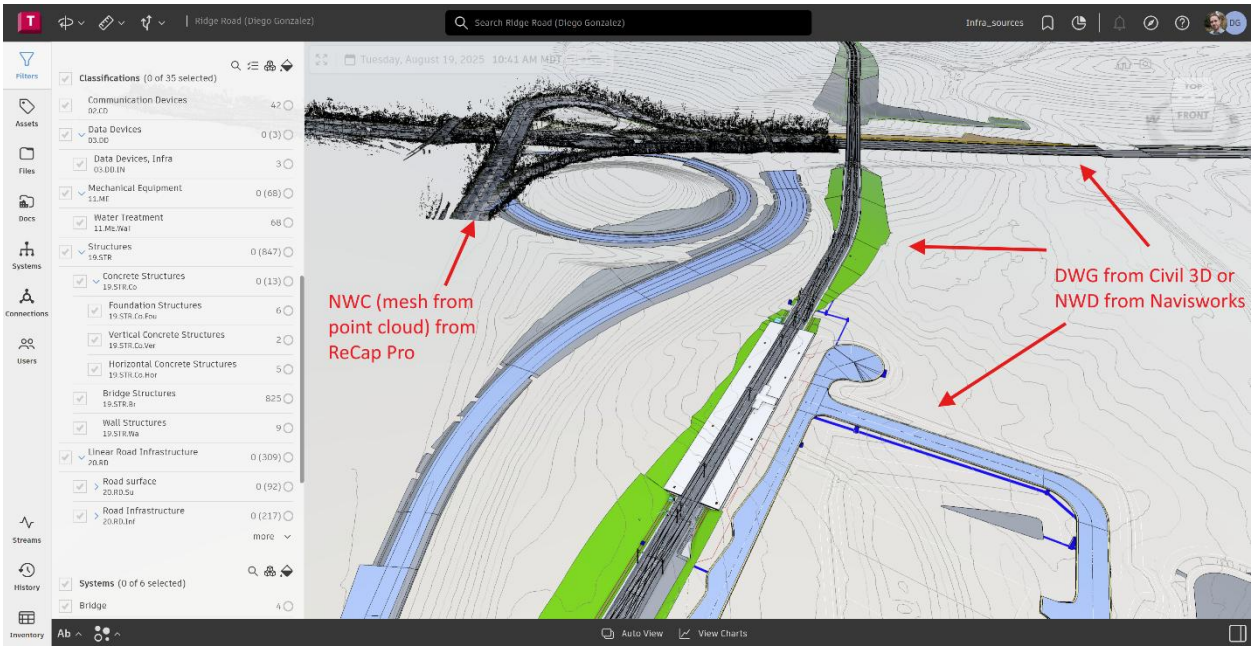
- Navisworks format opens the door to ReCap Pro meshes (exported to NWC) and to any 3D format supported by Navisworks (*), for instance FBX (from Infraworks).

  (*) https://help.autodesk.com/view/NAV/2025/ENU/?guid=GUID-1DD9E13D-7FEC-4936-B45E-C59E4A3E96EC

- IFC format technically makes it possible that any BIM software could generate models that could be integrated into Tandem. In this case, we’ve used Autodesk forma with the GIS context.



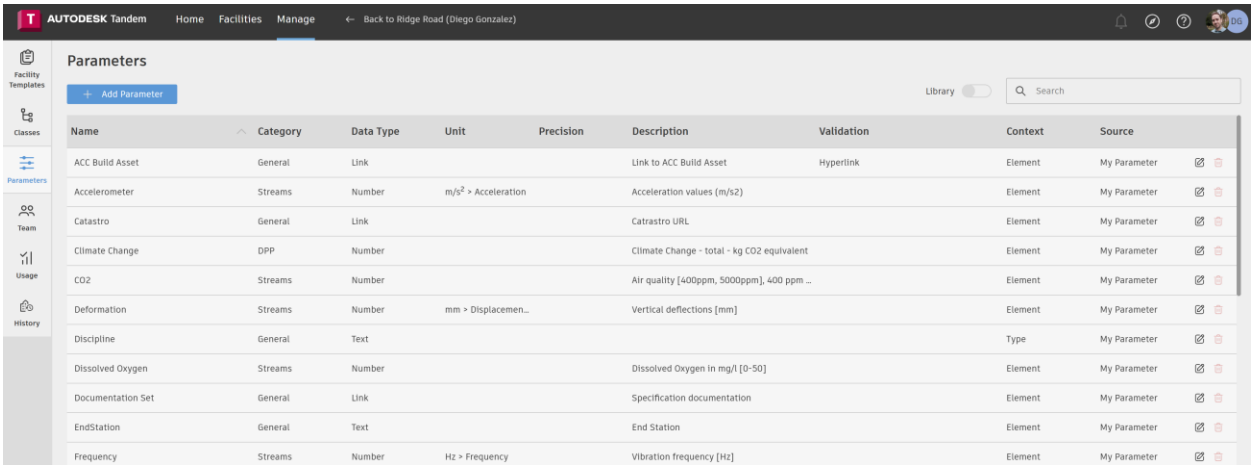

IFC from Forma
NWC (mesh from point cloud) from ReCap Pro
NWD from FBX (Infraworks)


NWC (mesh from point cloud) from ReCap Pro
DWG from Civil 3D or NWD from Navisworks

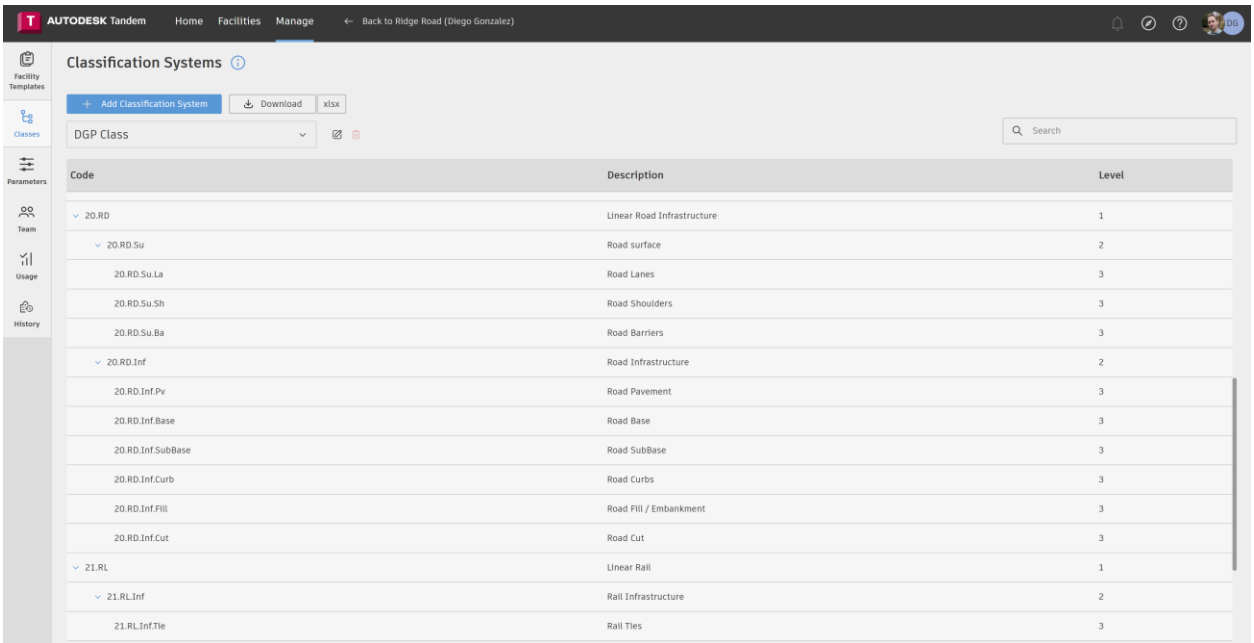
Infra asset data in Autodesk Tandem

Autodesk Tandem asset data management is structured based on:

