Remaining Scopes in Safran

Kjetil Byklum, 13 November 2024

Initial questions

- If Safran has a predefined field for the Remaining Scope.

- What the remaining scope is.

- If the remaining scope can be related to schedules? If yes, why should we?
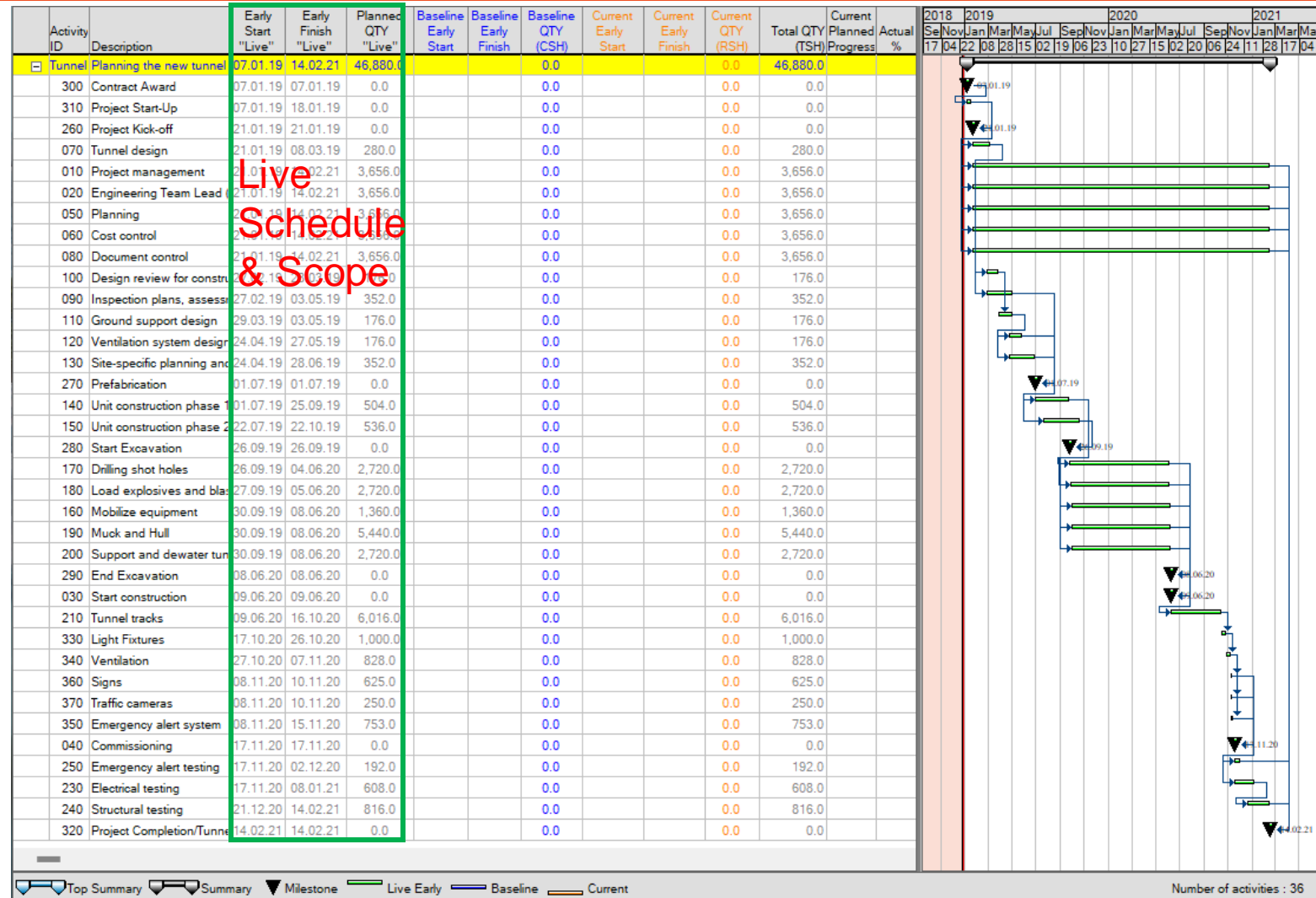
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Scopes and Schedules in Safran

