

# Remaining Scopes in Safran

# Initial questions

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- 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?

# Scopes and Schedules in Safran

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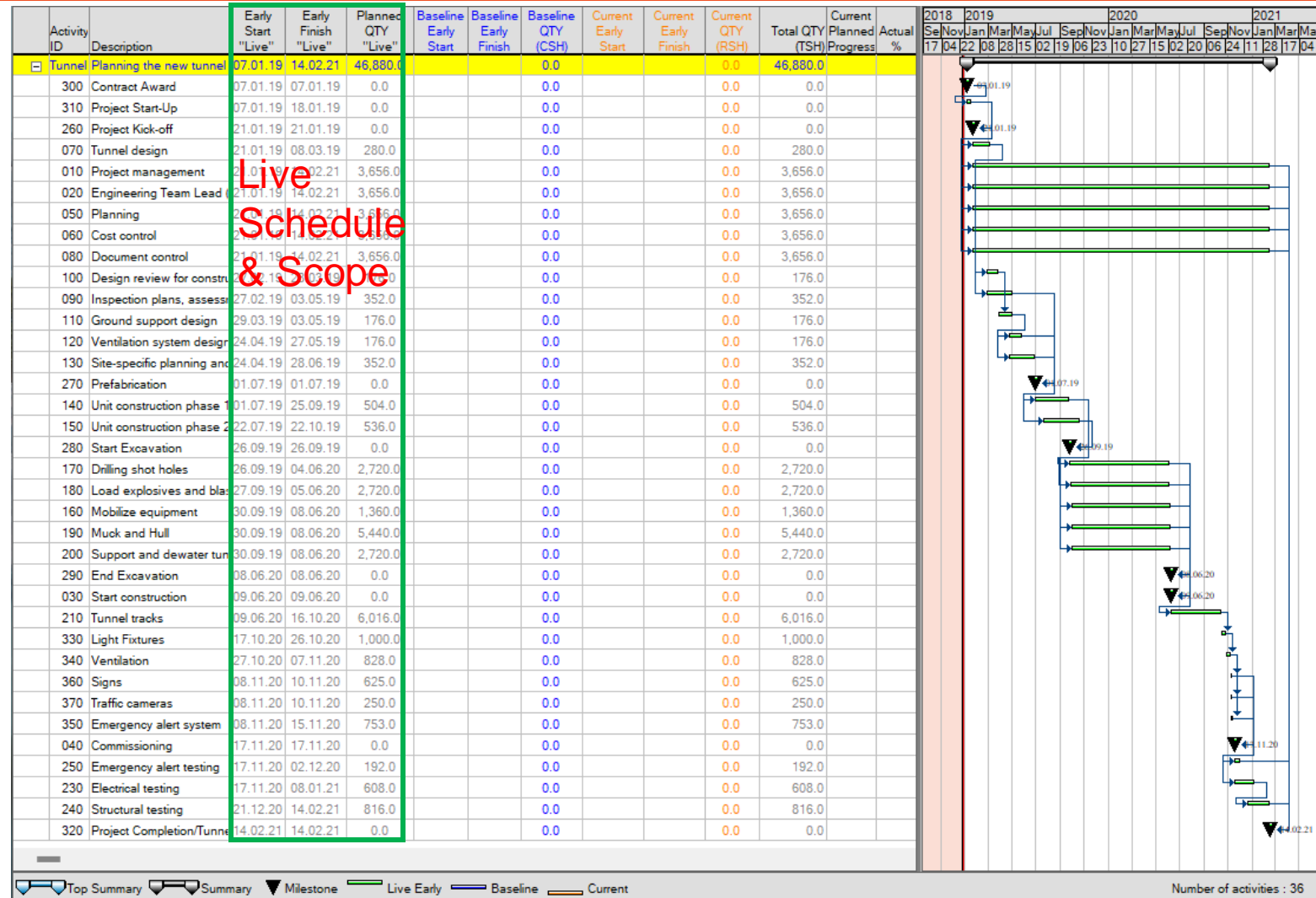
## Schedules