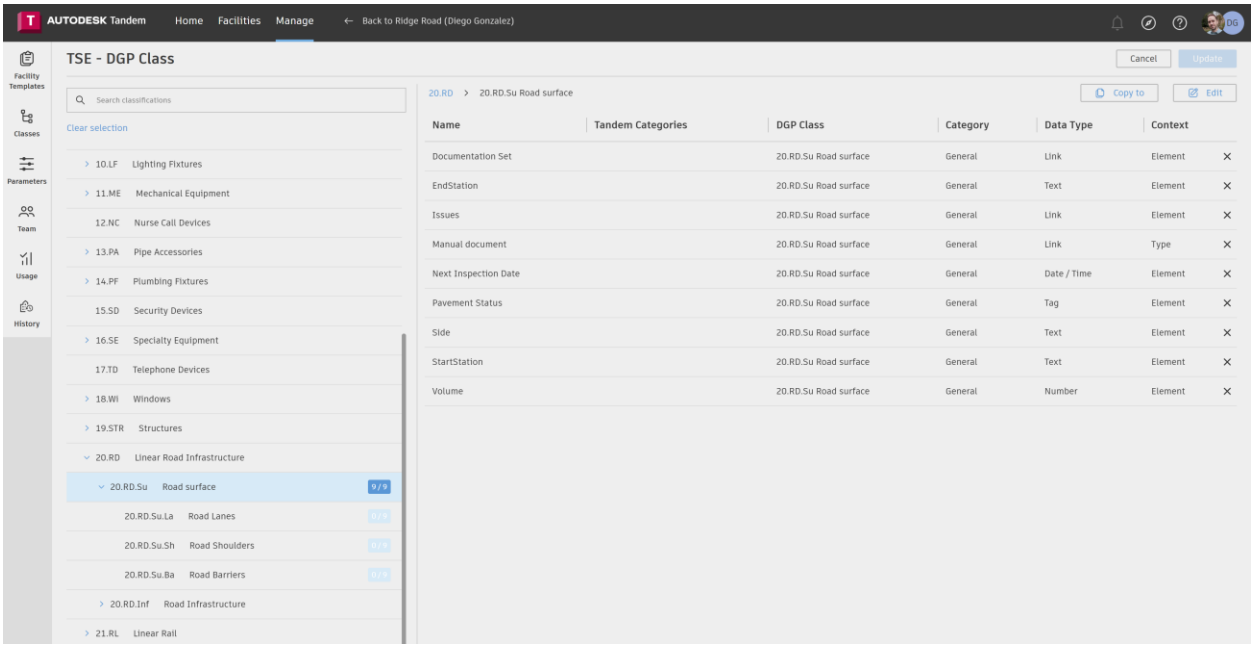
- **Parameters**: the data placeholders that will be assigned to every specific class.



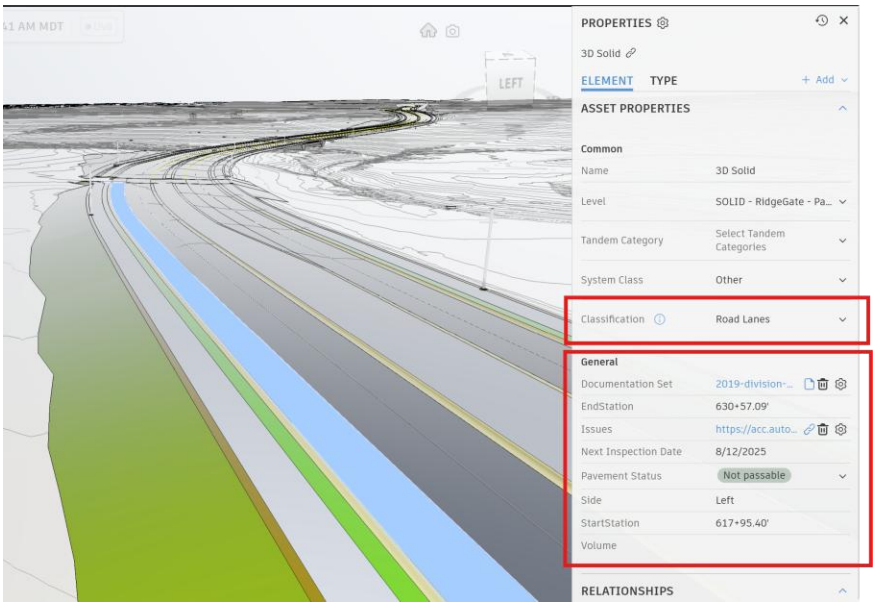
- **Classes**: the classes that will be assigned to each asset type



- **Facility templates**: the asset data structure to be used in a facility, including parameters for every specific asset class.



The facility template will be assigned to the Facility / project, and every single object that we want that become an asset will need to be classified according to a specific asset class. For instance, a road lane 3D object is classified with the Road Lanes class (see table above), and that object will become an asset if we populate one parameter value.



Connected data in Autodesk Tandem. Sensors.

Autodesk Tandem supports streams. This way the digital twin is connected to the real twin by means of data injections that populate asset parameters.
Connections can be created in Autodesk Tandem, taking the shape of “bubbles” that are connected to the asset hosts to which they make reference. In the picture below, a Connection called “Sensor_RR_34”, classified as “Communication Device” is hosted in a 3D solid (from Civil 3D), assigning to the connection the parameters defined to this class in the Facility Template (as defined in the same way for assets).

In this example, made up for this Autodesk University class, road lanes assets have connections including 4 streams:

- Tracking weather conditions: **temperature, visibility, wind speed, etc.**
- Tracking metrics from identification devices: **vehicle count**

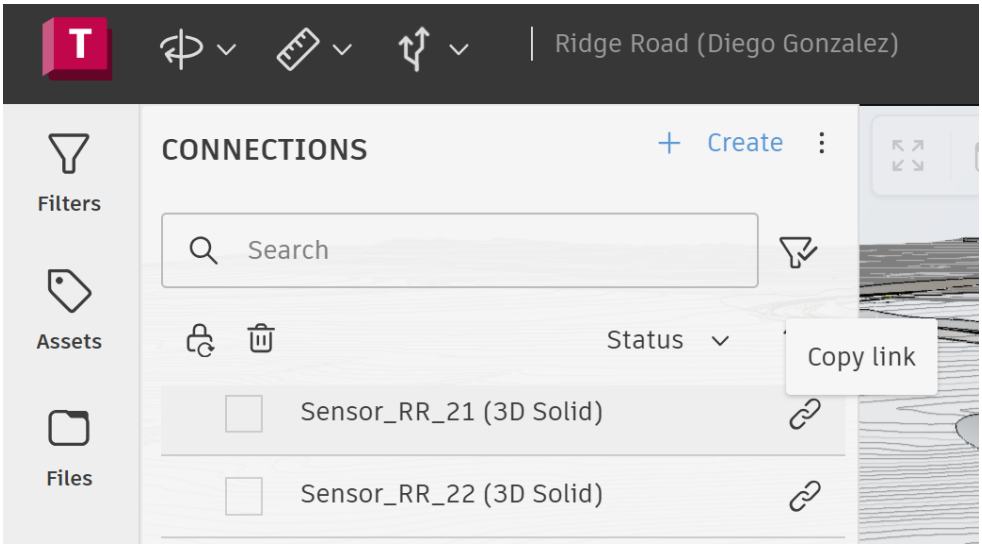
- **Weather streams**, with data sent from the data service openweathermaps https://openweathermap.org/ :

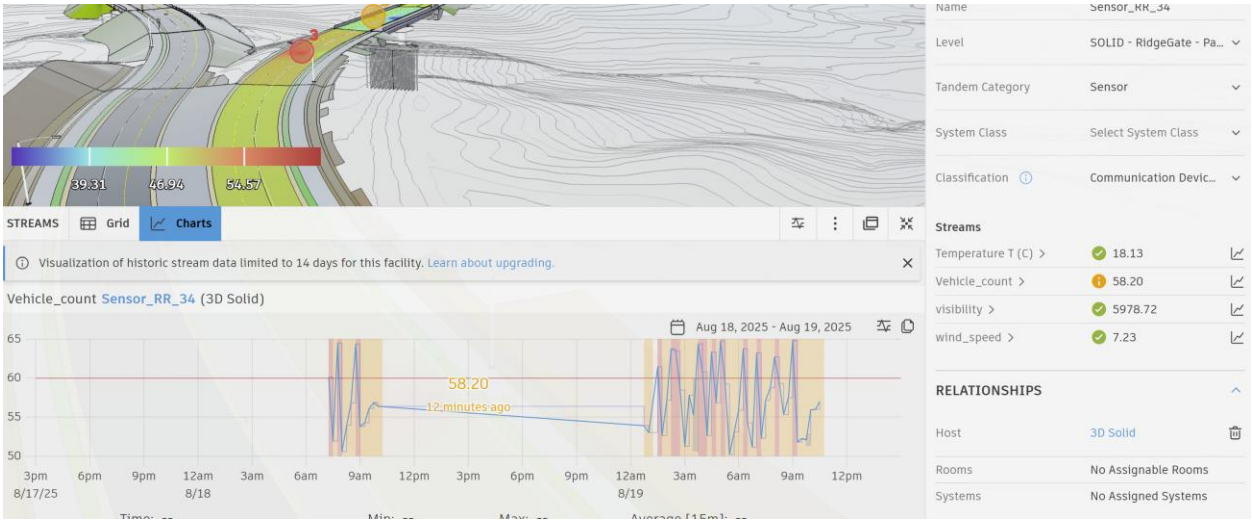
Temperature T (C)
visibility
wind_speed

- **Vehicle Count stream**, with data sent from a camera that has vehicle recognition features. In essence, a camera counts the number of vehicles that pass through a particular lane, and sends it to our Connection.

