



Release Notes

CIVIL DESIGN AND ENGINEERING

April 2021

Quantm 2021

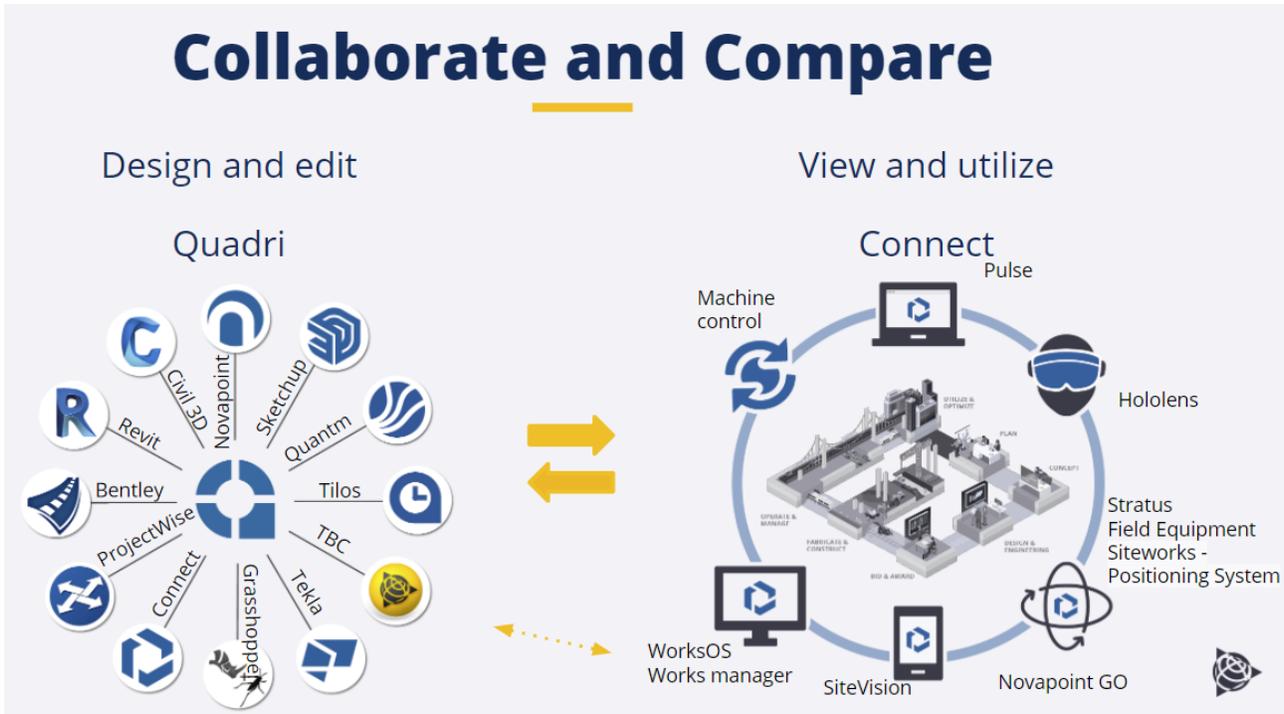
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New Integrations & Workflows

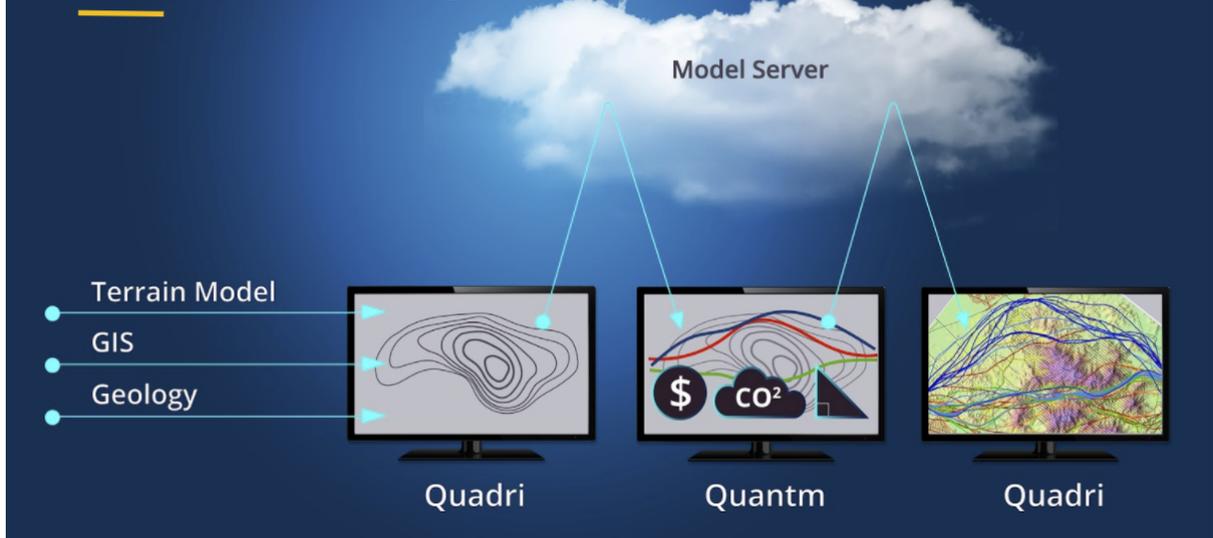
Quantm - Quadri - Novapoint

- **Trimble Connected Construction Workflow** - The new bidirectional connectors reduce total planning time and provide faster integration between scoping, concept, feasibility, scheduling, detailed design, visualization, construction and maintenance.