- Live Schedule
- Baseline Schedule
- Current Schedule

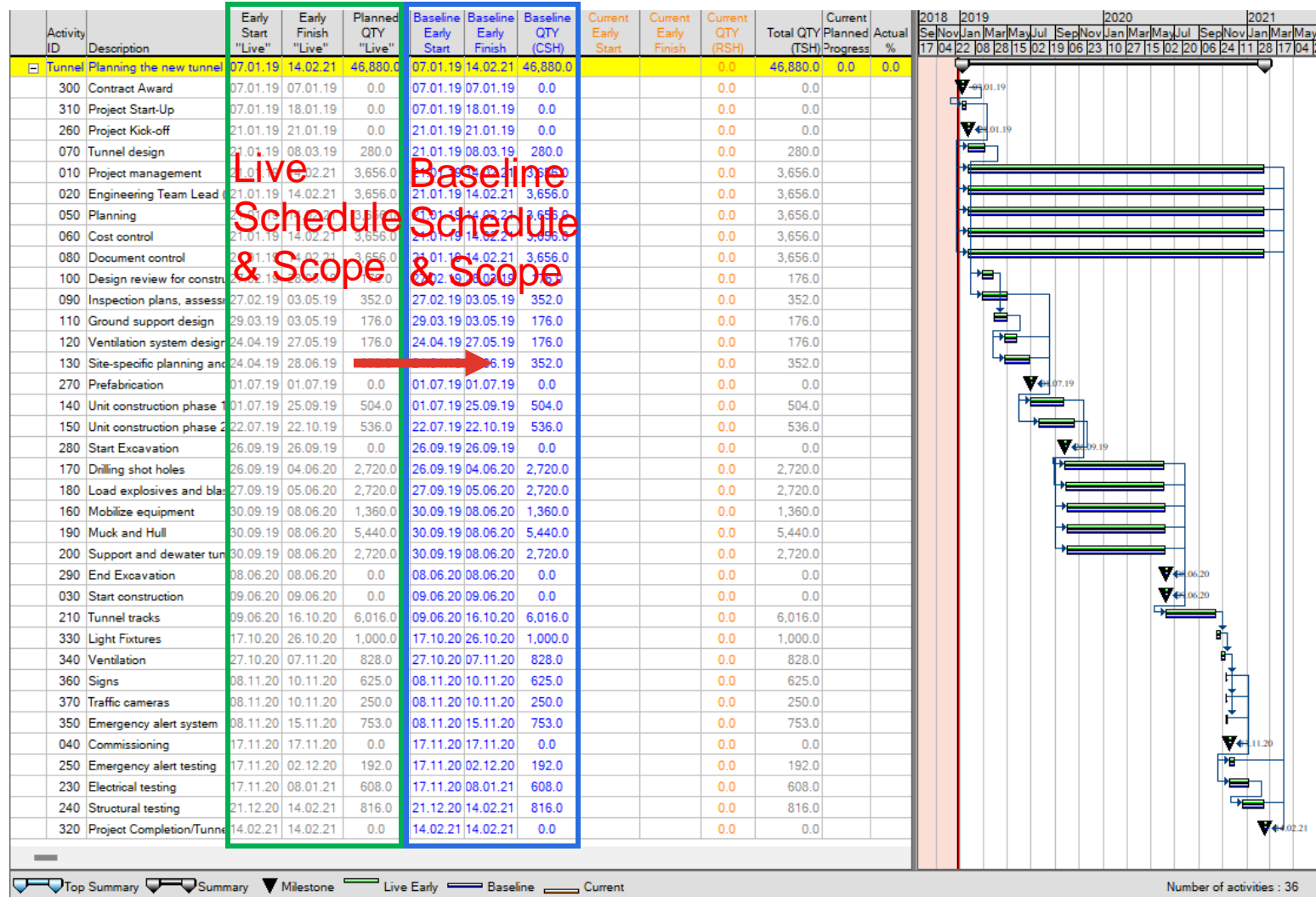
## Scopes

- Live Scope (Planned QTY)
- Baseline Scope
- Current Scope
- Total Scope

# Scopes and Schedules in Safran – Live plan

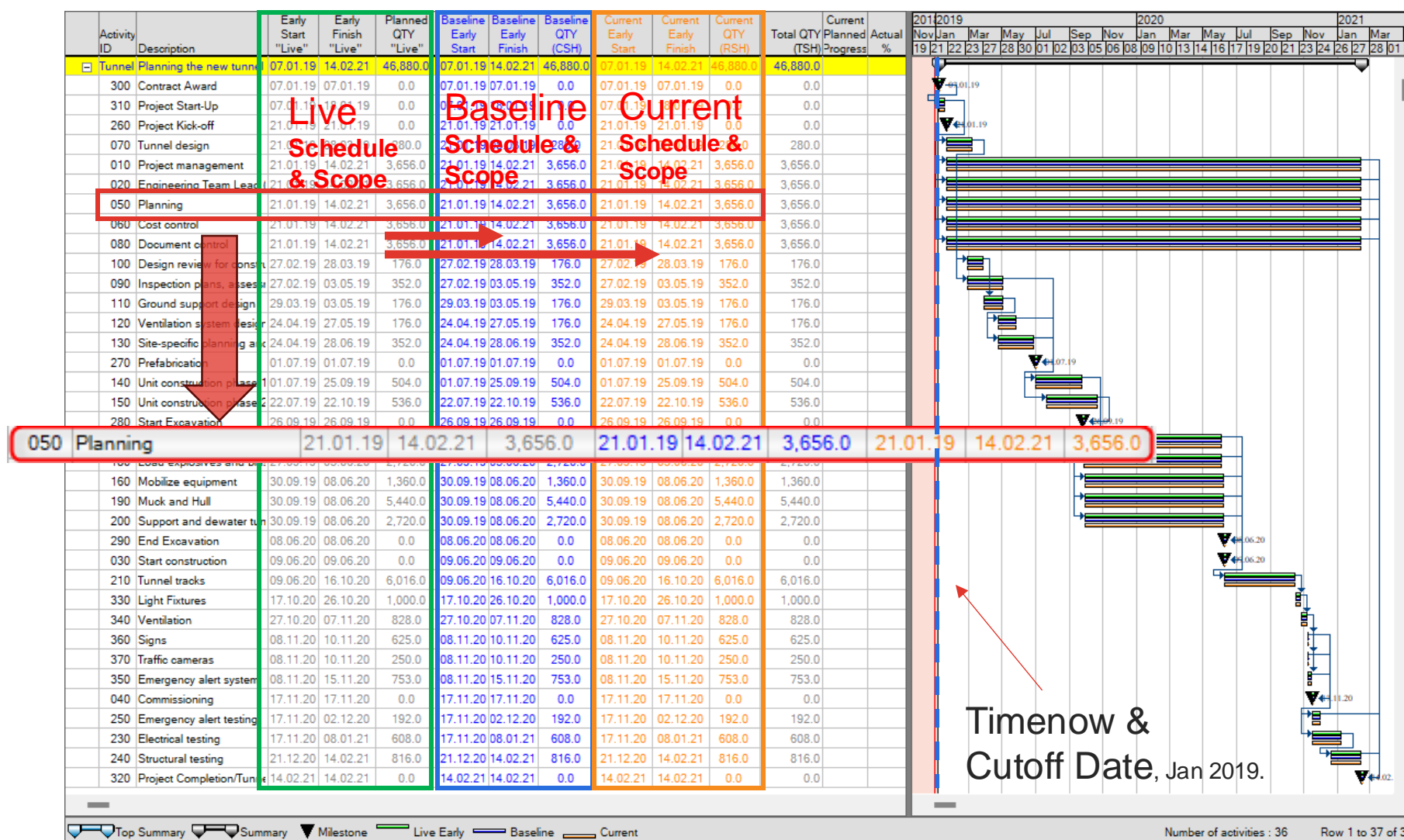


# Shedules in Safran Project – Baseline

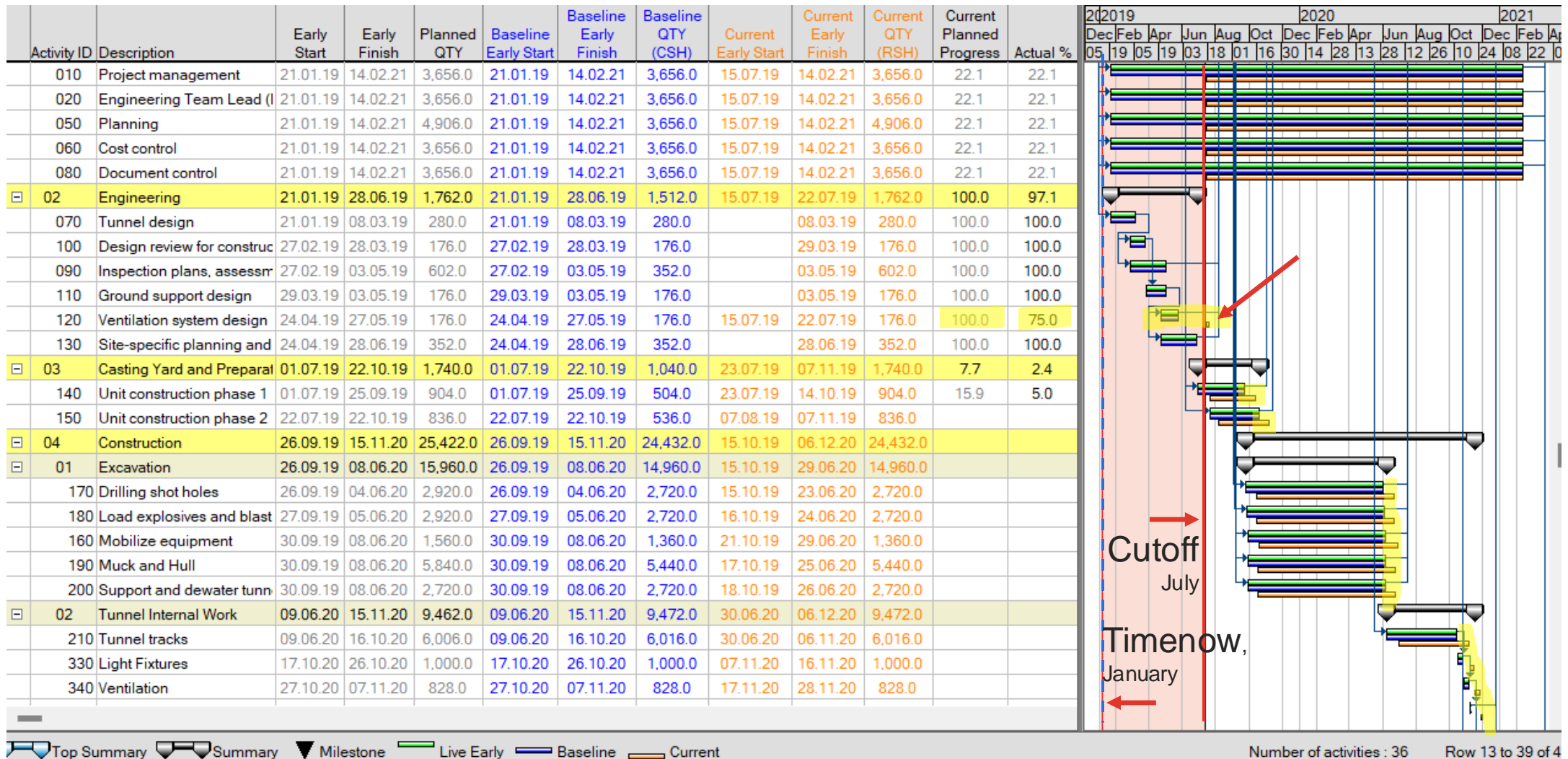




# Shedules in Safran Project – Current



# Schedules in Safran Project – Cutoff



# Scope Settings

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

Activity ID	Description	Early Start	Early Finish	Planned QTY	Baseline Early Start	Baseline Early Finish	Baseline QTY (CSH)	Current Early Start	Current Early Finish	Current QTY (RSH)	Total QTY (TSH)
4. - Tunnel Planning the new tunnel		07.01.19	14.02.21	50,110.0	07.01.19	14.02.21	46,880.0	08.07.19	19.02.21	49,080.0	50,110.0
00	Milestones	07.01.19	14.02.21	0.0	07.01.19	14.02.21	0.0	16.07.19	19.02.21	0.0	0.0
01	Administration and Manag	07.01.19	14.02.21	19,530.0	07.01.19	14.02.21	18,280.0	08.07.19	14.02.21	19,530.0	19,530.0
02	Engineering	21.01.19	28.06.19	1,762.0	21.01.19	28.06.19	1,512.0	08.07.19	15.07.19	1,762.0	1,762.0
07C	Tunnel design	21.01.19	08.03.19	280.0	21.01.19	08.03.19	280.0	08.03.19	08.03.19	280.0	280.0
10C	Design review for construc	27.02.19	28.03.19	176.0	27.02.19	28.03.19	176.0	29.03.19	07.10.19	176.0	176.0
09C	Inspection plans, assessm	27.02.19	03.05.19	602.0	27.02.19	03.05.19	352.0	03.05.19	03.05.19	602.0	602.0
11C	Ground support design	29.03.19	03.05.19	176.0	29.03.19	03.05.19	176.0	03.05.19	03.05.19	176.0	176.0
12C	Ventilation system design	24.04.19	27.05.19	176.0	24.04.19	27.05.19	176.0	08.07.19	15.07.19	176.0	176.0
13C	Site-specific planning and	24.04.19	28.06.19	352.0	24.04.19	28.06.19	352.0	28.06.19	28.06.19	352.0	352.0