  Sensors configuration is well detailed in the Tandem help:
  https://help.autodesk.com/view/TANDEM/ENU/?guid=tandem-configure-connections

  Briefly, a connection is a data placeholder that has an URL that can be copied with the link button in Tandem. The connection will receive and store the data sent to that URL. The storage depends on the license type, 2 weeks for Tandem for AEC (included in the Model Management Bundle) or 3 years for the full Tandem subscription.





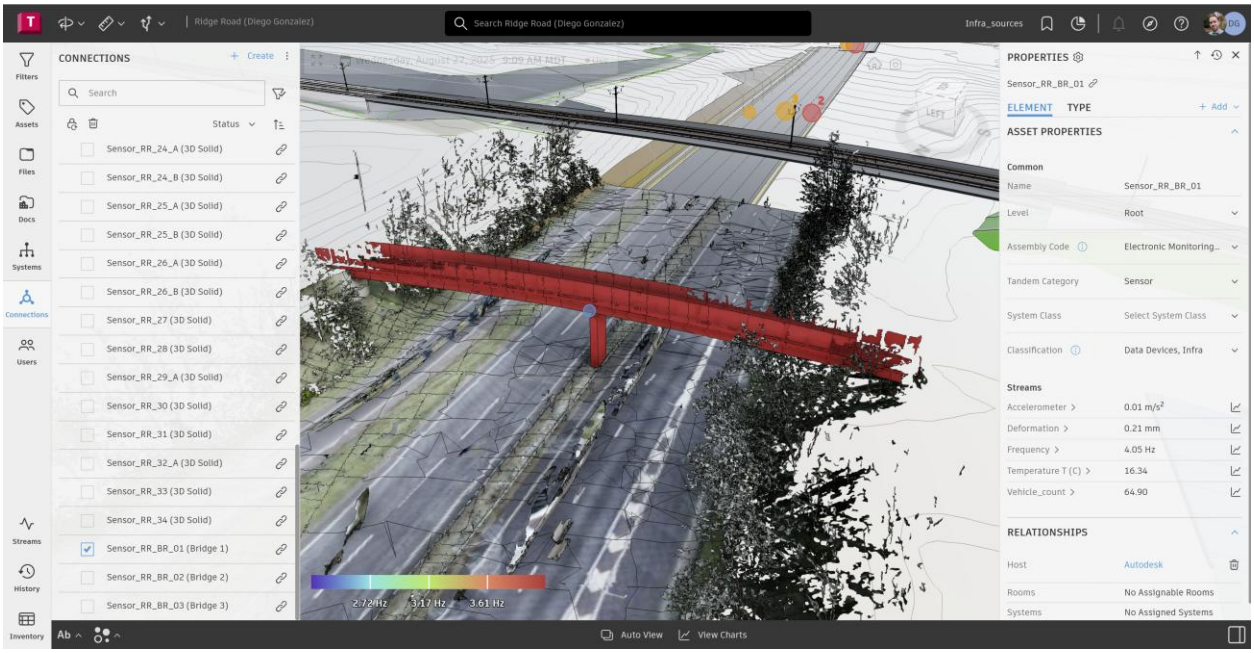
It is worth mentioning that connections can be hosted by any asset, therefore, it does not matter whether the asset ha been created from a 3D BIM model object (from Revit, IFC or a Civil 3D DWG) or from a ReCap Pro mesh (in NWC).

In the picture below, an existing footbridge has been defined as an asset, using a point cloud that was turned into a mesh with ReCap Pro, and then classified as “Bridge Structured”, which according to a custom Facility Template has two attributes (ACC Build Asset and Documentation Set).

The same asset is hosting a Connection called “Sensor_RR_BR_01”, classified as “Data devices, Infra” (in the same custom Facility Template used in the Facility) which assigns to that sensor the next sensor streams:

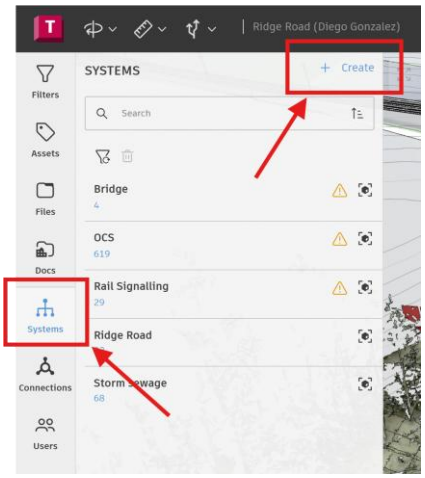
- Accelerometer
- Deformation
- Frequency
- Temperature T (C)
- Vehicle_count

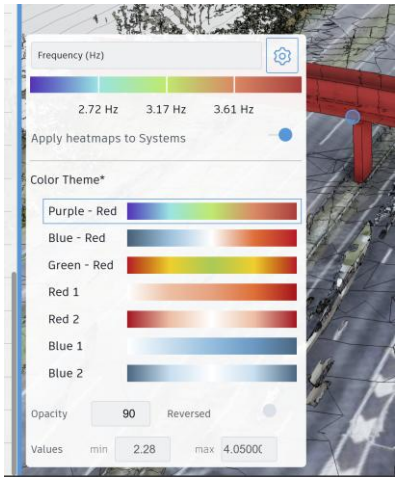
This is shown in the next picture:



Finally, if you want to view your asset colored with the sensor heatmap. You need to assign a “System Class” to the hosting asset. At the moment, the potential system classes are limited to a certain list, revit building-related. You can choose the one you prefer, in my case I am using “Nurse Call” for bridges. 😊

Then, you need to create the System in Tandem, and heatmaps need to be applied to systems, so that Tandem shows the color in the object. See these two steps in the pictures below.





Infra geospatial portfolio & geolocation with ACC

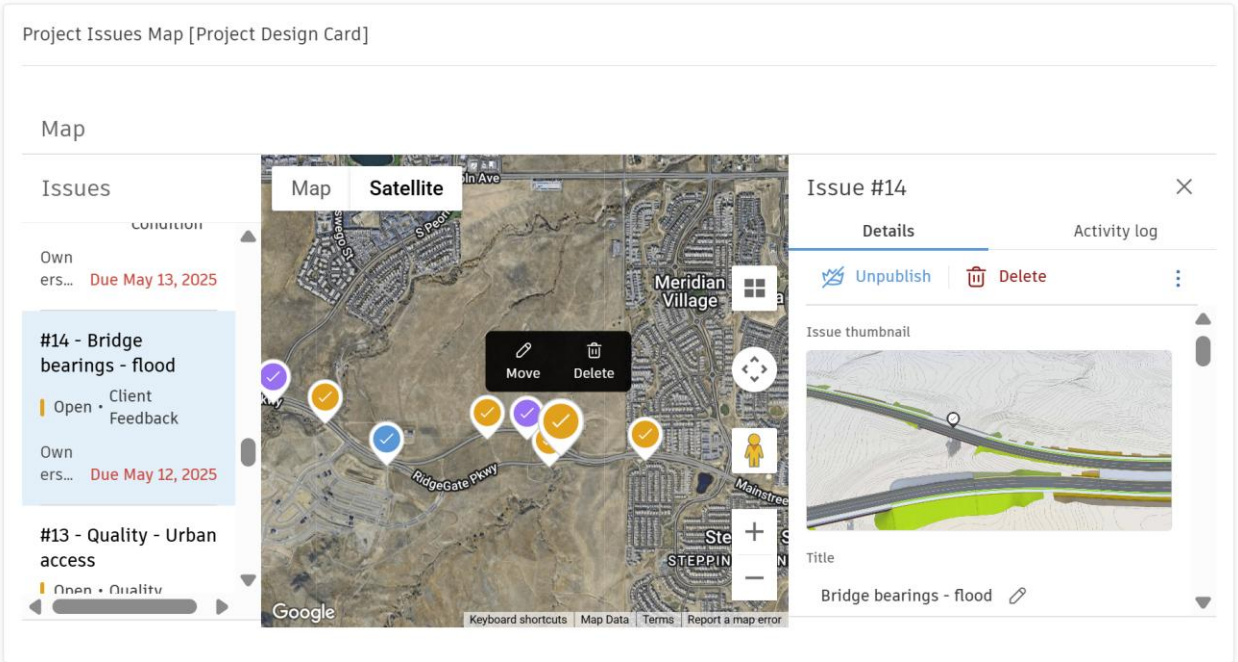
Infrastructure projects, due to their territorial scope, geographic dispersion, and often scattered asset portfolios, present unique challenges in Information Management. These characteristics make them especially well-suited to benefit from Geographic Information Systems (GIS)-based approaches. In this chapter, we'll explore how ACC can integrate GIS content, and how ACC can be included in a project & portfolio management digital management based in GIS maps.

