RTConfidence

Chrono™

Moneyball for Project Management

Powered by:

TriCoBi

The Soul Mate of Artificial Intelligence

Chrono™ Training Reference Guide

Version 2.1 – August 2022

RTConfidence

Chrono™ Training Reference Guide

IMS (Integrated Master Schedule), SRA (Schedule Risk Analysis) & ES (Earned Schedule) Training

Chrono™

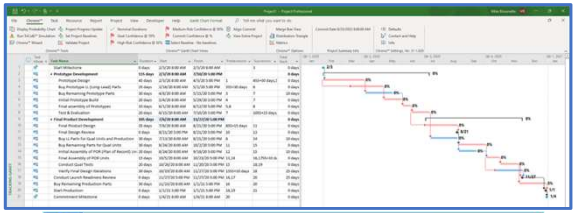
Moneyball for Project Management

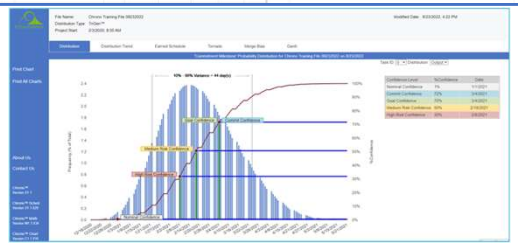
Chrono™ MS, SRA & ES Training

Agenda

- **Running the Template File Downloaded with Chrono™**
  - Setting Up the Defaults
  - Running the Simulation and Accessing the Browser Output
  - Previewing the Browser Outputs
- **Creating an IMS (Integrated Master Schedule) with Chrono™**
  - Opening a "Blank" File
  - Using the Chrono™ Wizards to Create an Example IMS
  - Important Project Calendar Considerations
- **Performing an SRA (Schedule Risk Analysis) with Chrono™**
  - Changing Defaults
  - Using the Chrono™ Wizards to Set-up the IMS for SRA
  - Running the TriCoBi™ Simulation and Setting the IMS up for Baselining
  - The Chrono™ Output Gantt Chart Views
- **Performing ESM (Earned Schedule Management) with Chrono™**
  - Establishing the Project Baselines (Commitment and Target Schedules)
  - Using the Chrono™ Wizards to Perform Updates to the Project

Chrono™





Free Chrono™ Download

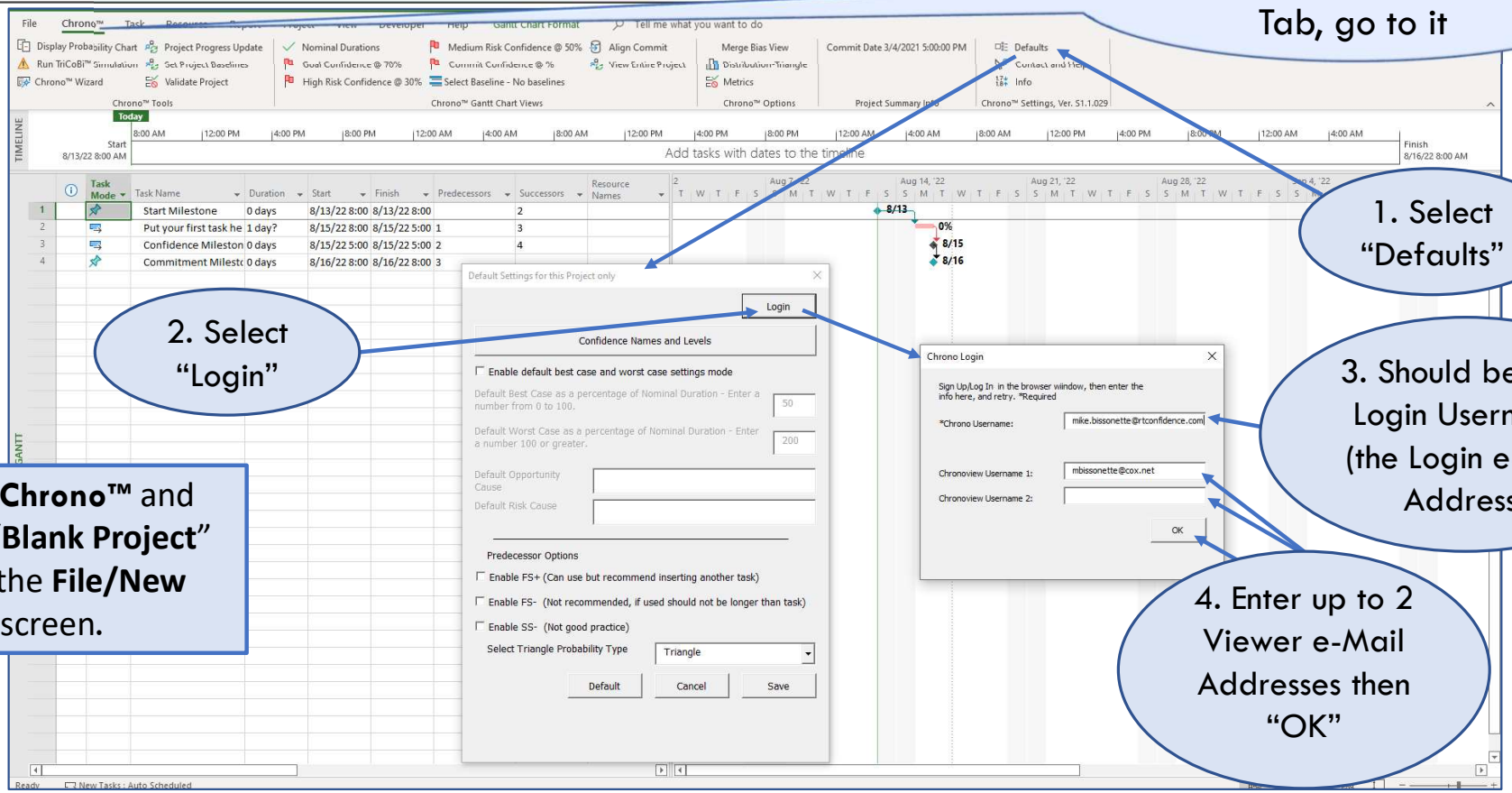
Participate Interactively – Install Limited License