03	Casting Yard and Preparat	01.07.19	22.10.19	1,740.0	01.07.19	22.10.19	1,040.0	16.07.19	31.10.19	1,740.0	1,740.0
14C	Unit construction phase 1	01.07.19	25.09.19	904.0	01.07.19	25.09.19	504.0	16.07.19	07.10.19	904.0	904.0
15C	Unit construction phase 2	22.07.19	22.10.19	836.0	22.07.19	22.10.19	536.0	31.07.19	31.10.19	836.0	836.0
04	Construction	26.09.19	15.11.20	25,422.0	26.09.19	15.11.20	24,422.0	08.10.19	20.11.20	24,422.0	25,422.0

Properties

Details

Schedule Options

Progress Method

Subprojects

Enterprise Fields

Scope

Cutoff Dates

Pictures/Texts

Field Name	Field Label	Qty Type	Include Change-types	Baseline Update	Status Update	Scope for Progress Lifting
csH	Baseline Scope	<input checked="" type="radio"/> Planned <input type="radio"/> Contract	<input checked="" type="checkbox"/> VO <input type="checkbox"/> Internal Change <input type="checkbox"/> VO-Request <input type="checkbox"/> Sub-Contracted	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
rsh	Current Scope	<input checked="" type="radio"/> Planned <input type="radio"/> Contract	<input checked="" type="checkbox"/> VO <input type="checkbox"/> Internal Change <input checked="" type="checkbox"/> VO-Request <input type="checkbox"/> Sub-Contracted	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
tsh	Total Scope	<input checked="" type="radio"/> Planned <input type="radio"/> Contract	<input checked="" type="checkbox"/> VO <input checked="" type="checkbox"/> Internal Change <input checked="" type="checkbox"/> VO-Request <input type="checkbox"/> Sub-Contracted	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Always On Schedule Against: 
 ☒ Live Plan 
 ☐ Revised Plan 
 ☐ Baseline Plan