Schedules

- Live Schedule

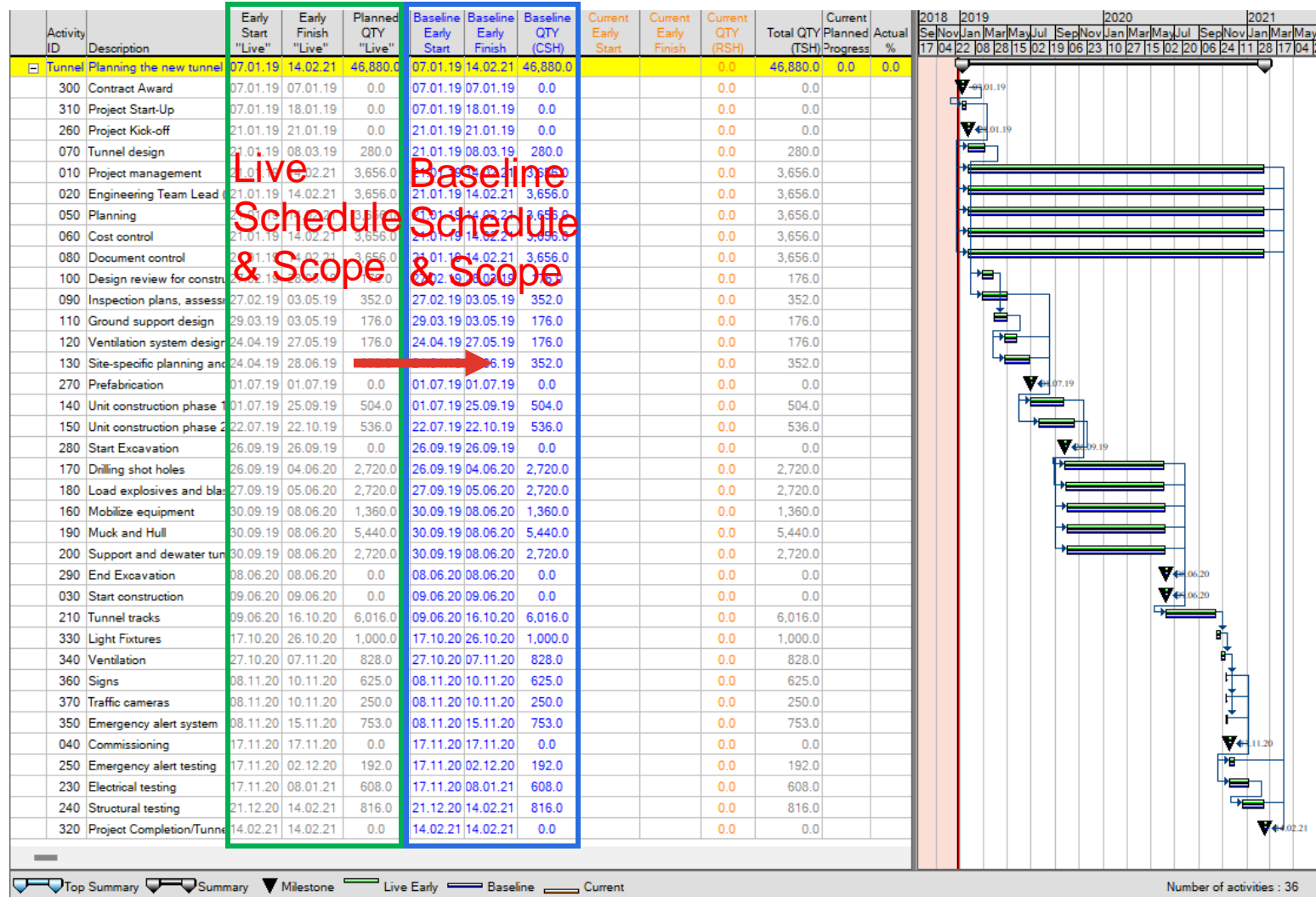- Baseline Schedule

- Current Schedule

Scopes

- Live Scope (Planned QTY)