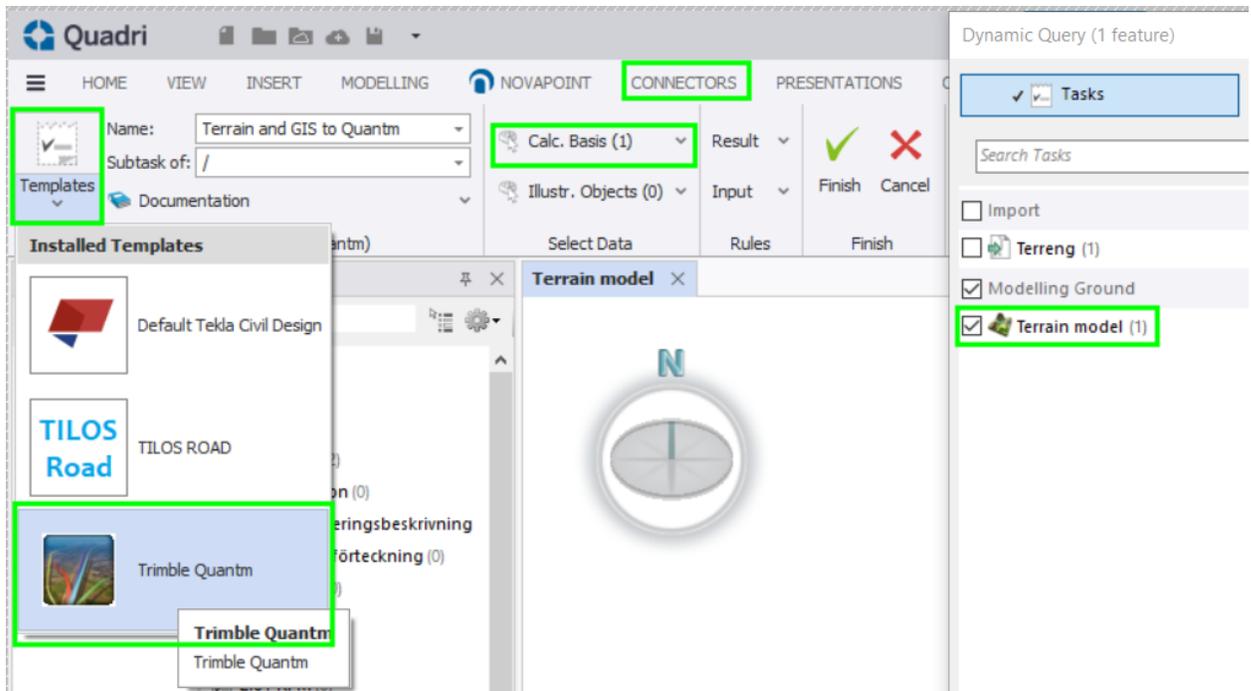
- **Quantm - Quadri Connector** - Using a bidirectional task integration, Quantm can read data, like terrain surface models and GIS information, stored in Quadri, as well as integrate with other tools in the infrastructure ecosystem. Quantm is now able to:
 - Receive terrain model (DTM) directly from Quadri
 - Receive GIS data directly from Quadri
 - Send alignments to Quadri