Lock Resource Data, Quantities, Unit Rate and Cost
   
☒ Never
   
☐ When Baseline is set

Scope Handling
   
 Auto Sum: ☒
  
 Lock Scope: ☒ (Changes via V.O.s)

OK

Cancel



# Change Register

Safran Project - 4. - Remaining Scope - Tunnel - Group View

FILE HOME DATA VIEW PROJECT REPORTS ADMIN

Calendars Profiles Resources User fields Symbols Globals Rules Complex Rates Contract Items Change Register Linked Documents XER Export Checks Check DB Updates Timer Setup SQL Queries Access Level User Locking

Setup

Activity ID	Description	Early Start	Early Finish	Planned QTY	Current Early Start	Current Early Finish	Current QTY (RSH)
060	Cost control	21.01.19	14.02.21	3,656	15.07.19	14.02.21	3,656
080	Document control	21.01.19	14.02.21	3,656	15.07.19	14.02.21	3,656
02	Engineering	21.01.19	28.06.19	1,762	15.07.19	22.07.19	1,762
070	Tunnel design	21.01.19	08.03.19	280		08.03.19	280
100	Design review for con	27.02.19	28.03.19	176		29.03.19	176
090	Inspection plans, ass	27.02.19	03.05.19	602		03.05.19	602
110	Ground support design	29.03.19	03.05.19	176		03.05.19	176
120	Ventilation system de	24.04.19	27.05.19	176	15.07.19	22.07.19	176
130	Site-specific planning	24.04.19	28.06.19	352		28.06.19	352
03	Casting Yard and Pre	01.07.19	22.10.19	1,740	23.07.19	07.11.19	1,740
140	Unit construction pha	01.07.19	25.09.19	904	23.07.19	14.10.19	904
150	Unit construction pha	22.07.19	22.10.19	836	07.08.19	07.11.19	836
04	Construction	26.09.19	15.11.20	25,422	15.10.19	06.12.20	24,432
01	Excavation	26.09.19	08.06.20	15,960	15.10.19	29.06.20	14,960
170	Drilling shot holes	26.09.19	04.06.20	2,920	15.10.19	23.06.20	2,720
180	Load explosives and	27.09.19	05.06.20	2,920	16.10.19	24.06.20	2,720

Top Summary Summary Milestone Live Early REM Ces

Column List

Resource	Type	Planned Qty	VO Number	Vo Type
Hrs - Man hours	Total	536.0		
Hrs - Man hours	Total	300.0	VOR 002 Acceleration Cost	VO-Request

Change Register

Change Register

- VO
- VO-001 Regulatory cha
- VOR 002 Acceleration
- VO-Request
- Internal Change
- IC 001 - Extreme weath
- IC 002 - BL2 adjustme
- Sub-Contracted

Change

Vo No.: VOR 002 Acceleration Cost Rev.: 0 Type VO

Client Vo: Responsible: DBA

Dates

Issued: 21/06/2024 Accepted: 30/10/2024

Description

Project asked to accelerate prefabrication delivery.

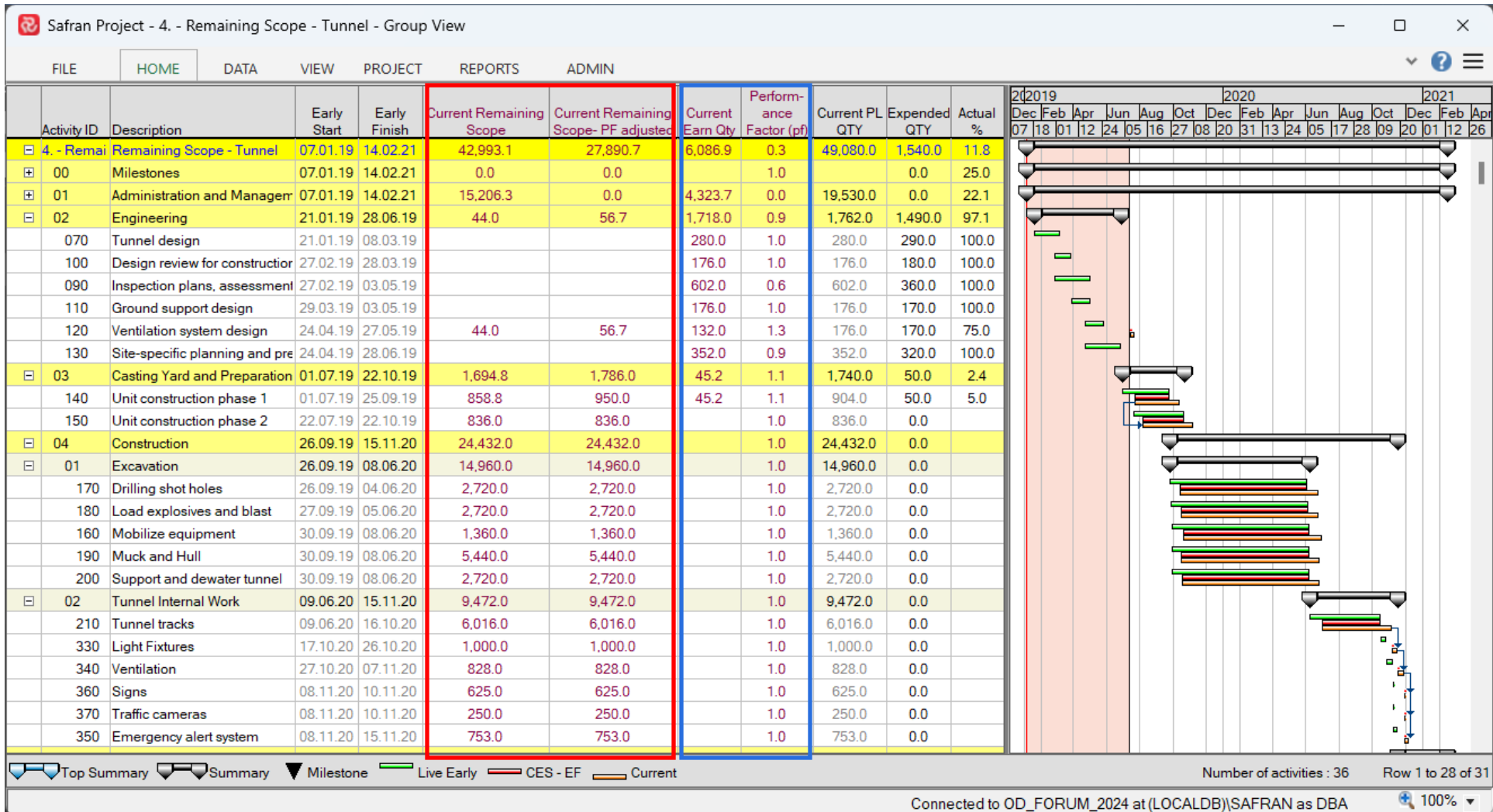
Remarks

Resource Items Schedule Impact Linked Documents

Activity ID	Resource	Type	Planned Qty	Contract Qt
050	Hrs	Total	400.0	
050	Hrs	Total	750.0	
140	Hrs	Total	400.0	
150	Hrs	Total	300.0	