- Baseline Scope

- Current Scope

- Total Scope
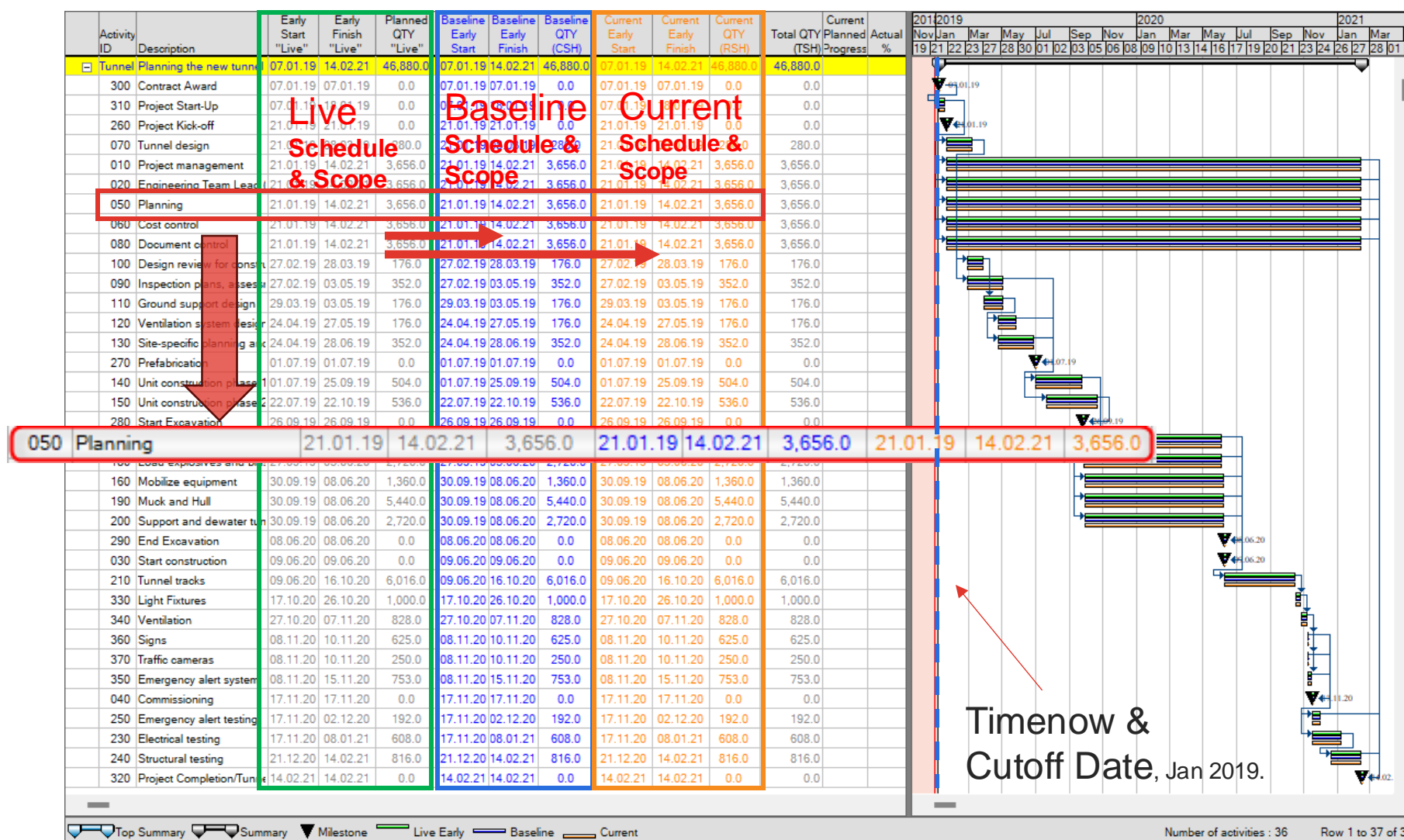
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Scopes and Schedules in Safran – Live plan