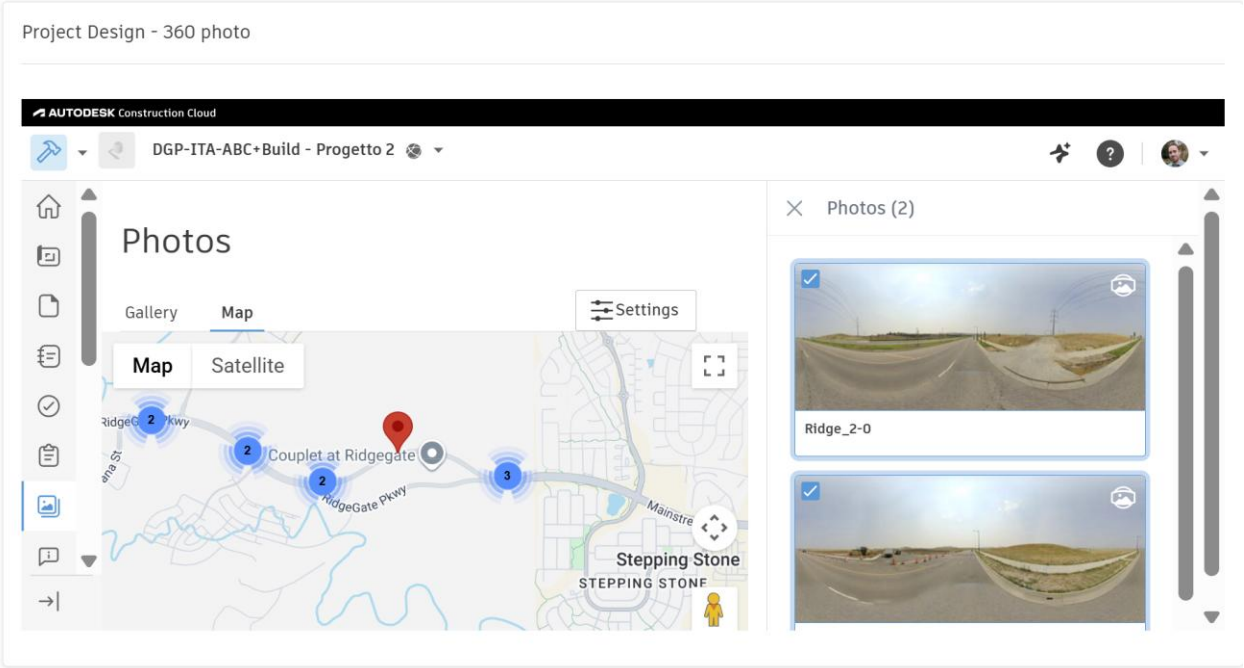
ACC, maps and GIS

Beyond Autodesk Forma, to date ACC supports maps:

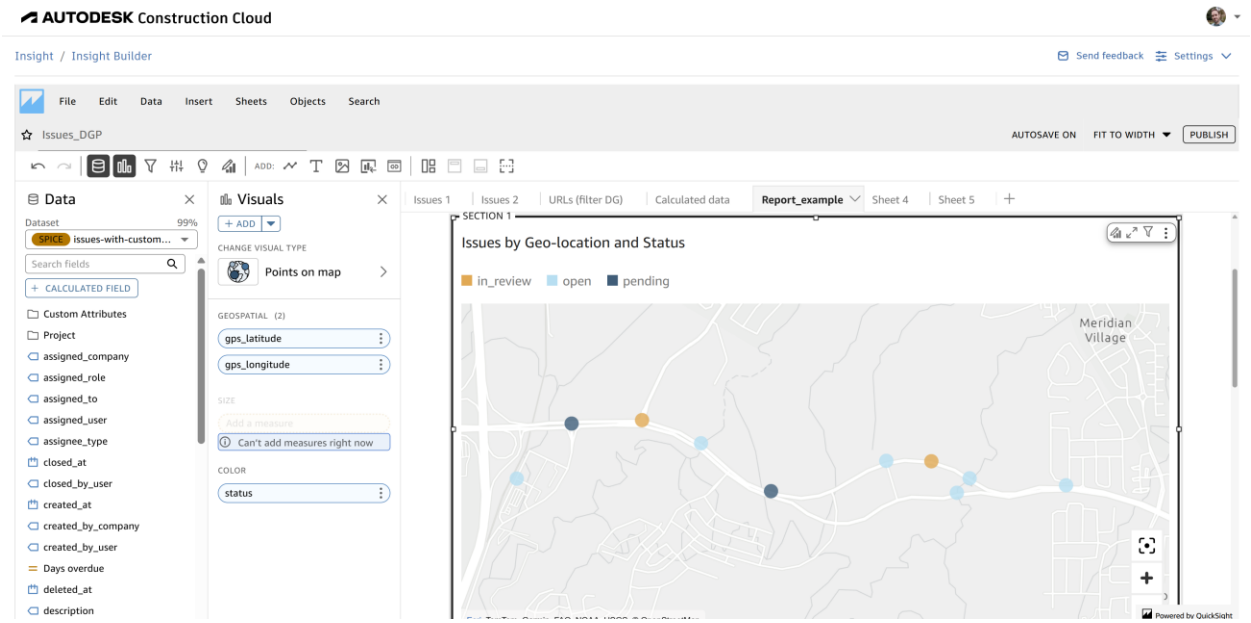
- Maps on **Issues** and **Photos**. [Out of the box]
- Maps on dashboards – **PowerBI**. [With Autodesk Insight]
- Maps on dashboards – **Insight Builder**. [With Autodesk Insight]
- Maps on **ArcGIS** / **ESRI Online**. [With Autodesk Insight]

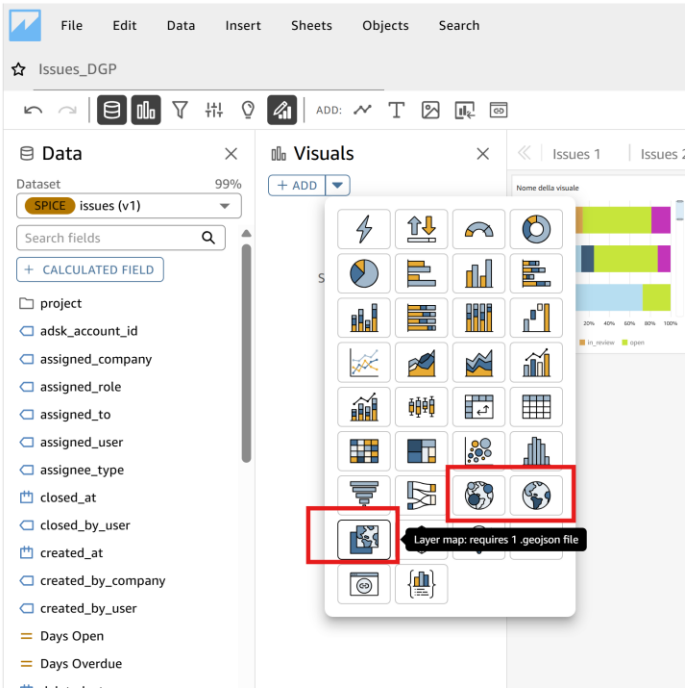
In the next pictures, ACC Issues and ACC Build Photos are shown integrated as part of ACC Insight dashboards. See next chapter for further details about how to integrate them as ACC Insight dashboards.





In ACC Insight Builder (included in ACC Insight), specific map-related visuals can be used, such as “Points on map”, “Layer map” or “Filled map” (see pictures below). These map visuals can be created using ACC data.