Data Exchange

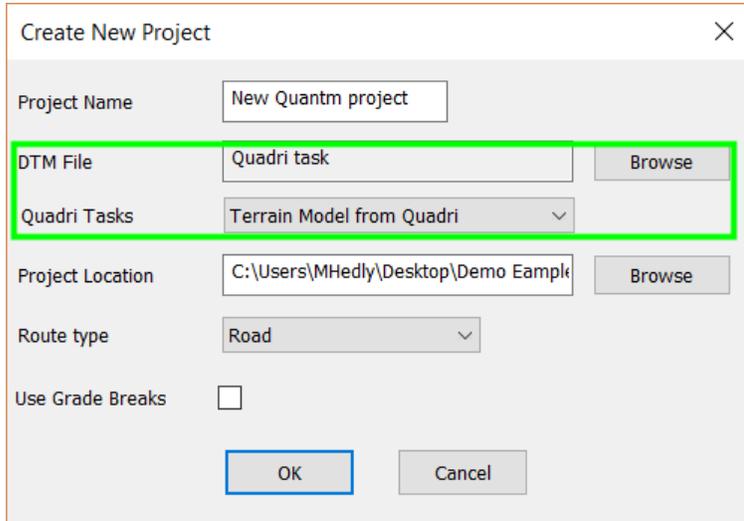


Set up the connection Quantm-Quadri

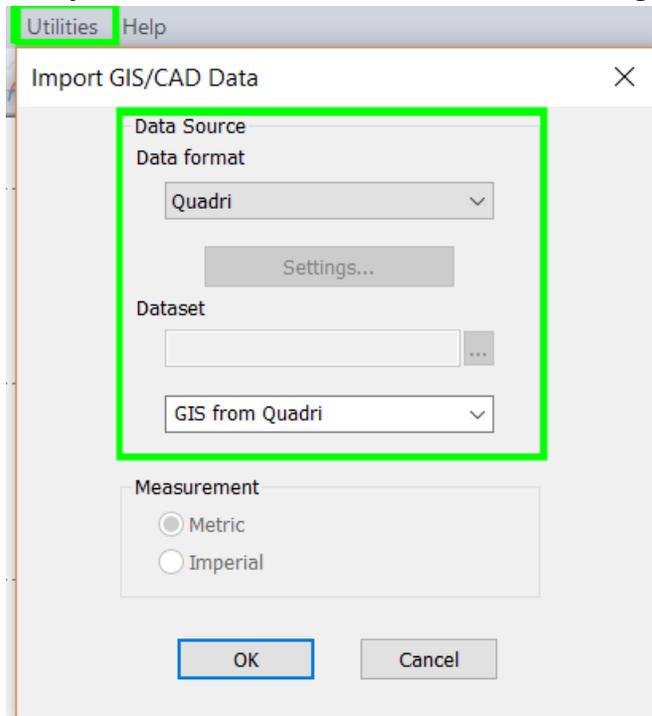
Have both software open. Create a task connector in Quadri with data to Quantm. Tips are to create one for the terrain model and one for the GIS data (multiple tasks can be created). In this case the terrain model is used.



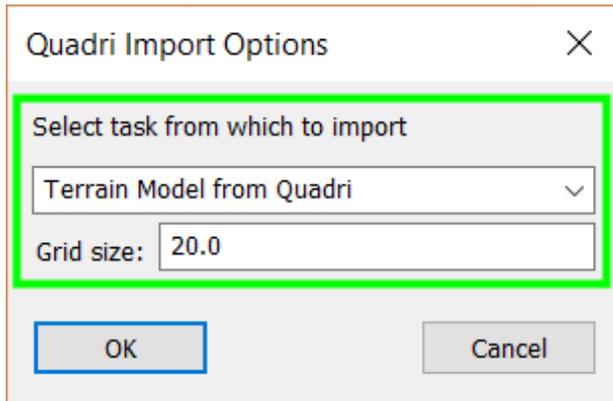
Create a new Quantm project. Read terrain model from Quadri via bidirectional task connector.



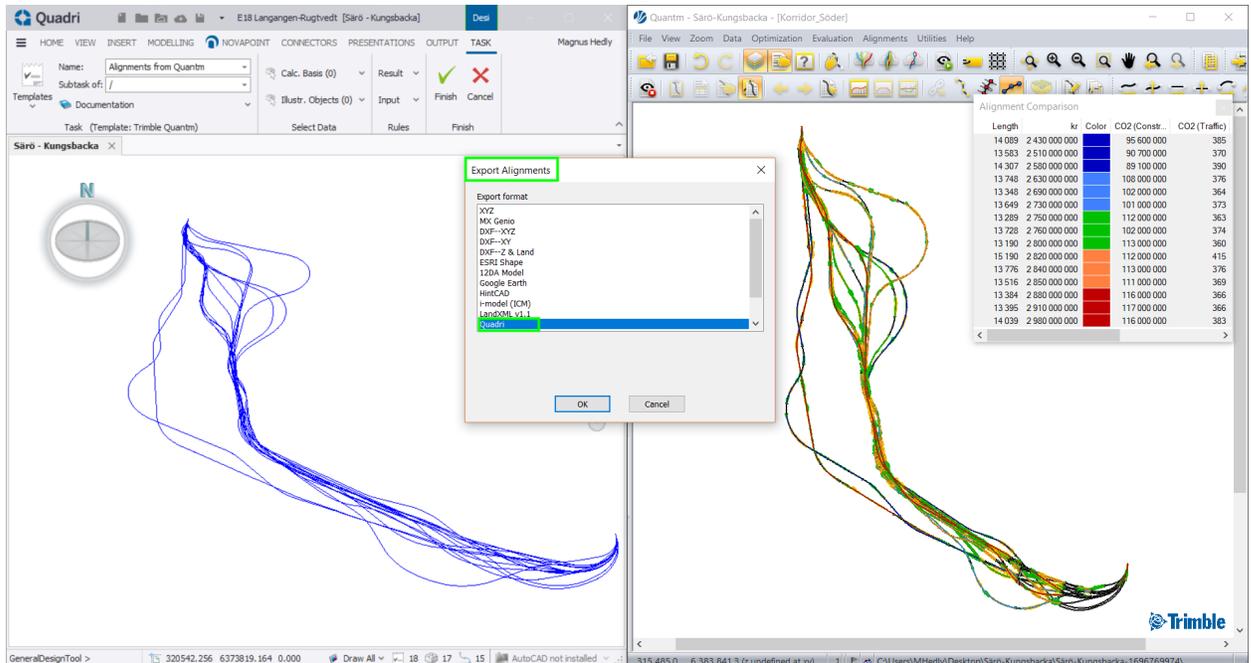
Receive GIS data from Quadri. First create the task connector in Quadri with the GIS data you will send to Quantm. Inside Quantm, go to utilities and import GIS/CAD.



- **Choose a DTM size** - When creating a Quantm project and reading the terrain model from Quadri, you can now choose the grid size density of the terrain model.