New Change Filter... Export To File... New Delete OK Cancel

# Current Remaining Scope columns/fields



# Current Remaining Scope

Remaining Scope = Quantity – Earned Quantity

Activity ID	Description	Current Remaining Scope	Current Remaining Scope- PF adjusted	Current Earn Qty	Performance Factor (pf)	Current PL QTY	Expended QTY	Actual %	202019	Dec 01	Mar 19	Jun 09	Se 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	Performance Factor (pf)	Current PL QTY	Expended QTY	Actual %	202019	Dec 01	Mar 19	Jun 09	Se 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!

# Calculated Fields, earned quantity

The image shows two overlapping dialog boxes from a software application. The background dialog is titled "Userfields" and has tabs for "Details", "Userfields", and "Access". The "Userfields" tab is active, showing a list of fields (N1 to N8) and configuration options. The "Userfield Formula" dialog is in the foreground, showing the formula configuration for the "Current Earn Qty" field.

**Userfields Dialog (Background):**

- Field No.: 2
- Label: Current Earn Qty
- Visible: ☒ Enabled: ☐
- Link To:
- Userfield Set:
- Field No.:
- Inherit Label: ☐
- Summary/Group Level Display: ☐ None ☒ Apply Function Sum
- Activity Level Data: ☐ Manual Input ☒ Calculated Value **Formula...**
- Save To Database: ☐

**Userfield Formula Dialog (Foreground):**

Userfield: Current Earn Qty

Formulas:

Include Activities	Filter/Formula	Remarks
WHERE	conditions in <b>Filter...</b> are met, then perform <b>Formula...</b>	

**Userfield Formula Dialog (Nested):**

Current Earn Qty (Decimal 2) =

(	Expression	)	Operator
	Current QTY (RSH)		*
(	Actual %		/
	100	)	

Buttons: Add Row, Insert Row, Delete Row, Clear All Rows

Duration Format: None Use Calendar ☒ Calendar: Activity's

Buttons: OK, Cancel

# Calculated Fields, Current Remaining Scope

The image shows two overlapping dialog boxes from a software application. The background dialog is titled "Userfields" and has tabs for "Details", "Userfields", and "Access". The "Userfields" tab is active, showing a list of fields with labels like "N1 Decimal 1", "N2 Current Earn Qty", and "N3 Current Remaining Scope" (which is highlighted). Below the list are options for "Summary/Group Level Display" (None or Apply Function) and "Activity Level Data" (Manual Input or Calculated Value, with "Calculated Value" selected). The foreground dialog is titled "Userfield Formula" and is for configuring the "Current Remaining Scope" field. It has a "Formulas" section with a table for defining the calculation. The table has columns for "Include Activities", "Filter/Formula", and "Remarks". Below this, there's a section for defining the formula itself, with a dropdown for "Current Remaining Scope (Decimal 3)" followed by an equals sign. Below the equals sign is a table with columns for "Expression", "Operator", and "Remarks". The first row shows "Current QTY (RSH)" with a minus operator. The second row shows "Current Earn Qty (Decimal 2)". At the bottom of the "Userfield Formula" dialog are buttons for "Add Row", "Insert Row", "Delete Row", "Clear All Rows", "Duration Format" (set to "None"), "Use Calendar" (checked), "Calendar" (set to "Activity's"), "OK", and "Cancel".

Userfields

Details Userfields Access

Reference Text Date Flag Decimal Duration

Field	Label
N1	Decimal 1
N2	Current Earn Qty
N3	Current Remaining Scope
N4	Performance Factor
N5	Decimal 5
N6	Decimal 6
N7	Decimal 7
N8	Decimal 8

Summary/Group Level Display

☐ None ☒ Apply Function

Activity Level Data

☐ Manual Input ☒ Calculated Value

☐ Save To Database

Userfield Formula

Userfield: Current Remaining Scope

Formulas:

Include Activities	Filter/Formula	Remarks
ALL	activities: Filter... to be performed by Formula...	

Userfield Formula

Current Remaining Scope (Decimal 3) =

(	Expression	)	Operator
	Current QTY (RSH)		-
	Current Earn Qty (Decimal 2)		

Add Row Insert Row Delete Row Clear All Rows

Duration Format None ☒ Use Calendar Calendar Activity's

OK Cancel



# 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	Performance Factor (pf)	Current PL QTY	Expended QTY	Actual %	202019	Dec 01 19	Mar 09 27	Jun 15 03	Se 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	Performance Factor (pf)	Current PL QTY	Expended QTY	Actual %	202019	Dec 01 19	Mar 09 27	Jun 15 03	Se 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.

# Calculated Fields, Performance Factor

The screenshot displays the 'Userfields' configuration window with the 'Userfields' tab selected. A list of fields is shown, with 'N4 Performance Factor' highlighted. The 'Details' section shows 'Summary/Group Level Display' set to 'Apply Function' and 'Activity Level Data' set to 'Calculated Value'. The 'Formula...' button is visible.

Overlaid on this is the 'Userfield Formula' dialog box, which is configured for the 'Performance Factor' field. The 'Filter' section shows a filter for 'Current Earn Qty (Decimal 2)' using the 'IS NOT' operator and 'NULL' expression. The 'Formulas' section shows the formula for 'Performance Factor (Decimal 4)' as 'Expend QTY' divided by 'Current Earn Qty (Decimal 2)'. The 'Duration Format' is set to 'None' and 'Use Calendar' is checked.

**Userfields**

Details **Userfields** Access

Reference Text Date Flag **Decimal** Duration

Field	Label
N1	Decimal 1
N2	Current Earn Qty
N3	Current Remaining Scope
<b>N4</b>	<b>Performance Factor</b>
N5	Decimal 5
N6	Decimal 6
N7	Decimal 7
N8	Decimal 8

Summary/Group Level Display

☐ None ☒ Apply Function

Activity Level Data

☐ Manual Input ☒ Calculated Value

☐ Save To Database

Formula...