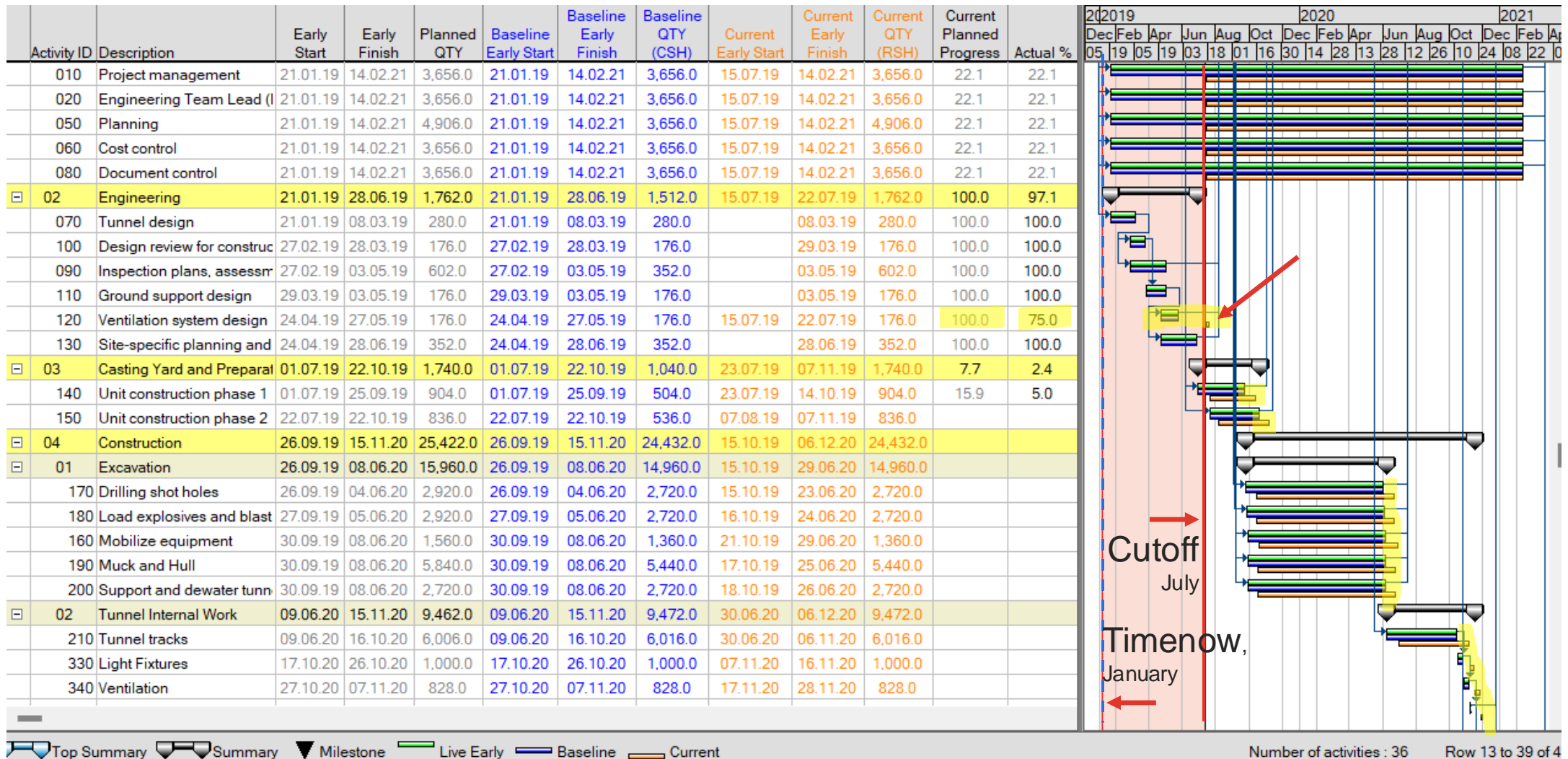# Shedules in Safran Project – Baseline

Shedules in Safran Project – Current

Schedules in Safran Project – Cutoff

Scope Settings

- Live Scope
- Baseline Scope
- Current Scope
- Total Scope

Change Register

Current Remaining Scope columns/fields

	Activity ID	Description	Early Start	Early Finish	Current Remaining Scope	Current Remaining Scope- PF adjusted	Current Earn Qty	Perform-ance Factor (pf)	Current PL QTY	Expended QTY	Actual %
⊟	4. - Remai	Remaining Scope - Tunnel	07.01.19	14.02.21	42,993.1	27,890.7	6,086.9	0.3	49,080.0	1,540.0	11.8
⊞	00	Milestones	07.01.19	14.02.21	0.0	0.0		1.0		0.0	25.0
⊞	01	Administration and Managem	07.01.19	14.02.21	15,206.3	0.0	4,323.7	0.0	19,530.0	0.0	22.1
⊟	02	Engineering	21.01.19	28.06.19	44.0	56.7	1,718.0	0.9	1,762.0	1,490.0	97.1
	070	Tunnel design	21.01.19	08.03.19			280.0	1.0	280.0	290.0	100.0
	100	Design review for construction	27.02.19	28.03.19			176.0	1.0	176.0	180.0	100.0
	090	Inspection plans, assessment	27.02.19	03.05.19			602.0	0.6	602.0	360.0	100.0
	110	Ground support design	29.03.19	03.05.19			176.0	1.0	176.0	170.0	100.0
	120	Ventilation system design	24.04.19	27.05.19	44.0	56.7	132.0	1.3	176.0	170.0	75.0
	130	Site-specific planning and pre	24.04.19	28.06.19			352.0	0.9	352.0	320.0	100.0
⊟	03	Casting Yard and Preparation	01.07.19	22.10.19	1,694.8	1,786.0	45.2	1.1	1,740.0	50.0	2.4
	140	Unit construction phase 1	01.07.19	25.09.19	858.8	950.0	45.2	1.1	904.0	50.0	5.0
	150	Unit construction phase 2	22.07.19	22.10.19	836.0	836.0		1.0	836.0	0.0	
⊟	04	Construction	26.09.19	15.11.20	24,432.0	24,432.0		1.0	24,432.0	0.0	
⊟	01	Excavation	26.09.19	08.06.20	14,960.0	14,960.0		1.0	14,960.0	0.0	
	170	Drilling shot holes	26.09.19	04.06.20	2,720.0	2,720.0		1.0	2,720.0	0.0	
	180	Load explosives and blast	27.09.19	05.06.20	2,720.0	2,720.0		1.0	2,720.0	0.0	
	160	Mobilize equipment	30.09.19	08.06.20	1,360.0	1,360.0		1.0	1,360.0	0.0	
	190	Muck and Hull	30.09.19	08.06.20	5,440.0	5,440.0		1.0	5,440.0	0.0	
	200	Support and dewater tunnel	30.09.19	08.06.20	2,720.0	2,720.0		1.0	2,720.0	0.0	
⊟	02	Tunnel Internal Work	09.06.20	15.11.20	9,472.0	9,472.0		1.0	9,472.0	0.0	
	210	Tunnel tracks	09.06.20	16.10.20	6,016.0	6,016.0		1.0	6,016.0	0.0	
	330	Light Fixtures	17.10.20	26.10.20	1,000.0	1,000.0		1.0	1,000.0	0.0	
	340	Ventilation	27.10.20	07.11.20	828.0	828.0		1.0	828.0	0.0	
	360	Signs	08.11.20	10.11.20	625.0	625.0		1.0	625.0	0.0	
	370	Traffic cameras	08.11.20	10.11.20	250.0	250.0		1.0	250.0	0.0	
	350	Emergency alert system	08.11.20	15.11.20	753.0	753.0		1.0	753.0	0.0	