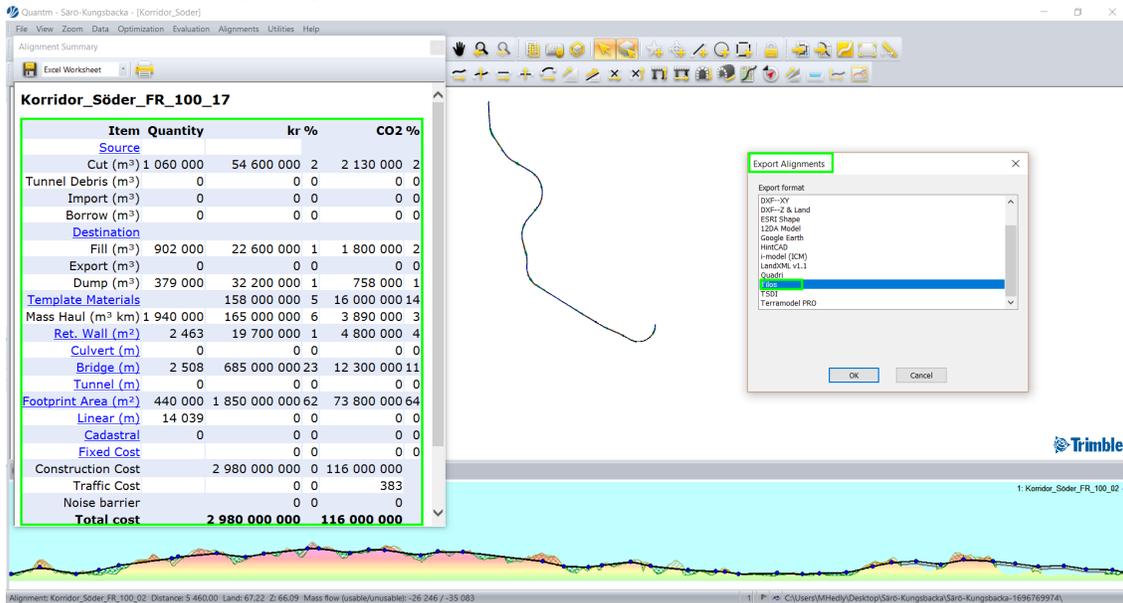
Send Quantm alignments directly back to the BIM platform in the Quadri model



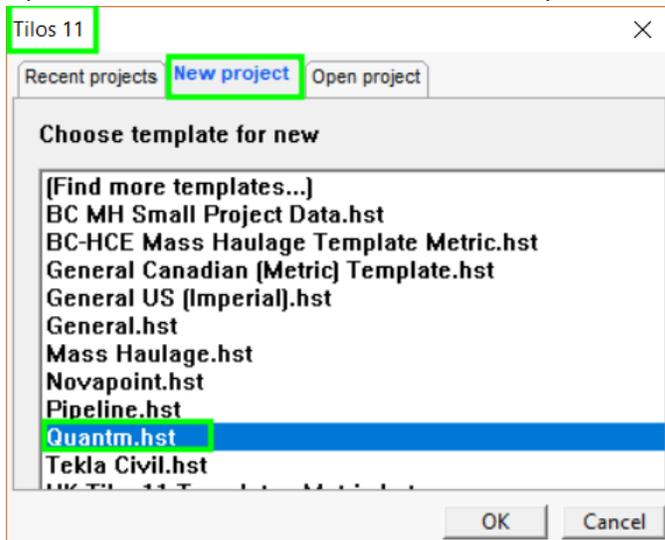
- **Utilize optimized alignments** from Quantm, stored in Quadri, to do detailed design in Novapoint or other design applications.

Quantm - Tilos

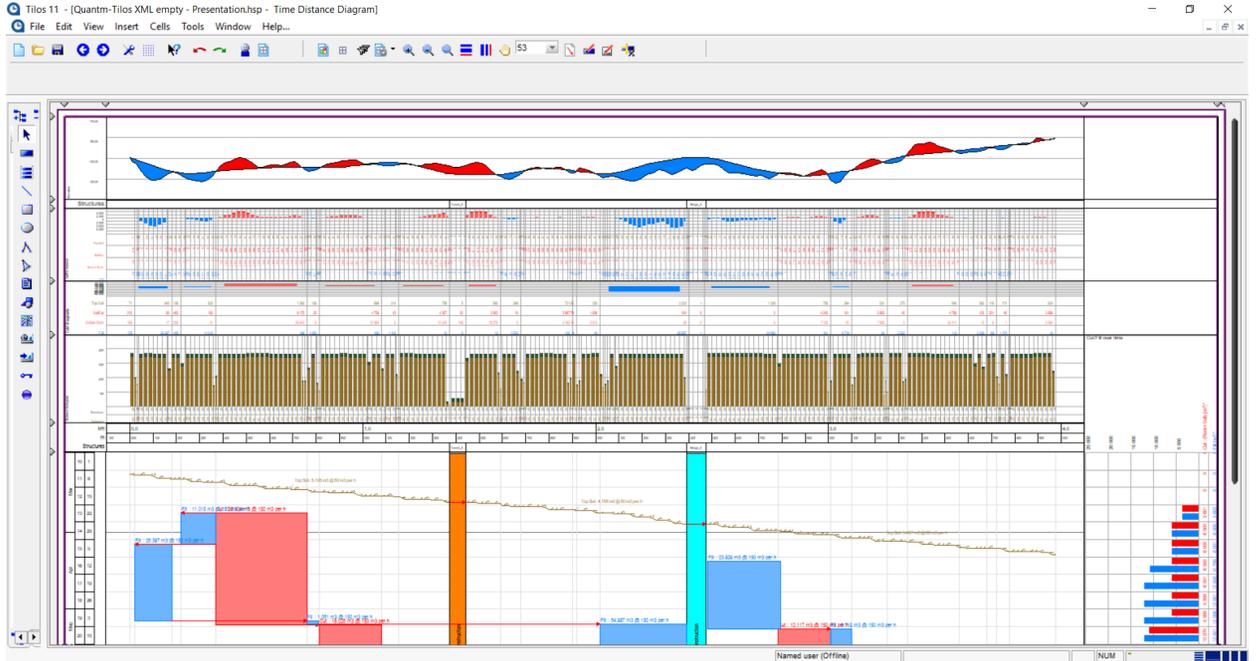
- **Send Quantm data to Tilos** - Send XML files with project details, such as road elevation, terrain elevation, earthworks, template materials, structures and quantities, from Quantm to quickly create a time-distance schedule in Tilos.