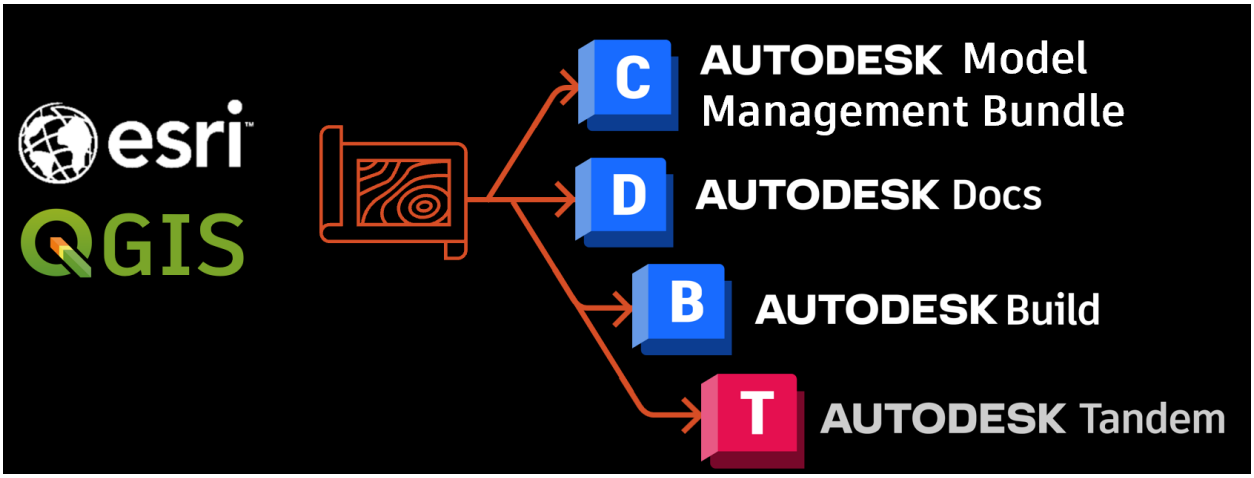




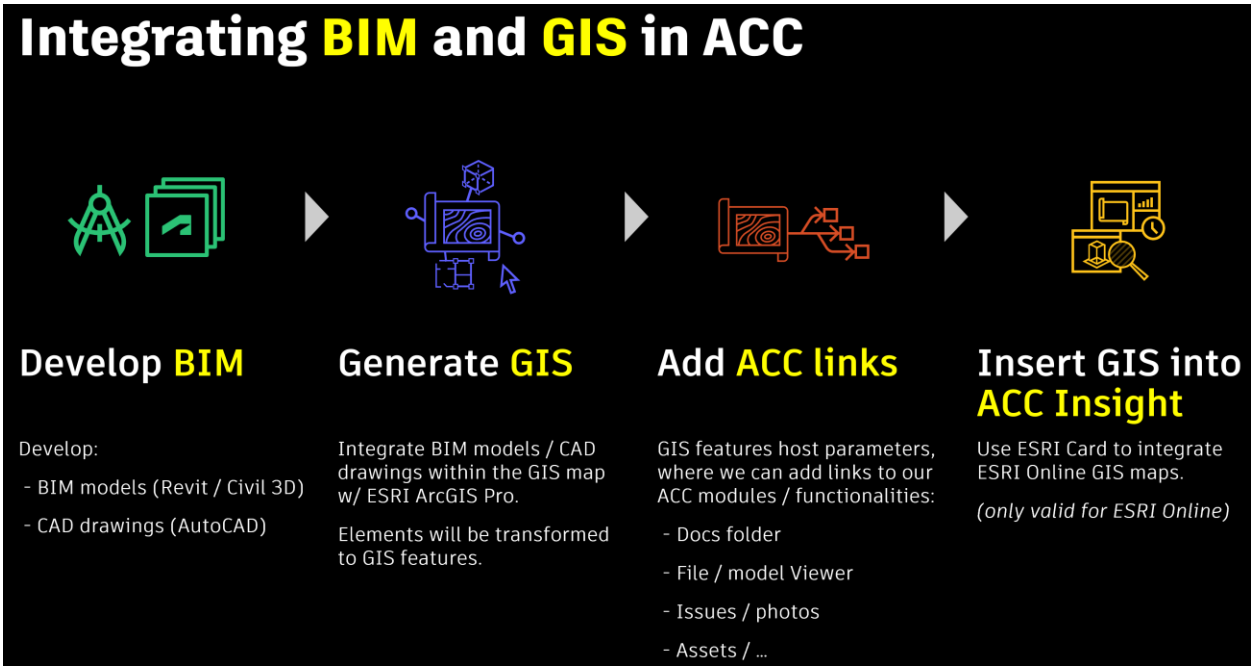
But these examples are maps with geolocated information and not strictly Geospatial Information, also called GIS. For that kind of support, the recommendation is to use GIS-specific solutions, such as ESRI ArcGIS Pro and QGIS.

BIM / GIS Workflow for Infra projects

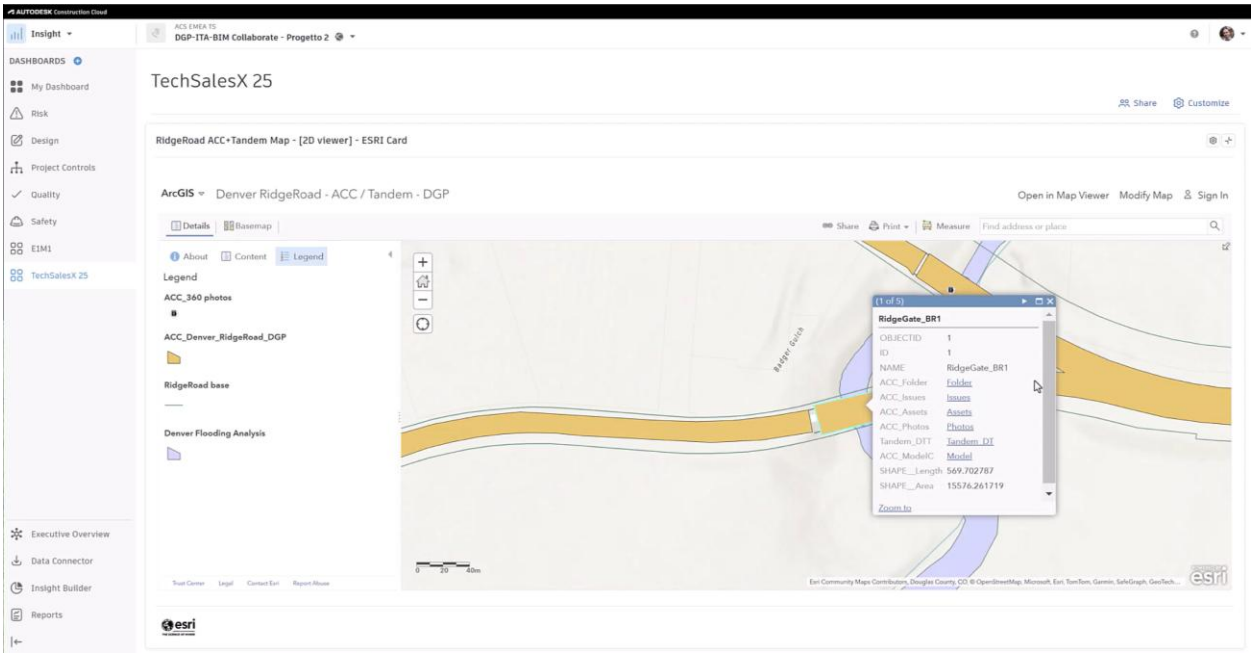
In infrastructure projects, a GIS-based workflow can significantly enhance asset visibility and coordination.