Current Remaining Scope

Remaining Scope = Quantity – Earned Quantity

Activity ID	Description	Current Remaining Scope	Current Remaining Scope- PF adjusted	Current Earn Qty	Perform-ance Factor (pf)	Current PL QTY	Expended QTY	Actual %	2019 Dec Mar Jun Se 01 19 09 27 15 03 2
120	Ventilation system design	44.0	56.7	132.0	1.3	176.0	170.0	75.0	

44 = 176-132

Earned Quantity = Quantity*(Act% / 100)

Activity ID	Description	Current Remaining Scope	Current Remaining Scope- PF adjusted	Current Earn Qty	Perform-ance Factor (pf)	Current PL QTY	Expended QTY	Actual %	2019 Dec Mar Jun Se 01 19 09 27 15 03 2
120	Ventilation system design	44.0	56.7	132.0	1.3	176.0	170.0	75.0	

132 = 176*(75/100)

Earned QTY example

If you plan to paint a building in 100 hours, you will have earned 60 hours when 60% of it is painted.

–Regardless of how many hours you have spent!

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Calculated Fields, earned quantity

Calculated Fields, Current Remaining Scope

Current Remaining Scope, performance (pf) based

Remaining Scope pf based = (Quantity – Earned Quantity) * pf

Activity ID	Description	Current Remaining Scope	Current Remaining Scope- PF adjusted	Current Earn Qty	Perform-ance Factor (pf)	Current PL QTY	Expended QTY	Actual %	2019 Dec Mar Jun Se 01 19 09 27 15 03 2
120	Ventilation system design	44.0	56.7	132.0	1.3	176.0	170.0	75.0	

56,7 = 44 * 1,2878789

Performance factor = Expended QTY / Earn QTY

Activity ID	Description	Current Remaining Scope	Current Remaining Scope- PF adjusted	Current Earn Qty	Perform-ance Factor (pf)	Current PL QTY	Expended QTY	Actual %	2019 Dec Mar Jun Se 01 19 09 27 15 03 2
120	Ventilation system design	44.0	56.7	132.0	1.3	176.0	170.0	75.0	

1,3 = 170 / 132

Performance factor example

If you have spent 80 hours to earn 60 hours, your performance factor is 80/60 = 1,33.

-Below 1 is "good", above 1 is "bad".

Note! The Performance Index often used outside Scandinavia is simply the inverse of the Performance factor.

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Calculated Fields, Performance Factor