Open Tilos version 11 (or newer) and import the XML from Quantm



Display land and road/rail elevation information, cut and fill quantities, construction material, and structures with locations in a time-distance diagram or in a traditional Gantt chart. Use Tilos to create activities, links, plan resources, costs, CO₂ for decision making during tender, feasibility, design and construction.





New Enhancements & Features

- **Curvilinear optimization**

Use 'Curvilinear' optimizations for better speed and spread of results without accurate geometry.

Corridor Identification

Optimization Type

Free to Roam Geometric

Quick Seed Curvilinear

Name

Job name:

Number of Alignments (25)

Description

Free to Roam Optimization – Produces a sample of alignments exploring the available land surface

Notes:

Submit by:

- **Varied fill**

Ability to have varied fill cost zones within a scenario.

Cost Parameters

Global | Material | Geology | **Fill** | Template Materials | Bridge | Tunnel | Wall | Culvert | Area | Linear | Fixed

Fill 25.00 kr/m³ 1.15 CO2/m³

Name	No	Step Height (m)	Step Width (m)	Slope (%)
Fill_Earthworks_#1	1	20.00	2.00	50.00
Fill_Earthworks_#2	2	15.00	2.20	45.00
Fill_Earthworks_#3				

OK Cancel

Local Defaults

Name: Local area with Fill_Earthwork_#2

Layer: Local defaults

<p>Bridge type</p> <p>Unspecified</p> <p>Global default</p> <p>Bro över väg och j...</p> <p>Bro över vatten oc...</p> <p>Bro över land</p> <p>New...</p>	<p>Tunnel type</p> <p>Unspecified</p> <p>Global default</p> <p>Dual</p> <p>Singel</p> <p>New...</p>	<p>Wall type</p> <p>Unspecified</p> <p>Global default</p> <p>Stödmur</p> <p>New...</p>
<p>Geology type</p> <p>Unspecified</p> <p>Global default</p> <p>Geologi 1</p> <p>Geologi 2</p> <p>Geologi 3</p> <p>Torv 1</p> <p>Torv 2</p> <p>Torv 3</p>	<p>Fill type</p> <p>Unspecified</p> <p>Global default</p> <p>Fill_Earthworks_#1</p> <p>Fill_Earthworks_#2</p> <p>Fill_Earthworks_#3</p> <p>New...</p>	<p>Geometry type</p> <p>Unspecified</p> <p>Global default</p> <p>320 km/t</p> <p>250 km/t</p> <p>200 km/t</p> <p>160 km/t</p> <p>100 km/t</p> <p>230 km/t</p>

OK Cancel

- **CO₂ Calculator**

- Add values with separators in the cost parameter input fields (, and .)
- Ability to show CO₂ for all items (Construction and Traffic) in the Alignment Summary