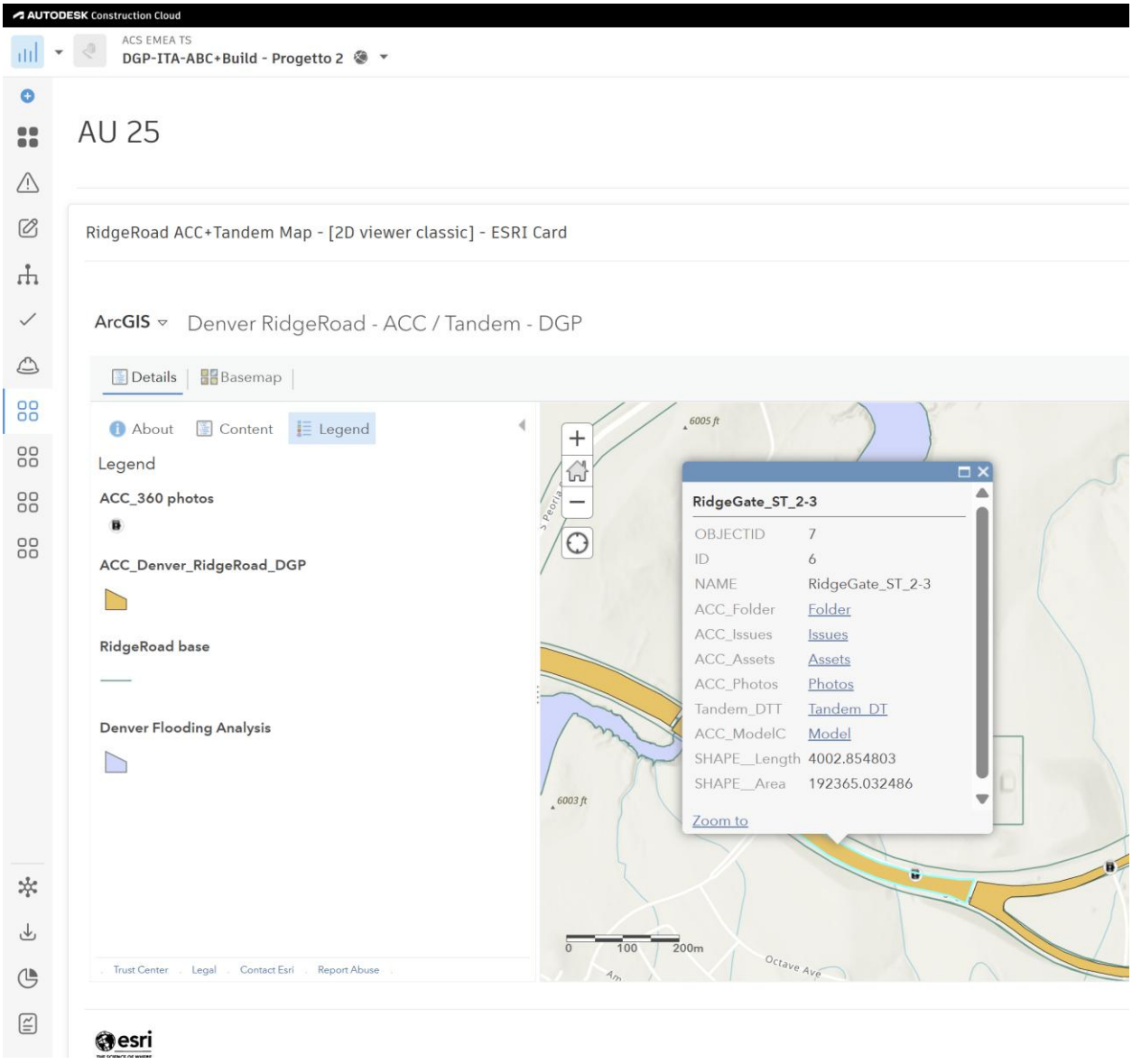
The process typically begins with the creation of geospatial content—either natively in platforms like ArcGIS Desktop/Online or QGIS, or derived from CAD/BIM models developed in Autodesk tools (such as Revit, AutoCAD or Civil 3D).



Relevant assets are identified and geolocated on the map, enriched with attributes and metadata.

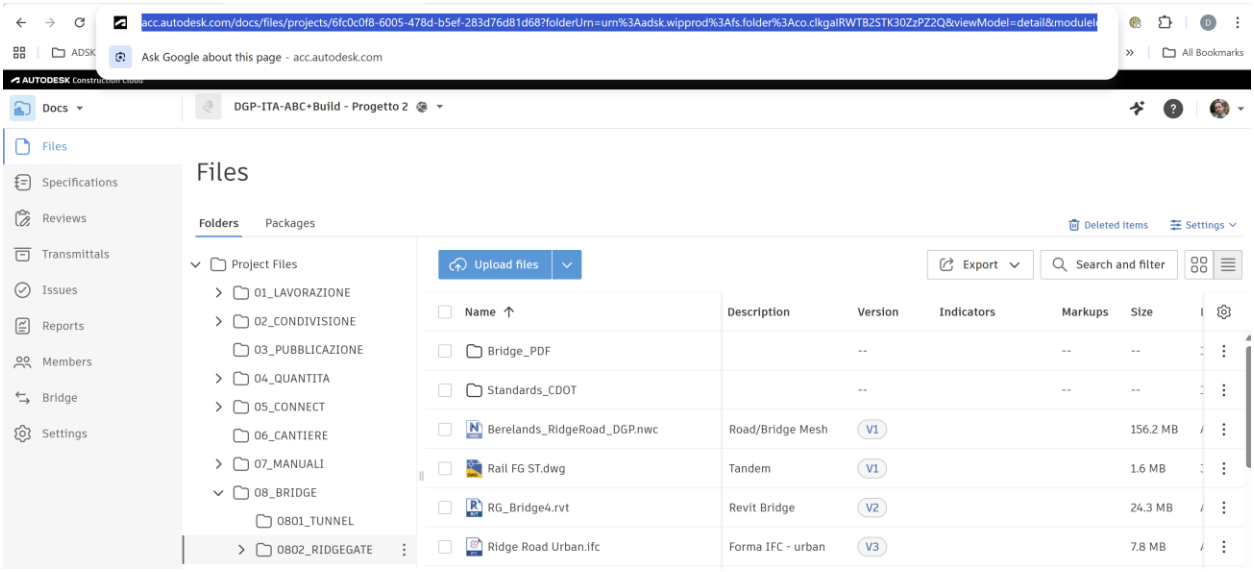


These attributes can include links to associated documentation, models, and functionalities hosted in Autodesk Construction Cloud (ACC), enabling seamless access to project data and fostering integration between spatial and construction information.

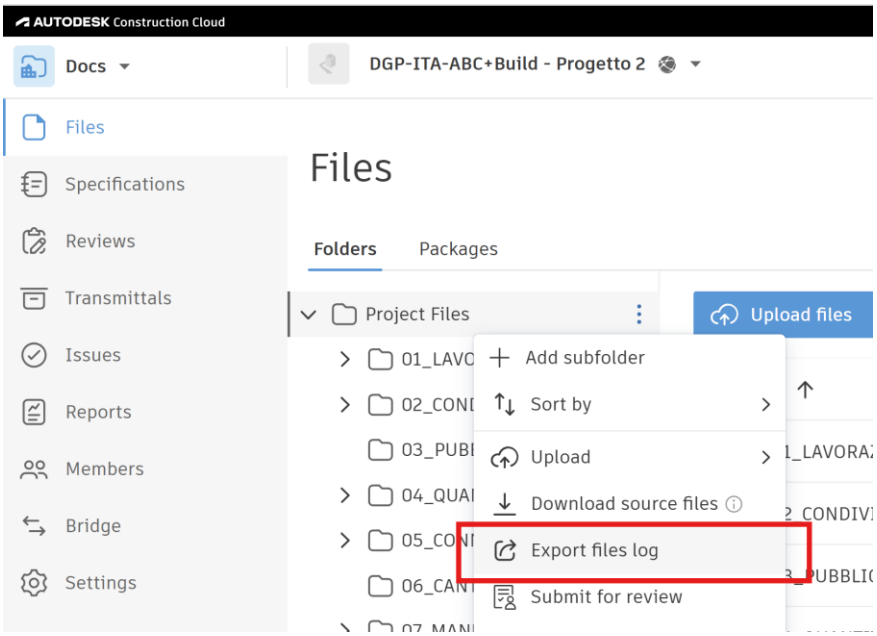


URLs to be included in maps

Autodesk Construction Cloud (ACC) URLs to be included in maps can be extracted directly by copying from the browser:



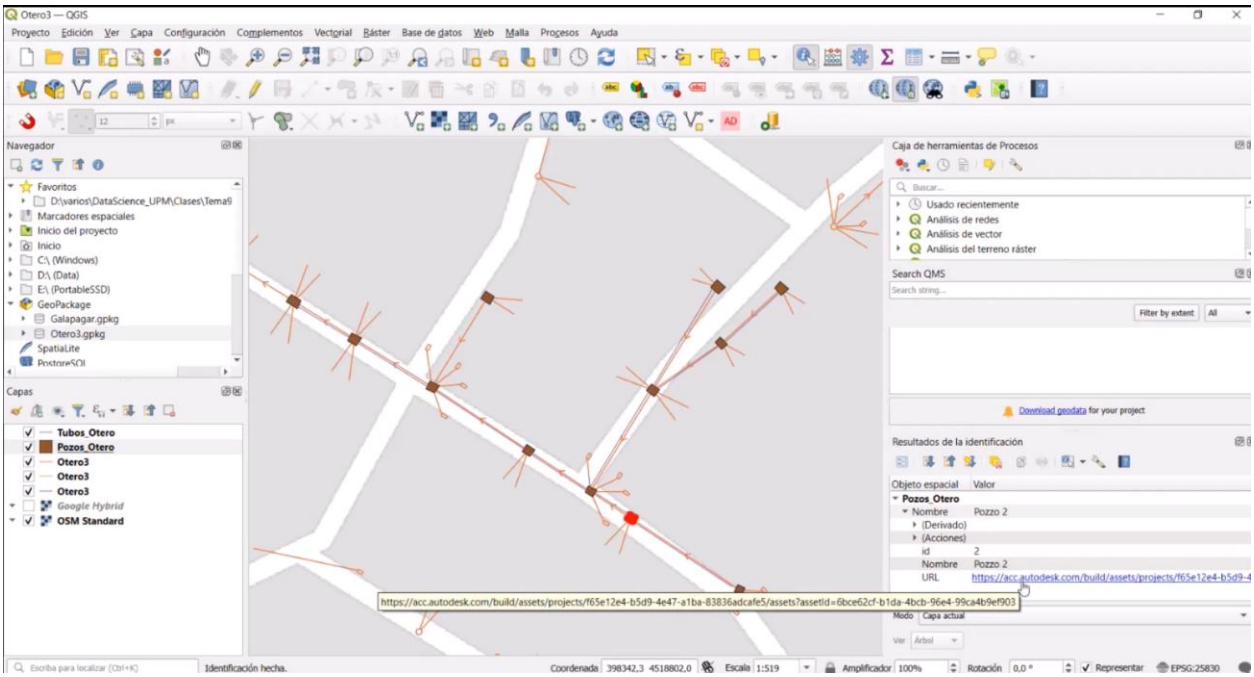
But there are other elegant approaches like exporting data with ACC Insight Data Connector or generating XLSX reports from some ACC Functionalities. A recommendation for obtaining massive file URLs could be exporting file logs (see snapshot below).

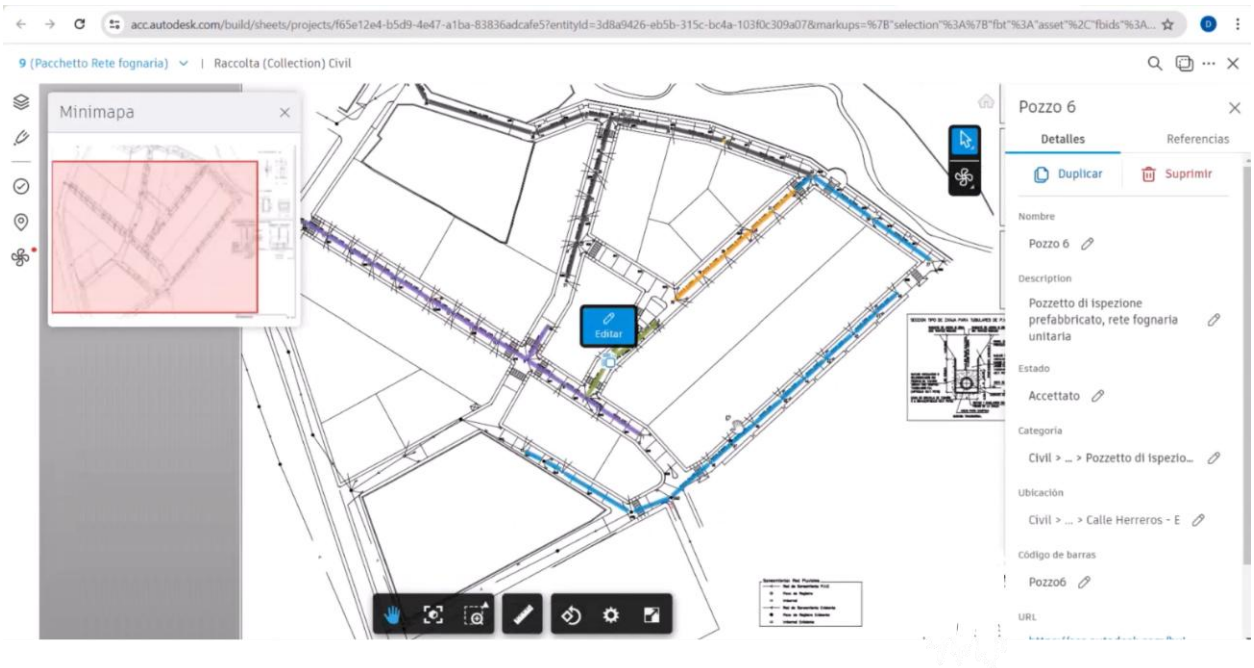


Project / Portfolio management from desktop GIS applications

Any desktop GIS application that supports GIS maps with metadata including links is eligible for this workflow.

The next pictures show an example with QGIS, a sewage system with links to ACC Build Assets:



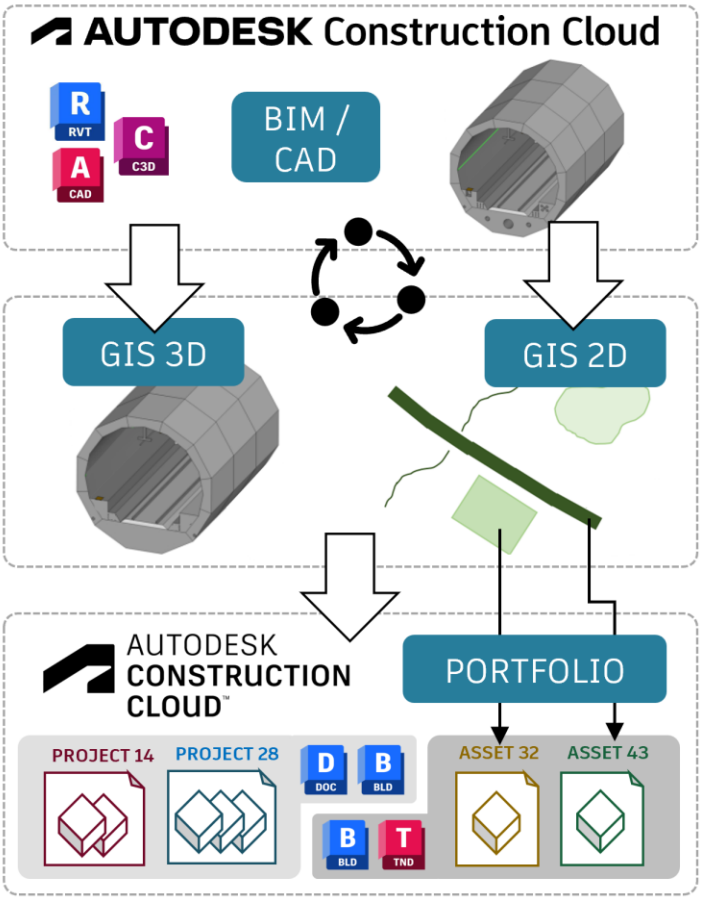


Geospatial portfolio management: ESRI maps + ACC

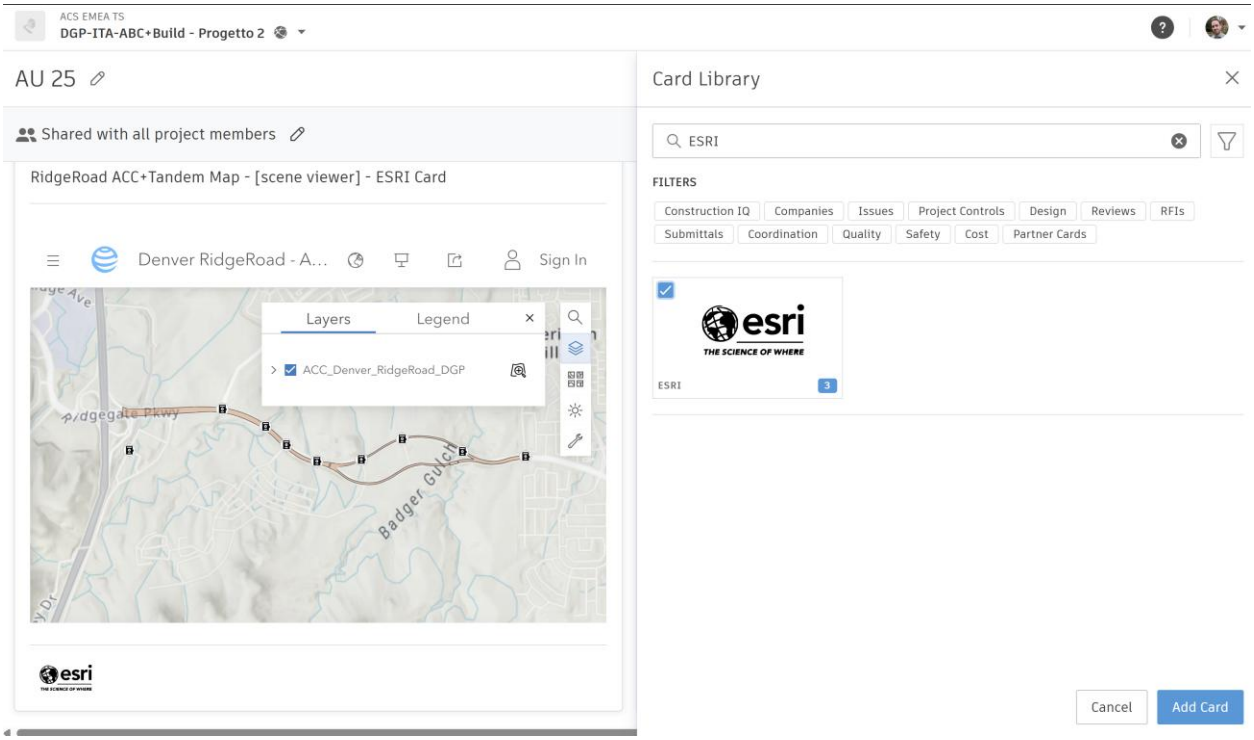
The same process defined above can be used with ESRI software, ArcGIS Pro (desktop) and ArcGIS Online (ESRI Online).

The benefits of proceeding with this approach is that ESRI and Autodesk software have connections that enable a seamless integration of Autodesk software in ESRI GIS maps, making possible the creation of maps from Autodesk-generated content (Revit, Civil 3D, AutoCAD), which could be either 2D or 3D.

There is an interesting ESRI learning path to know beyond, see link below:
https://learn.arcgis.com/en/paths/bim-and-gis/



ESRI ArcGIS maps, generated with ArcGIS Pro can be uploaded (published) onto ESRI ArcGIS Online. These online maps can then be integrated into ACC Insight, by means of the specific ESRI partner Card. This approach makes possible the visualization of public ESRI maps directly from the ACC Insight environment.
This process is showcased in the session, so have a look at it in the recording.



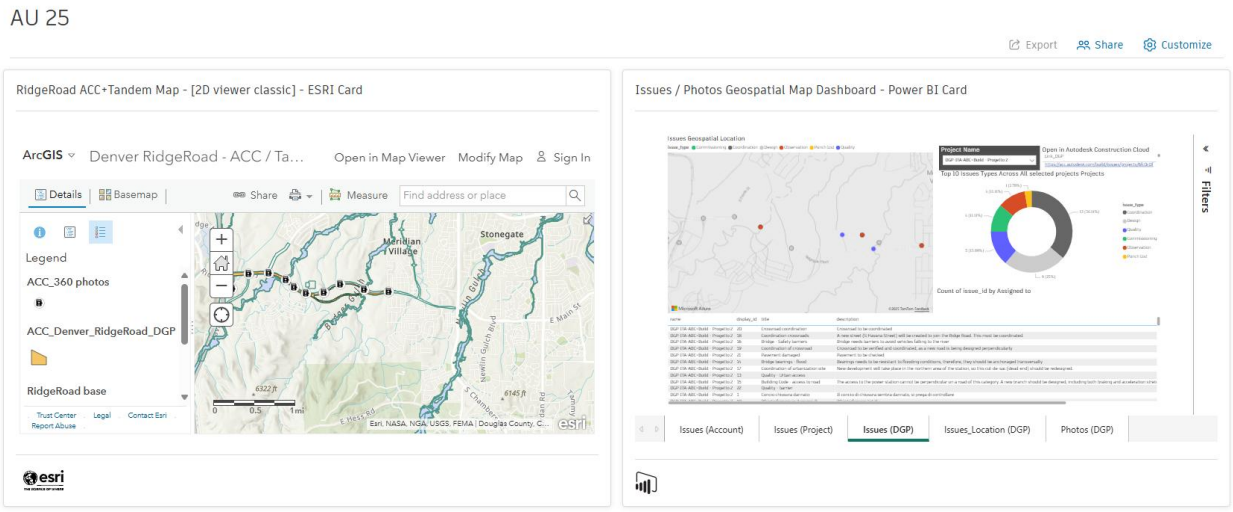
Wrapping it all together: ACC Insight

ACC Insight is a great landing site for your dashboards, reports, and third-party data sources.

Executive stakeholders will appreciate having all relevant project data in one place, saving them from having to enter various projects and tracking down minute pieces of data to draw insights.

In our example, we show a custom built Insight page that has cards for the following:

- ESRI ArcGIS Data (external partner card)
- PowerBI Dashboards
  - Geospatial Data + ACC Issues/Photos
  - ACC Assets + 3D Model Data
- Autodesk Forma Site Context (Docs viewer of a Forma exported GIS map in IFC format)
- Autodesk Infraworks Site Context (Docs viewer of an Infraworks exported GIS generated environment in FBX format)
- Project Issues (ACC)
- Project Photo Library (ACC)
- Project Assets (ACC)



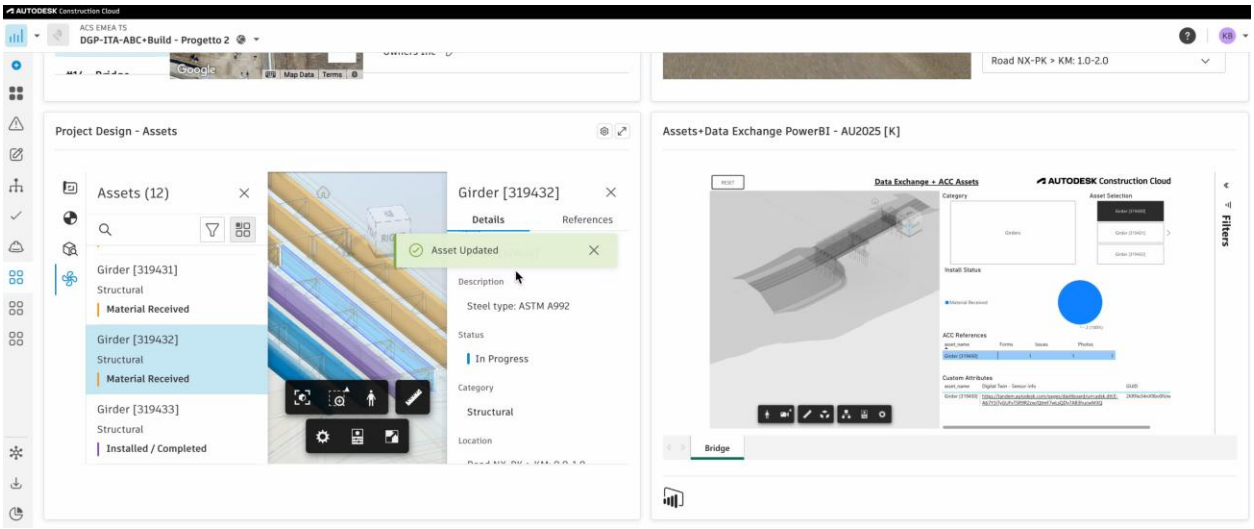
Integrating ACC Cards

ACC Insight has a remarkable number of existing Cards to include in your dashboards.

- In-house cards: https://help.autodesk.com/view/DOCS/ENU/?guid=In-house_Cards_in_Insight

- Partner cards (like ESRI or PowerBI, among many others) These ones make possible including an ESRI map or a PowerBI dashboard directly on ACC Insight: https://help.autodesk.com/view/DOCS/ENU/?guid=Insight_Data_Analytics

- Project design card: https://help.autodesk.com/view/DOCS/ENU/?guid=My_Home_Customize_Dashboards



The latter, the project design card, allows users to generate a dashboard of a specific ACC functionality or viewer, such as Issues, a Docs folder, a Docs viewer, Build Forms, Build assets...