Calculated Fields, Current Remaining Scope performance-based

Remaining scope analysis with combined schedules and scopes
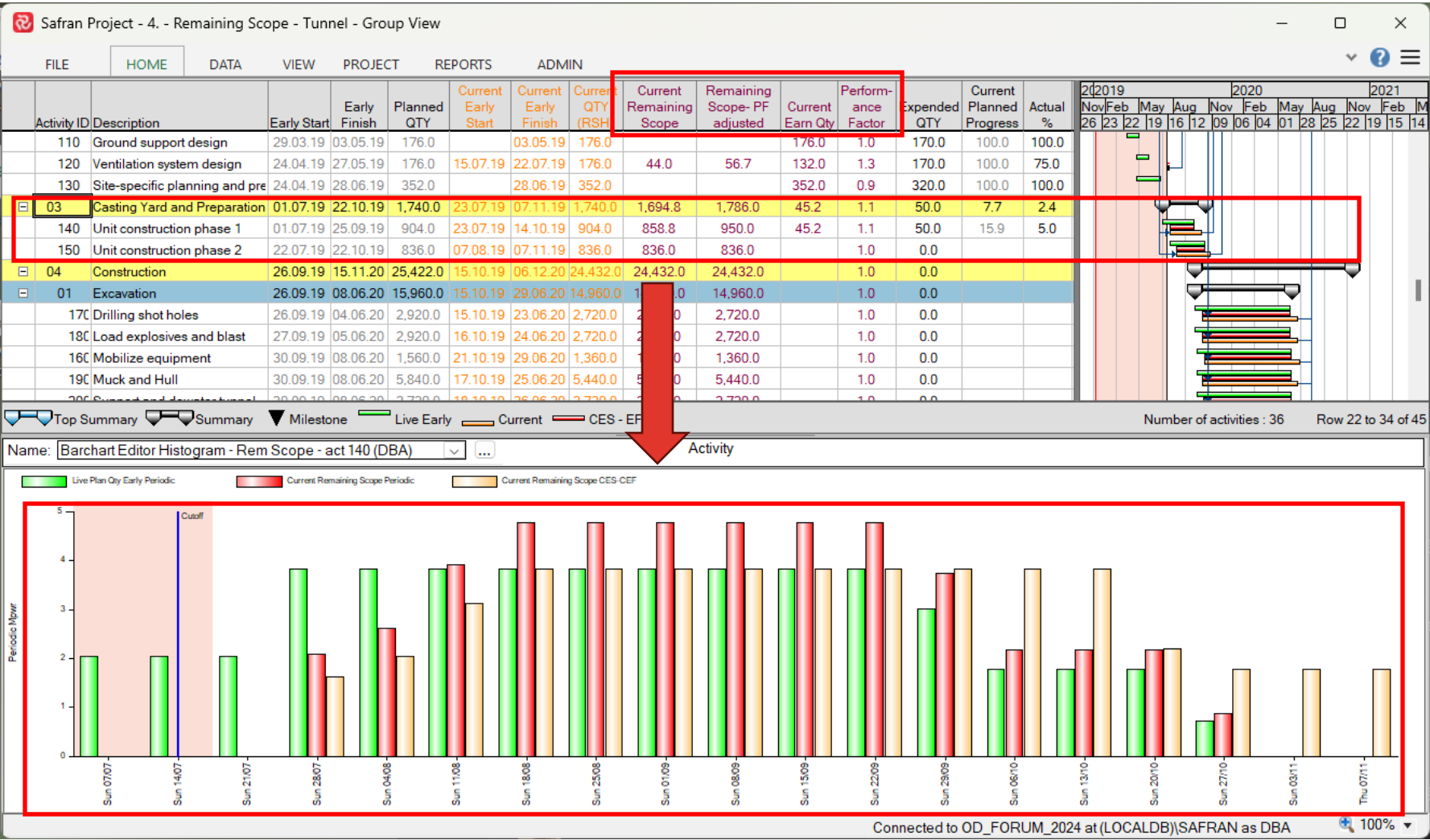
Green - Live Schedule
Early Start – Early Finish

