

Finnish-German BIM- Workshop 5.9.2023

Shaping the Future of the Built Environment through BIM and Digital
Twins



Scheduling cases Destia Finland and WSB Frontage Road USA

Jouni Ojala, Director 4D Planning, Granlund Oy



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Kalasadatamasta pasilaan project

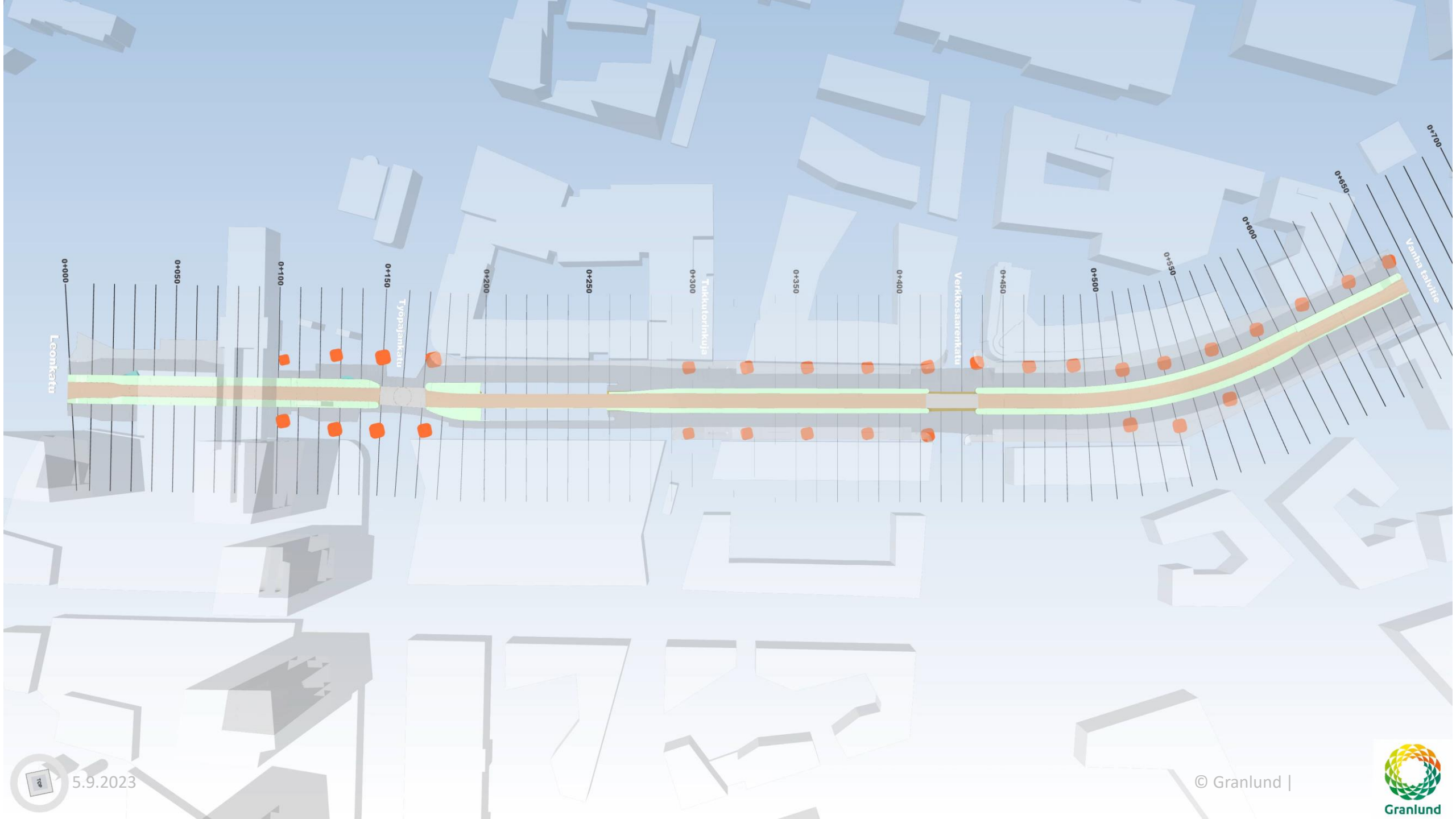
- Light rail, roads, pedestrian ways –
 - 4,5 km
 - 6-8 meters wide
- Budget 80 M€
- Alliance project
- Granlund’s client: Destia
- 1st Infra4D client project for Granlund