**Userfield Formula**

Userfield: Performance Factor

Formulas:

Include Activities

WHERE

**Filters**

Filter: ... From: All Users

New... Save As... Rename... Delete

(	Field	Operator	Expression	)	And/Or
	Current Earn Qty (Decimal 2)	IS NOT	NULL		

Insert Row Add Row Delete Row Clear All Move Up Move Down OK Cancel

**Userfield Formula**

Performance Factor (Decimal 4) =

(	Expression	)	Operator
	Expend QTY		/
	Current Earn Qty (Decimal 2)		

Add Row Insert Row Delete Row Clear All Rows

Duration Format: None Use Calendar: ☒ Calendar: Activity's

OK Cancel

# Calculated Fields, Current Remaining Scope performance-based

**Userfields**

Details Userfields Access

Reference Text Date Flag Decimal Duration

Field	Label
N1	Decimal 1
N2	Current Earn Qty
N3	Current Remaining Scope
N4	Performance Factor
N5	Current Remaining Scope- PI
N6	Decimal 6
N7	Decimal 7
N8	Decimal 8

Summary/Group Level Display

☐ None ☒ Apply Function

Activity Level Data

☐ Manual Input ☒ Calculated Value

☐ Save To Database

**Userfield Formula**

Userfield: Current Remaining Scope- PF adjusted

Formulas:

Include Activities	Filter/Formula	Remarks
WHERE	conditions in Filter... are met, then perform Formula...	

**Userfield Formula**

Current Remaining Scope- PF adjusted (D) =

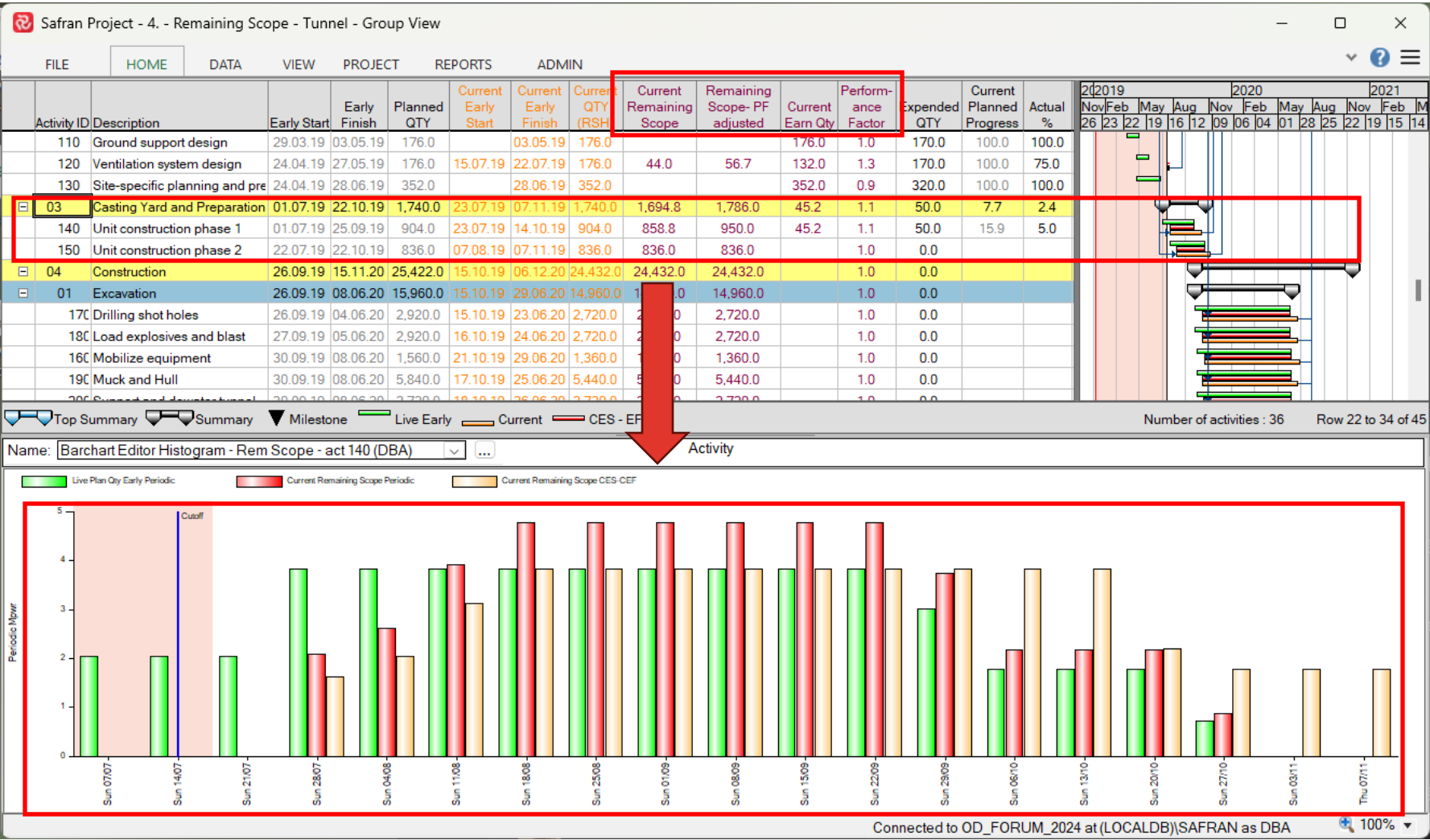
(	Expression	)	Operator
	Current Remaining Scope (Decimal 3)		*
	Performance Factor (Decimal 4)		