Orange - Current Shedule
Current Early Start – Current Early Finish

Red - "Remaining part of Live Schedule"
Current Early Start – Early Finish

Green - Live Schedule
Early Start – Early Finish
Live Scope

Orange, Orange - Current Shedule
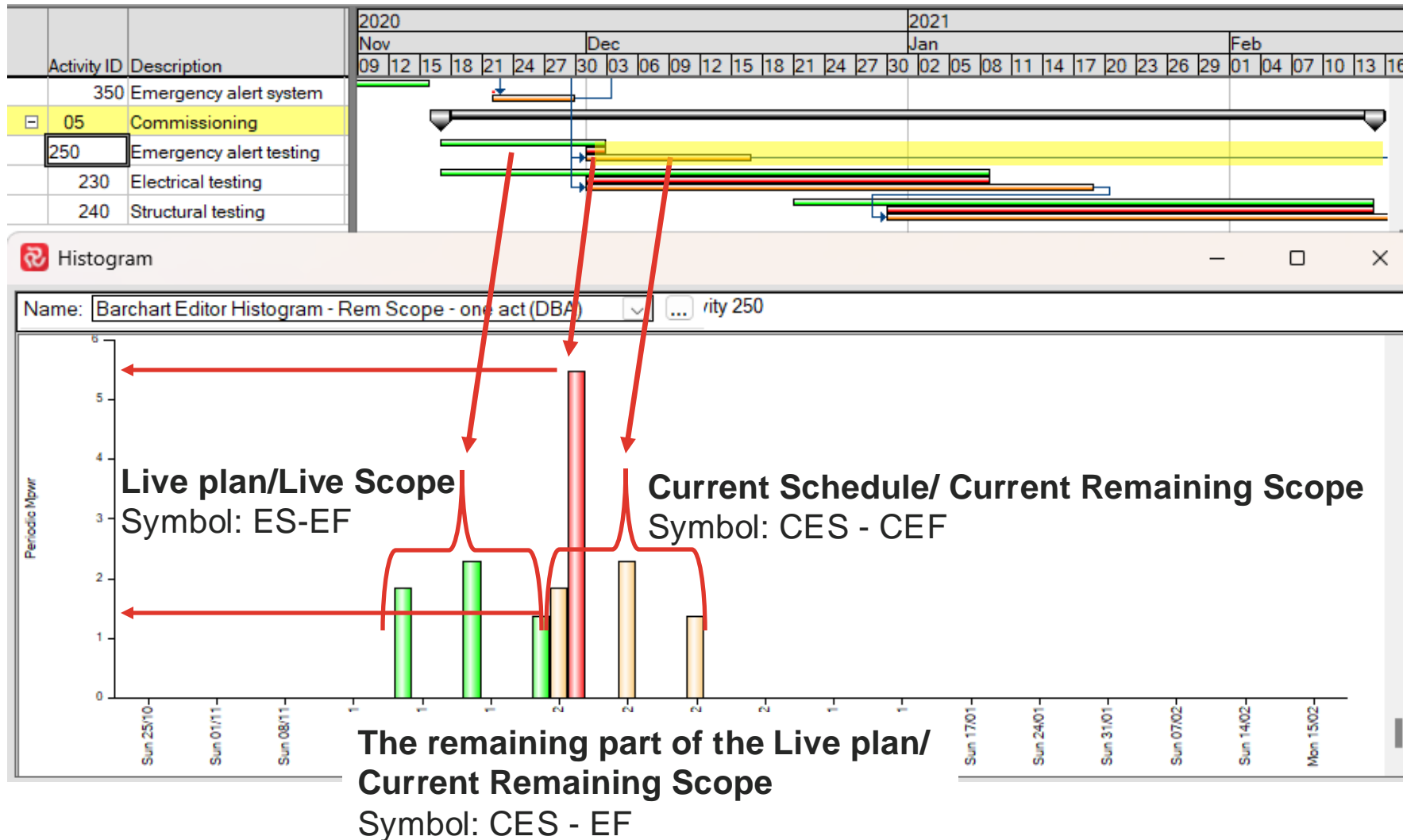*Current Early Start – Current Early Finish*
Remaining Current Scope