- This Training is Facilitated via Chrono™, so Let's Install Chrono™ Now
- MS Project and Chrono™ Installations
  - Chrono™ Requires Microsoft Project® and the Windows 10 (or later) Operating System to be Installed on Your Computer
  - If you do not have MS Project, Go to the Free Trial Link and Install it
  - Go to RTConfidence.com and Register for the Free 1-month Trial License of Chrono™ (No Payment Method Requirement)
  - Download and Install Chrono™ after Downloading and Installing MS Project
    - IMPORTANT – Close MS Project Before Installing Chrono™!
    - If You do not Uncheck any Chrono Download Pre-Selections When You Finish Chrono will Launch, and You should See the Sample Project – Save_As this Project File

After Chrono™ is Downloaded

Setting Viewer Access in Chrono™

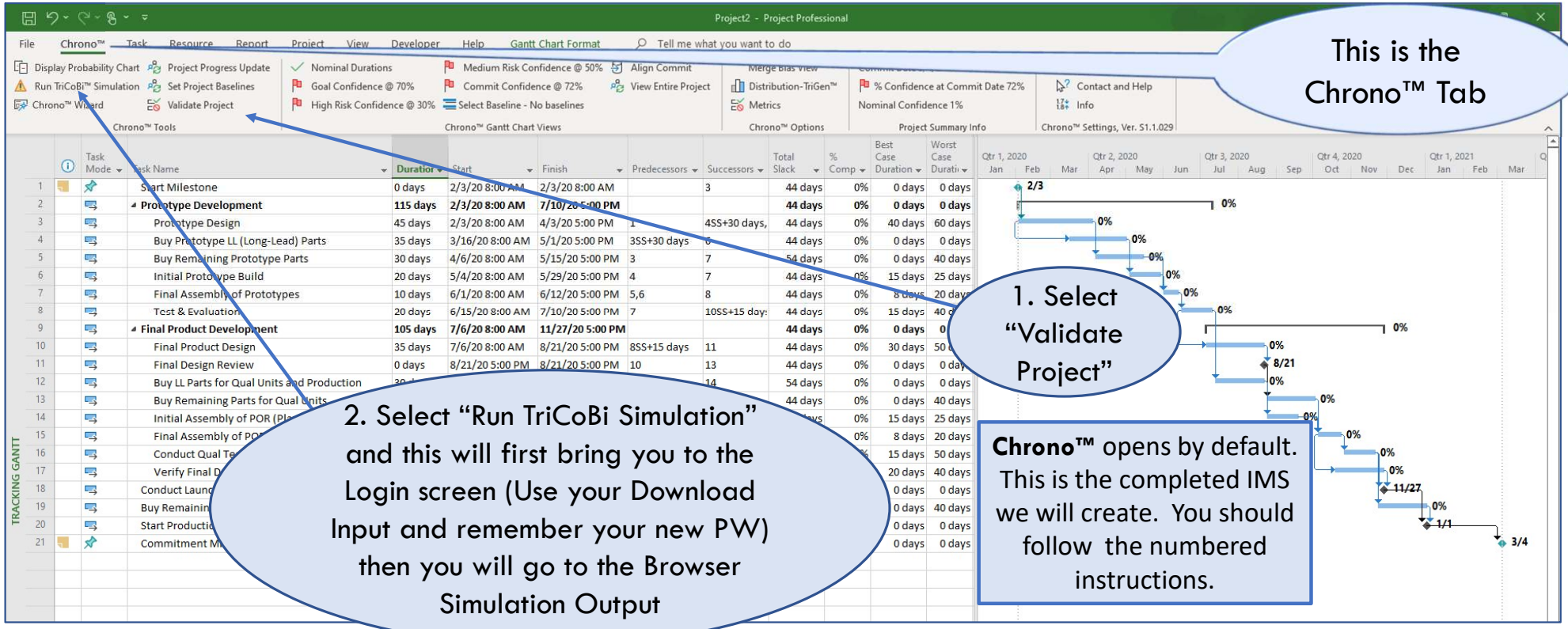
RTConfidence



After Chrono™ is Downloaded

Select: \Documents\RTConfidence\ChronoTraining.mpt

This is a Completed IMS ready for SRA. Save_As and then follow the below Instructions



The IMS (Integrated Master Schedule)

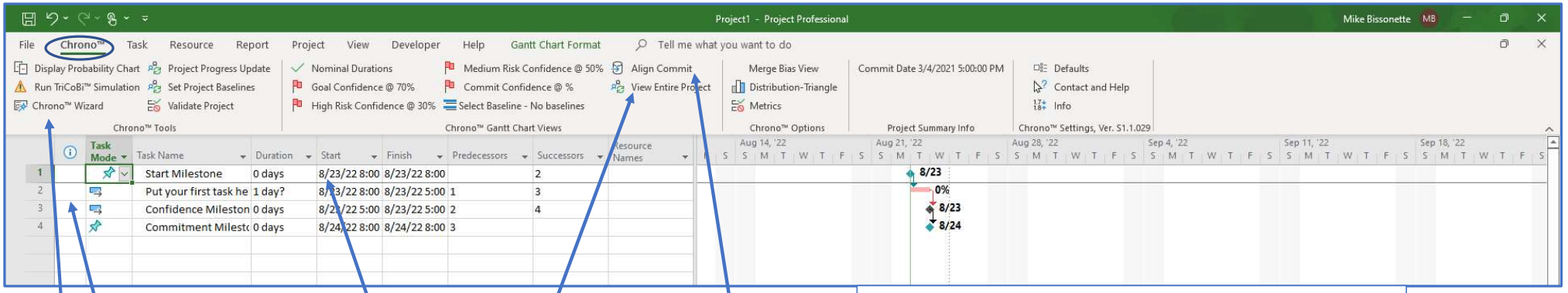
Example of Creating an IMS

CHRONO™ TRAINING REFERENCE GUIDE

Creating an IMS – Example

Sample Project Set-up

Open **Chrono™** and Select "**Blank Project**" from the **File:New** screen.



Note that Chrono™ Automatically Sets the Project up and Inserts Start and End Tasks.

Step 1. Select the **Start** date cell for the **Start Milestone** and enter "**2/3/20 8:00 AM**"

Step 2. Select **Align Commit** to align the Manually Scheduled "Commitment Milestone" with the Auto Scheduled "Confidence Milestone" .

Step 3. Select **View Entire Project** to see the full Gantt chart width Start to Finish.

Step 4. Select the first cell in the 3rd row and drag it down 14 more rows. Then right-click and select "**Insert Task**" from the drop-down menu.

Step 5. Starting at Row 2, enter the **Task Names** highlighted in green on the next chart (between the **Start Milestone** and **Commitment Milestone**).

Step 6. Start the **Chrono™ Wizard** and per its instructions enter the information highlighted in grey on the next chart (note that the Wizard asks for "Nominal in days" – which is "Duration" in the table). When done, select "Exit Wizard Save Changes". Then select **View Entire Project** again.