Alignment Summary

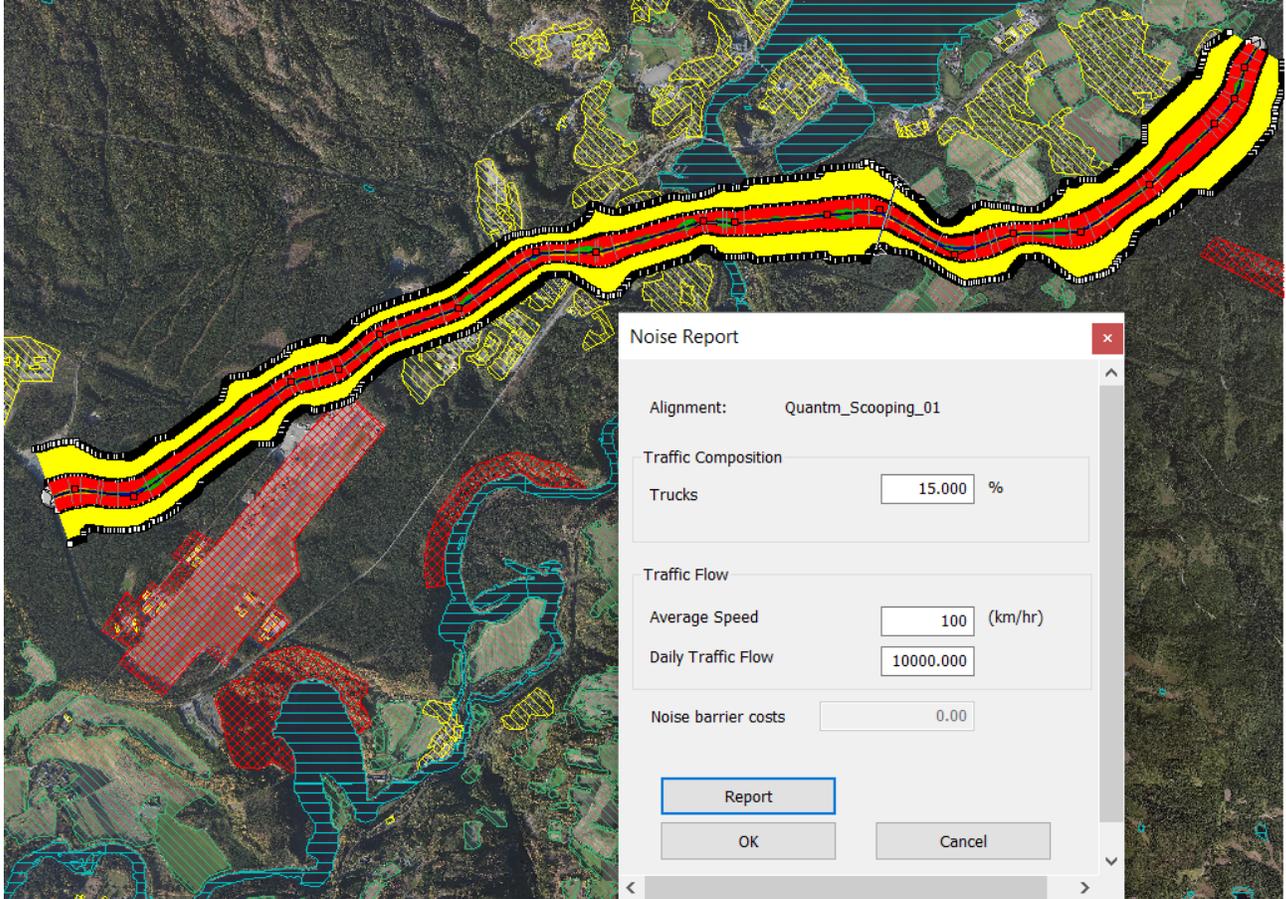
Excel Worksheet

Korridor_Söder_FR_100_17

Item	Quantity	kr %	CO2 %
<u>Source</u>			
Cut (m ³)	1 060 000	54 600 000 2	2 130 000 2
Tunnel Debris (m ³)	0	0 0	0 0
Import (m ³)	0	0 0	0 0
Borrow (m ³)	0	0 0	0 0
<u>Destination</u>			
Fill (m ³)	902 000	22 600 000 1	1 800 000 2
Export (m ³)	0	0 0	0 0
Dump (m ³)	379 000	32 200 000 1	758 000 1
<u>Template Materials</u>			
Mass Haul (m ³ km)	1 940 000	165 000 000 6	3 890 000 3
Ret. Wall (m ²)	2 463	19 700 000 1	4 800 000 4
Culvert (m)	0	0 0	0 0
Bridge (m)	2 508	685 000 000 23	12 300 000 11
Tunnel (m)	0	0 0	0 0
Footprint Area (m ²)	440 000	1 850 000 000 62	73 800 000 64
Linear (m)	14 039	0 0	0 0
Cadastral	0	0 0	0 0
Fixed Cost		0 0	0 0
Construction Cost	2 980 000 000	0	116 000 000
Traffic Cost		0 0	383
Noise barrier		0 0	0
Total cost	2 980 000 000		116 000 000

- **Noise Indications**

Audiovisual Noise Indicator. Noise Indication based on heavy traffic, speed limit, grade and daily traffic flow.



Red = > 65dBA

Yellow = 55dBa-65dBA

No color = <55dBA

- **Noise barrier cost**

Apply cost and CO2 to construct Noise measurements in the linear cost

The screenshot displays a software interface for project management, featuring an alignment comparison table and a cost parameters table overlaid on a map.

Alignment Comparison Table:

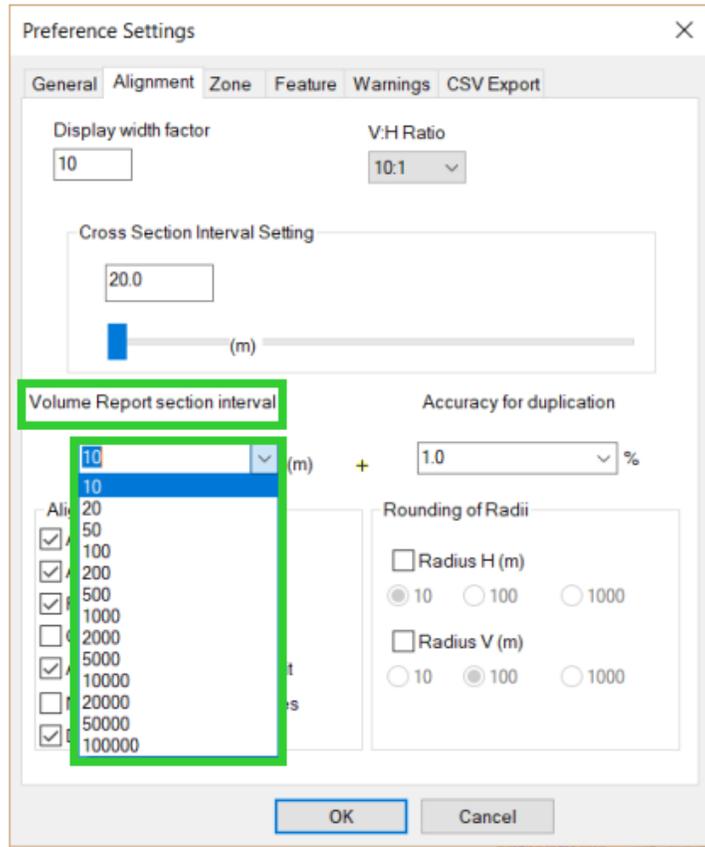
Alignment na...	Start Ch...	Finish C...	Length	kr	Color	CO2 (Constr...	CO2 (Traffic)	Noise barrier
Quantm_S...	0	8921	8 921	23 000 000	Blue	16 400 000	245	369 000