09.09.22



ID	Name	Duration	Start	Finish	3D Resources	Jun 2022							Jan 2023							Jan 2024							Jan 2025							Jan 2026							Jan 2027						
						Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
ST0000	Objektin hinnitys	1d	09.09.22 (*)	09.09.22 (*)																																											
ST0000	Liikennejärjestely vaihe 1	24d	09.09.22 (*)	01.10.23 (*)		0																																									
ST0000	Puutavara PLV0-180	21d	16.09.22	14.10.22		0																																									
ST0000	Typi Purku ja siirto	21d	16.09.22	14.10.22		0																																									
ST0000	0-180 - Purettavat ja siirrettävät rakenteet - Asfaltti, reunakivet ja -tuet ja päällykivet	21d	16.09.22 (*)	14.10.22 (*)																																											





0+000
Leonkatu

0+050

0+100

0+150
Tienpajankatu

0+200

0+250

0+300
Tukkuatorinkuja

0+350

0+400

0+450
Verkkosaarentie

0+500

0+550

0+600

0+650

0+700
Vanha talviti



5.9.2023

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Frontage Road

- Simple Road project to work as a business card
- Granlund's role: bring 4D to digital twin delivery
- Granlund's client: WSB Engineering



ID	Area	Name	Duration	Start	Finish	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 2024	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 2025	Feb	Mar
						wk 19	wk 23	wk 27	wk 32	wk 36	wk 40	wk 45	wk 49	wk 1	wk 6	wk 10	wk 14	wk 19	wk 23	wk 27	wk 32	wk 36	wk 41	wk 45	wk 49	wk 2	wk 6	wk
		Schedule.G4D	2d, 1h, 56m	12.06.23	14.06.23																							
		Area.US 278 to Dennis Creek	2d, 1h, 56m	12.06.23	14.06.23																							
		Station.100+00.00	3h, 32m	12.06.23	12.06.23																							
		Work type.CONCRETE/STRUCTURES	3h, 32m	12.06.23	12.06.23																							
160	ST00960	US 278 to Dennis Creek	100+00.00 - Install Curb & Gutter - Frontage Rd	3h, 32m	12.06.23 (*)	12.06.23 (*)																						
		Station.103+00.00	4h, 48m	12.06.23	13.06.23																							
		Work type.CONCRETE/STRUCTURES	4h, 48m	12.06.23	13.06.23																							
176	ST00976	US 278 to Dennis Creek	103+00.00 - Install Curb & Gutter - Frontage Rd	4h, 48m	12.06.23	13.06.23																						
		Station.106+00.00	4h, 48m	13.06.23	13.06.23																							
		Work type.CONCRETE/STRUCTURES	4h, 48m	13.06.23	13.06.23																							
193	ST00992	US 278 to Dennis Creek	106+00.00 - Install Curb & Gutter - Frontage Rd	4h, 48m	13.06.23	13.06.23																						
		Station.109+00.00	4h, 48m	13.06.23	14.06.23																							
		Work type.CONCRETE/STRUCTURES	4h, 48m	13.06.23	14.06.23																							
210	ST01008	US 278 to Dennis Creek	109+00.00 - Install Curb & Gutter - Frontage Rd	4h, 48m	13.06.23	14.06.23																						



ID	Name	% Complete	Duration	Start	Finish	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 2024	Feb	Mar	Apr	May	Jun
						wk 10	wk 14	wk 18	wk 23	wk 27	wk 32	wk 36	wk 40	wk 45	wk 49	wk 1	wk 6	wk 10	wk 14	wk 19	wk 23

Lessons learned



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Standardization of data

- Non-IFC, non-standard data
 - A lot of effort to make models usable
- Remedies
 - Collaborate with designers – have them publish usable files (IFCs)
 - Work towards standardized practices within the industry
- In Finnish building construction IFCs are routinely published

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Right bite size

- From 3x3 meter grid to
- Whole 100 yards
- Due to using app to report completions

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What you
measure is what
you get

- Schedule as a daily tool to drive production
- Having an accurate schedule changes the game
 - and the way site people need to relate to it
 - Know what you need to do today
 - Report progress
 - Or obstacles
 - ...be able to succeed every day!
- Philosophy and position of the schedule needs to be real life daily tool to know and report schedule

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International
collaboration is
possible

- We are able to work with companies in other countries
- Challenges in construction industry seem to be surprisingly similar between countries
- Local champion is needed

Contact information

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