Add Row Insert Row Delete Row Clear All Rows

Duration Format None ☒ Use Calendar Calendar Activity's

OK Cancel

# 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*

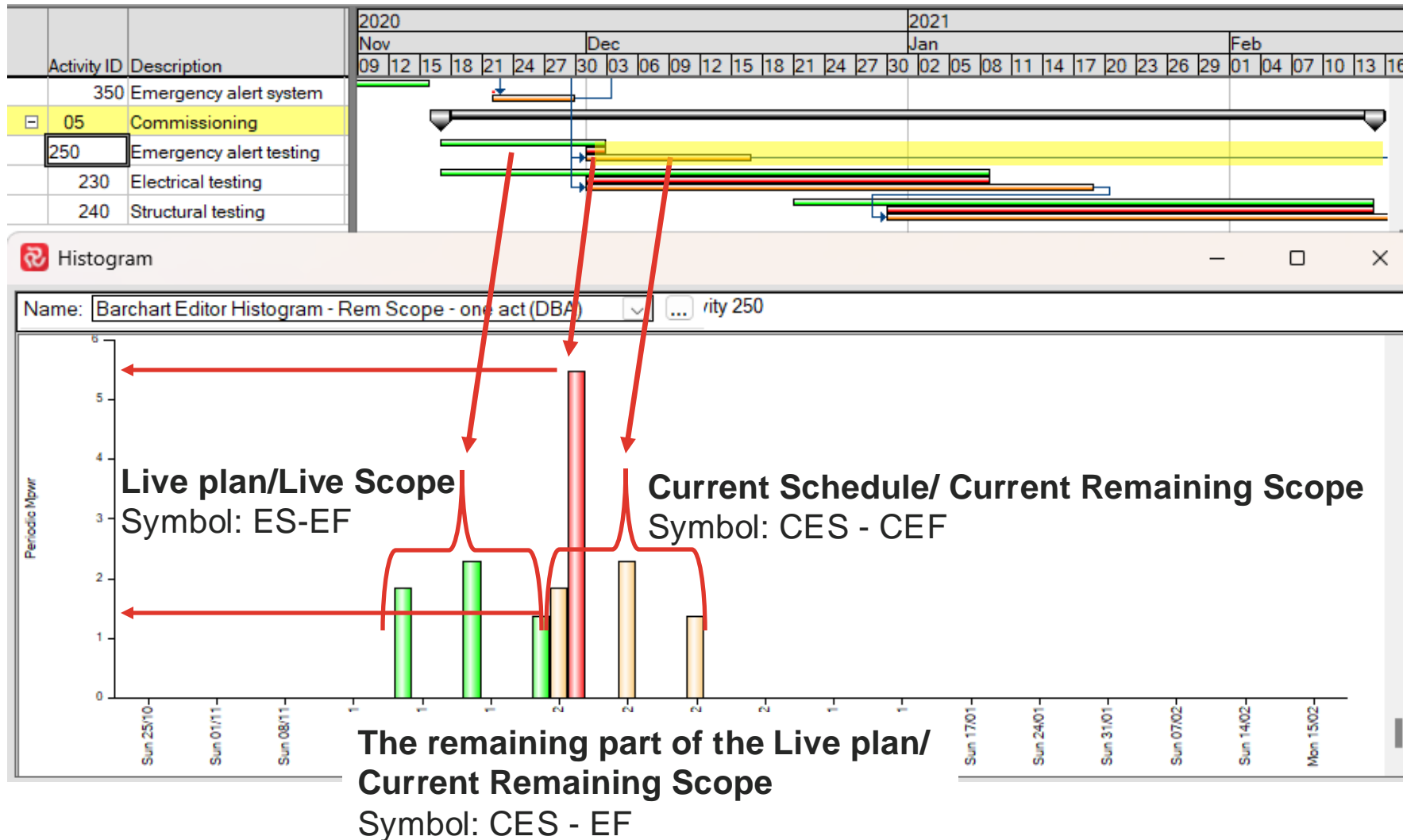
*Remaining Current Scope*

**Red - “Remaining part of Live Schedule”**

*Current Early Start – Early Finish*

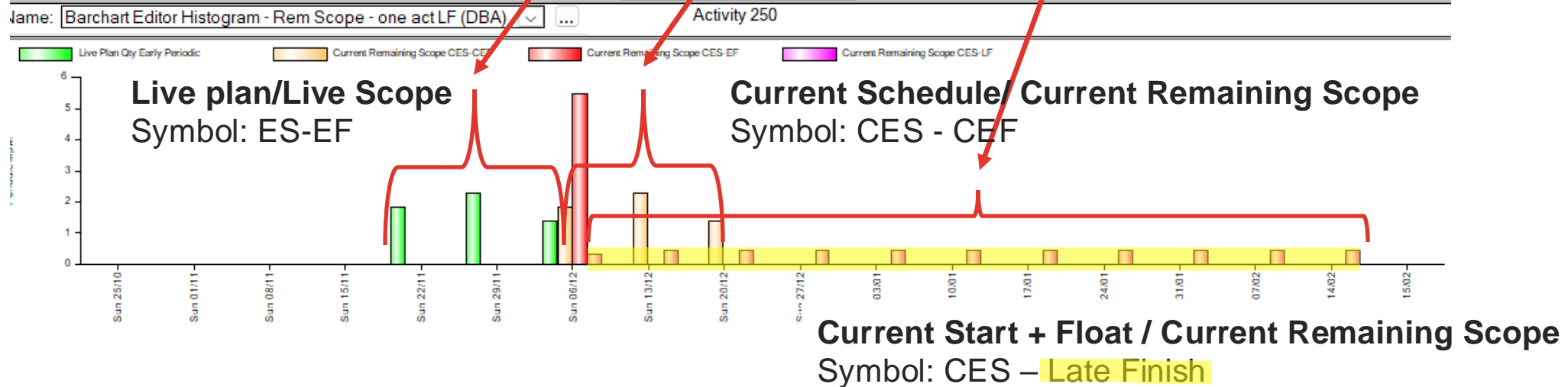
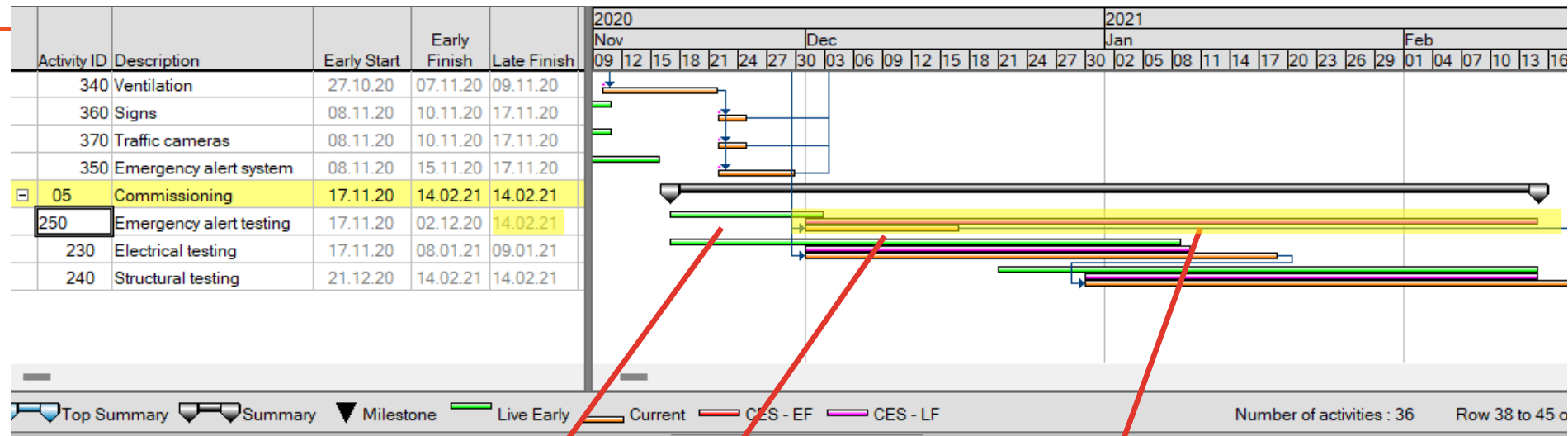
*Remaining Current Scope*