Cost Parameters (read only) Table:

Global	Material	Geology	Fill	Template Materials	Bridge	Tunnel	Wall	Culvert	Area	Linear	Fixed	
Linear cost type												
Signs and marking										kr/m	Height (m)	CO2 (CO2...)
Lightning										20	0.00	12.00
Fence										70	0.00	14.00
Drainage and Overwater										120	0.00	30.00
Median										100	0.00	0.00
Noise Barrier										200	0.00	0.00
										300	0.00	0.00

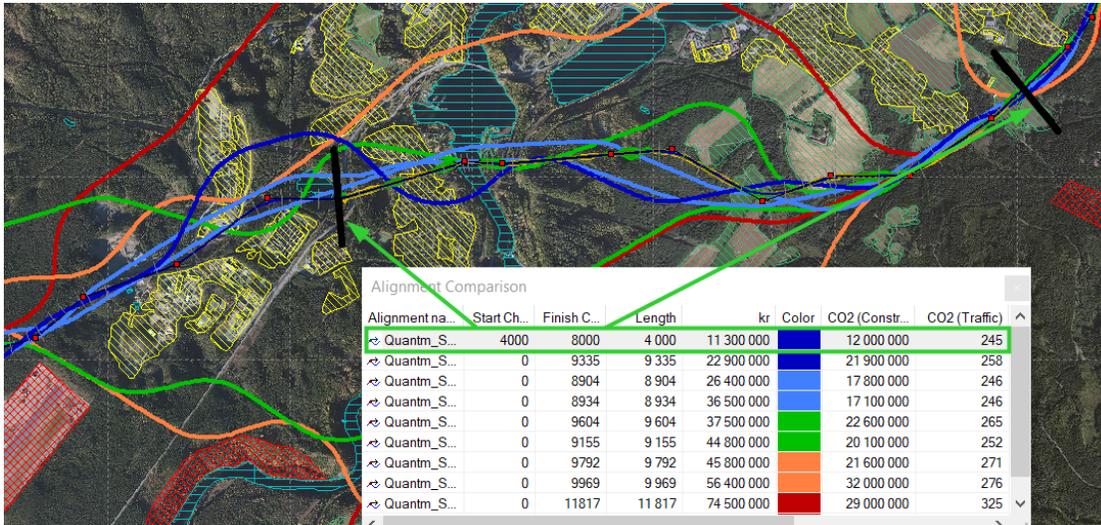
- **Volume report for detailed section**

Volume calculations down to every 10 m. Adjust the section intervals in preference settings under the alignment tab. Cross Section interval settings need to be larger than the volume report section interval.



- **Cost part of alignments**

Update/calculate cost for the selected sections or parts of the alignment. Visualize the start- and end chainage of the cutted alignment in plan and profile view.



- **Export part of alignment by LandXML to design tools**

Make sure the start- and end change is not placed in a transition curve.

Export Alignments

Export format

- XYZ
- MX Genio
- DXF--XYZ
- DXF--XY
- DXF--Z & Land
- ESRI Shape
- 12DA Model
- Google Earth
- HintCAD
- LandXML v1.1**
- Quadri
- Tilos

Include earthwork footprint

Convert to imperial units

OK Cancel

Alignment na...	Start Ch...	Finish C...	Length	kr	Color	CO2 (Constr...	CO2 (Traffic)	Nc
Quantm_S...	4000	8000	4 000	11 300 000	Dark Blue	12 000 000	245	
Quantm_S...	0	9335	9 335	22 900 000	Blue	21 900 000	258	
Quantm_S...	0	8904	8 904	26 400 000	Light Blue	17 800 000	246	
Quantm_S...	0	8934	8 934	36 500 000	Light Blue	17 100 000	246	
Quantm_S...	0	9604	9 604	37 500 000	Light Green	22 600 000	265	
Quantm_S...	0	9155	9 155	44 800 000	Green	20 100 000	252	
Quantm_S...	0	9792	9 792	45 800 000	Orange	21 600 000	271	
Quantm_S...	0	9969	9 969	56 400 000	Red-Orange	32 000 000	276	
Quantm_S...	0	11817	11 817	74 500 000	Red	29 000 000	325	
Quantm_S...	0	10856	10 856	77 200 000	Red	41 900 000	297	