Red - "Remaining part of Live Schedule"
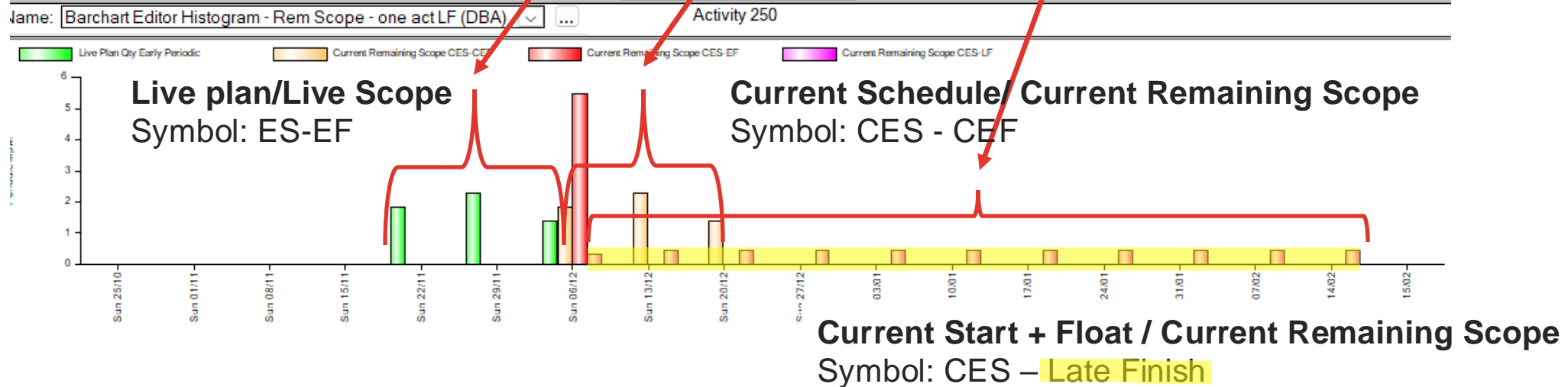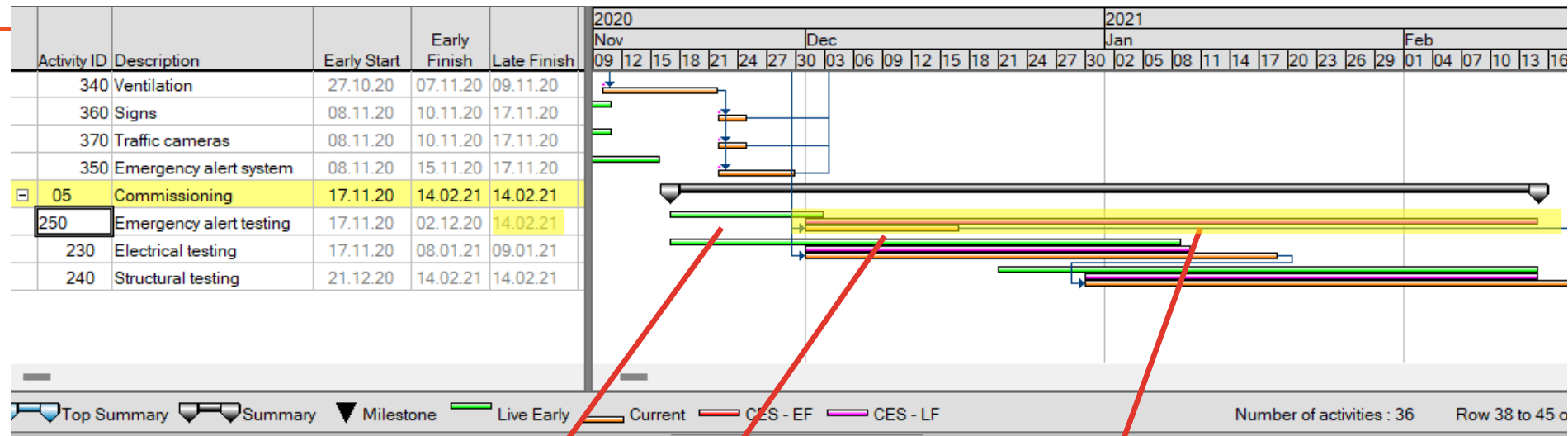*Current Early Start – Early Finish*
Remaining Current Scope

Combining Remaining Scope with shedules

Combining Remaining Scope with schedules, CES - LF

Live plan/Live Scope
Symbol: ES-EF

Current Schedule/ Current Remaining Scope
Symbol: CES - CEF

Current Start + Float / Current Remaining Scope
Symbol: CES – Late Finish

Progress Summary Report vs Barchart Editor numbers

Summary

- Does Safran have a predefined Remaining Scope field/column?
  - No, these columns/fields must be calculated based the project needs.
  - Once created, they can be made available for all projects.

- What is the remaining scope?
  - The answer depends on what scope you want the remaining of.
  - If a performance factor should be used in the calculation, which verdict should it be..

- Can remaining scopes be related to different schedules, and why should we?
  - Yes, for instance, in histogram reports for analytic purposes.
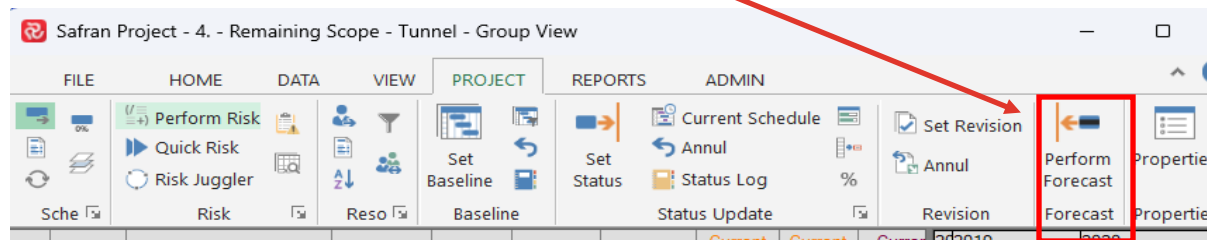
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Thank You.

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For questions and/or discussion, please visit our Safran Project demo stand in one of the coffee breaks.

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in one of the coffee breaks.

And, if interested in more future analysis, please try out the existing Forecast functionality in Safran..

Question from after the presentation

There was one question after the presentation:

"What is the difference between the Live Scope and the Total Scope"

That's a good question because the "Total" name can be confusing. The Total Scope is a configurable scope regarding which changes it shall include. In the example above, the Total Scope is similar to the Live Scope because it includes all the change categories that are in use in the change register. The values in the Total Scope are only updated after a Baseline or Status update, while the live scope is updated instantly when budget changes are added to the schedule.

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