# Combining Remaining Scope with schedules





# Combining Remaining Scope with schedules, CES - LF



# Progress Summary Report vs Barchart Editor numbers

## Remaining Scope

Project : 4. - Remaining Scope - Tunnel

Period 07/07/2019 - 14/07/2019 : Live Plan/Current Scope

Activity	Current Budget	Cumulative						Estimate at Completion	Estimate to Completion	Remain. Work	Remain. Budget
		Pln. %	Act. %	Plan Qty	Earn Mhrs	Exp. Mhrs	Perf. Fact (PF)				
120 Ventilation system design	176	100.0	75.0	176	132	170	1.3	227	57	44	6
<b>Total Report</b>	<b>176</b>	<b>100.0</b>	<b>75.0</b>	<b>176</b>	<b>132</b>	<b>170</b>	<b>1.3</b>	<b>227</b>	<b>57</b>	<b>44</b>	<b>6</b>

Property

Name :  
Remarks :

Titles Filter Report Fields Resources

Section	Column	Column	Include	Size	Background
Period	Planned Manpower	Pln. Mpwr	<input type="checkbox"/>	13	
Period	Actual Manpower	Act. Mpwr	<input type="checkbox"/>	13	
Cumulative	Pln. %	Pln. %	<input checked="" type="checkbox"/>	9	
	Act. %	Act. %	<input checked="" type="checkbox"/>	9	
	Planned Qty (BQWS)	Plan Qty	<input checked="" type="checkbox"/>	17	
	Earned Qty (BQWP)	Earn Mhrs	<input checked="" type="checkbox"/>	17	
	Schedule Variance / SV	Sch. Variance (SV)	<input type="checkbox"/>	13	
	Schedule Variance %/ SV %	Sch. Variance (SV) %	<input type="checkbox"/>	8	
	Sched. Fact. (1/SPI)	Sched. Fact.	<input type="checkbox"/>	6	
	Sched. Perf. Index / SPI	Sch. Perf. Ix (SPI)	<input type="checkbox"/>	6	
	Actual Qty (AQWP)	Exp. Mhrs	<input checked="" type="checkbox"/>	18	
	Perf. Fact / PF	Perf. Fact (PF)	<input checked="" type="checkbox"/>	18	
	Perf. Index / CPI	Perf. Index (CPI)	<input type="checkbox"/>	6	
	Variance (Earned - Actual)	Variance	<input type="checkbox"/>	13	
	Variance %	Variance %	<input type="checkbox"/>	8	
	Variance At Compl (VAC)	Variance at Compl.	<input type="checkbox"/>	13	
	Budg. Variance (Plan-Actual)	Budget Variance	<input type="checkbox"/>	13	
	Est. At Compl. - Perf. based	Estimate at Completion	<input checked="" type="checkbox"/>	20	
	Est. To Compl. - Perf. based	Estimate to Completion	<input checked="" type="checkbox"/>	20	
	Remaining Work	Remain. Work	<input checked="" type="checkbox"/>	18	
	Remaining Budget	Remain. Budget	<input checked="" type="checkbox"/>	18	
Next Per.	Period Planned %	Per. Pln. %	<input type="checkbox"/>	8	

Remaining space (out of 278):

19

Activity ID	Description	Current Planned Progress	Actual %	Current Plan QTY	Current Earn Qty	Expended QTY	Performance Factor	Remaining Scope- PF adjusted	Current Remaining Scope
120	Ventilation system design	100.0	75.0	176.0	132	170	1.3	57	44.0

2019											
Dec	Feb	Apr	Jun								
19	15	11	10	06	03	30	26	2			

New Report Open Report... Save Save As...

Preview

OK

Close

# Summary

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- 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.



# Thank You.

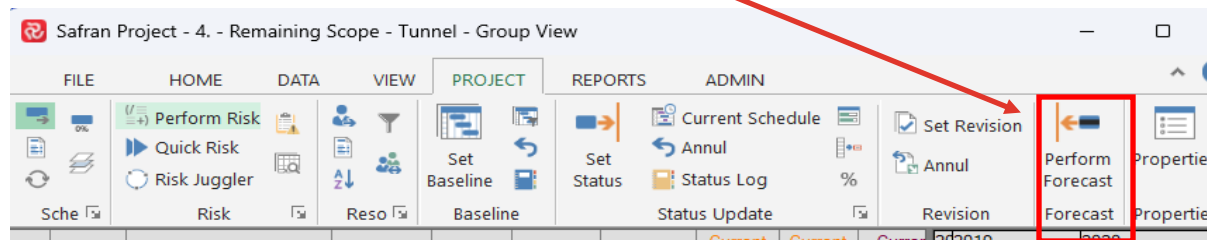
For questions and/or discussion, please visit our Safran Project demo stand in one of the coffee breaks.



# Thank You.

For questions and/or discussion, please visit our Safran Project demo stand 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”**

The screenshot displays two windows from the Primavera P6 software. The 'Properties' window on the left shows the 'Scope' tab with a table of scope categories. The 'Change Register' window on the right shows a list of changes. A red arrow points from the 'Total Scope' field in the Properties window to the Change Register window.

Field Name	Field Label	Qty Type	Include Change-types	Baseline Update	Status Update	Scope for Progress
csk	Baseline Scope	Planned	<input checked="" type="checkbox"/> VO	<input checked="" type="checkbox"/> VO-Request	<input checked="" type="checkbox"/> Internal Change	<input checked="" type="checkbox"/> Sub-Contracted
rsh	Current Scope	Planned	<input checked="" type="checkbox"/> VO	<input checked="" type="checkbox"/> VO-Request	<input checked="" type="checkbox"/> Internal Change	<input checked="" type="checkbox"/> Sub-Contracted
tsh	Total Scope	Planned	<input checked="" type="checkbox"/> VO	<input checked="" type="checkbox"/> VO-Request	<input checked="" type="checkbox"/> Internal Change	<input checked="" type="checkbox"/> Sub-Contracted

The 'Change Register' window shows a list of changes with the following categories highlighted in yellow:

- VO
- VO-001 Regulatory change
- VO-Request
- VOR 002 Acceleration
- Internal Change
- IC 001 - Extreme weather
- IC 002 - BL2 adjustment
- Sub-Contracted

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.