Quantm Interface (UI) & Settings

- **New splash screen** - Modernize the startup splash screen



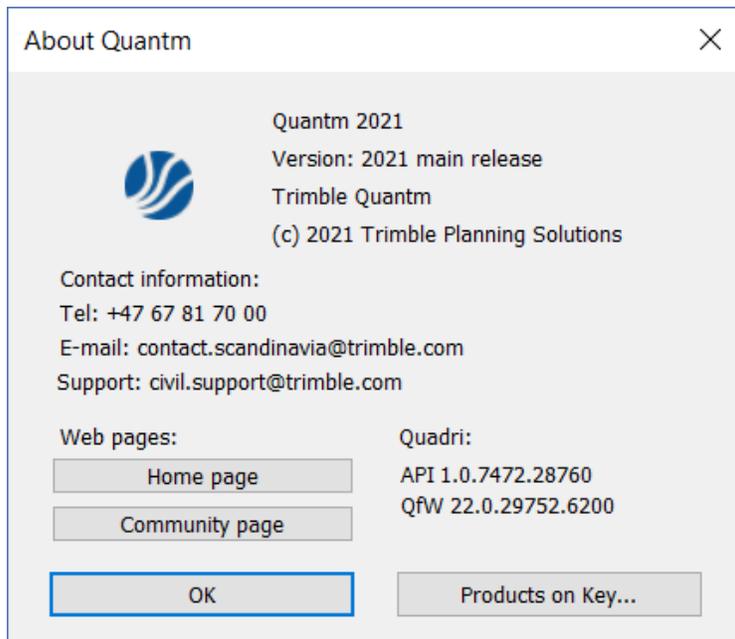
- **New Desktop Icon** - Modern Trimble desktop Icon aligned with the Connected Construction.



- **Quantm Icon** - inside the software updated (up left corner).



- **About Quantm** - Updated information
 - link to new web page
 - Link to new community page.
 - Quadri version (If Quadri is open)
 - Contact information





Fixed

- **CO₂ decimal bug** - The value in cost parameters for CO₂ under tab “Materials and Linear Cost” could not handle decimals. Now any number is allowed.
- **GIS data are checked for issues** - Zones and features are checked for issues even when they are not active.
- **Quantm import Parabola Curves** - Allows alignment created with parabolas to be correctly imported.
- **Importing alignment crest error (R=3000m)** - The crest of imported alignments will follow the native created crest radius and not automatically be converted to R=3000m.
- **Indian Rupee** - Now possible to export Excel alignment reports
- **Help menu** - Updated
- **Progress bar** - When exporting alignments summaries to Excel
- **Portugees Brazilian** - Language enhancements

Reaching Sales, Support, and the Community

For more information, please use these resources:

Quantm Resource Center

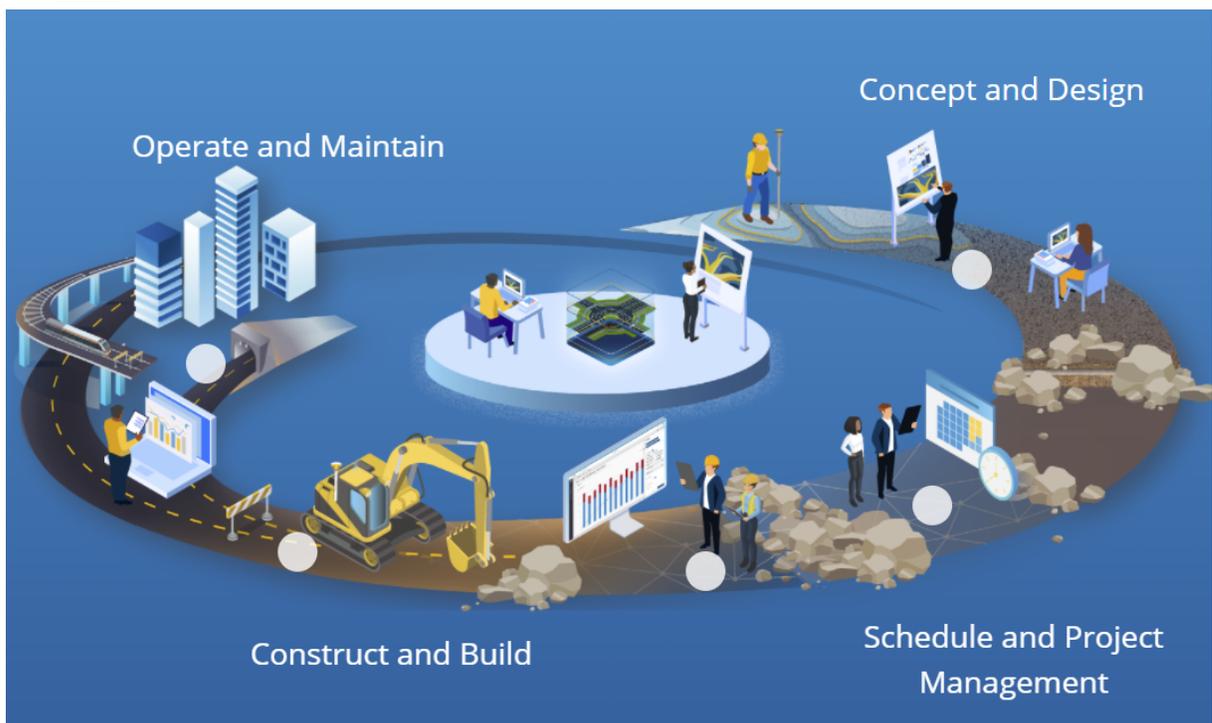
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Quantm Support mail

civil.support@trimble.com

Trimble Connected Construction

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