Creating an IMS – Example

Task Information

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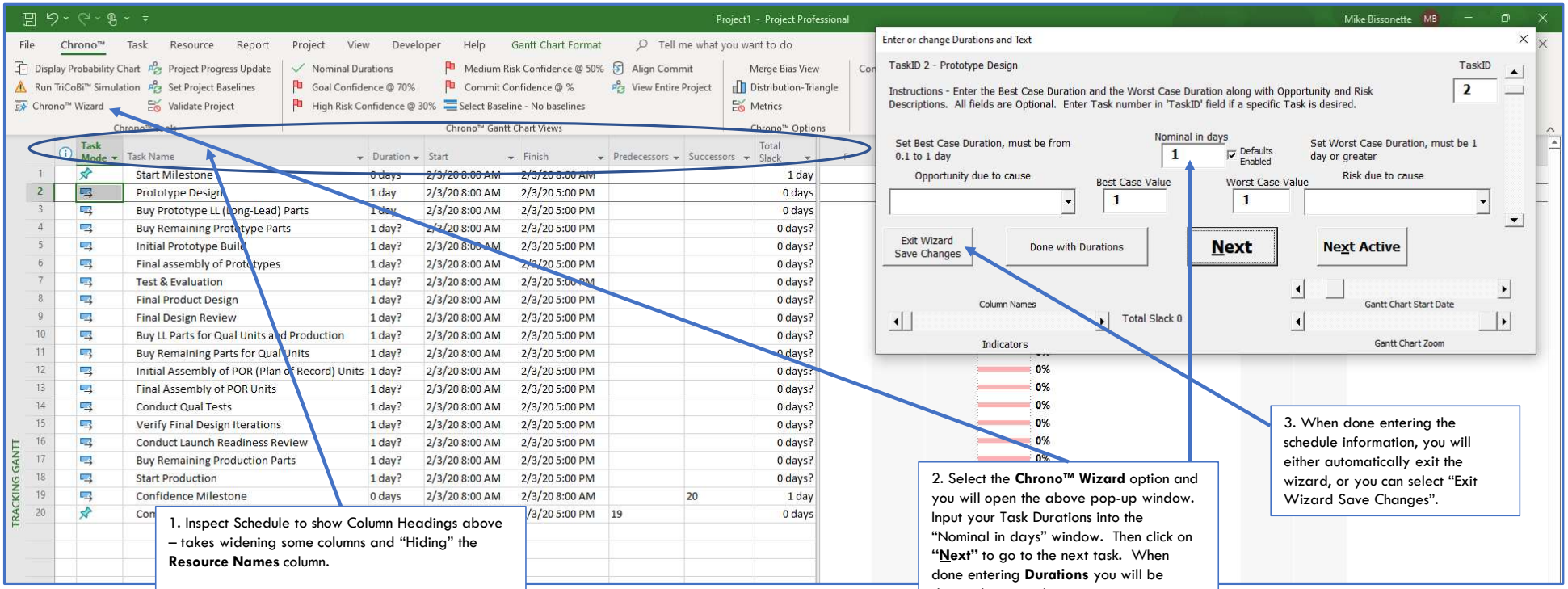
After typing in the Task Names, enter the information under Duration and Predecessors via the "Chrono™ Wizard" – see next Chart

Task ID	Task Name	Duration	Predecessors	Successors
1	Start Milestone	0 days		2
2	Prototype Design	45 days	1	3SS+30 days,4
3	Buy Prototype LL (Long-Lead) Parts	35 days	2SS+30 days	5
4	Buy Remaining Prototype Parts	30 days	2	6
5	Initial Prototype Build	20 days	3	6
6	Final Assembly of Prototypes	10 days	4,5	7
7	Test & Evaluation	20 days	6	8SS+15 days,10
8	Final Product Design	35 days	7SS+15 days	9
9	Final Design Review	0 days	8	11
10	Buy LL Parts for Qual Units and Production	30 days	7	12
11	Buy Remaining Parts for Qual Units	30 days	9	13
12	Initial Assembly of POR (Plan of Record) Units	20 days	10	13
13	Final Assembly of POR Units	15 days	11,12	14,15SS+10 days
14	Conduct Qual Tests	20 days	13	16,17
15	Verify Final Design Iterations	30 days	13SS+10 days	16
16	Conduct Launch Readiness Review	0 days	14,15	18
17	Buy Remaining Production Parts	30 days	14	18
18	Start Production	0 days	16,17	19
19	Commitment Milestone	0 days	18	

Creating an IMS – Example

Using the "Chrono™ Wizard"



1. Inspect Schedule to show Column Headings above – takes widening some columns and "Hiding" the **Resource Names** column.

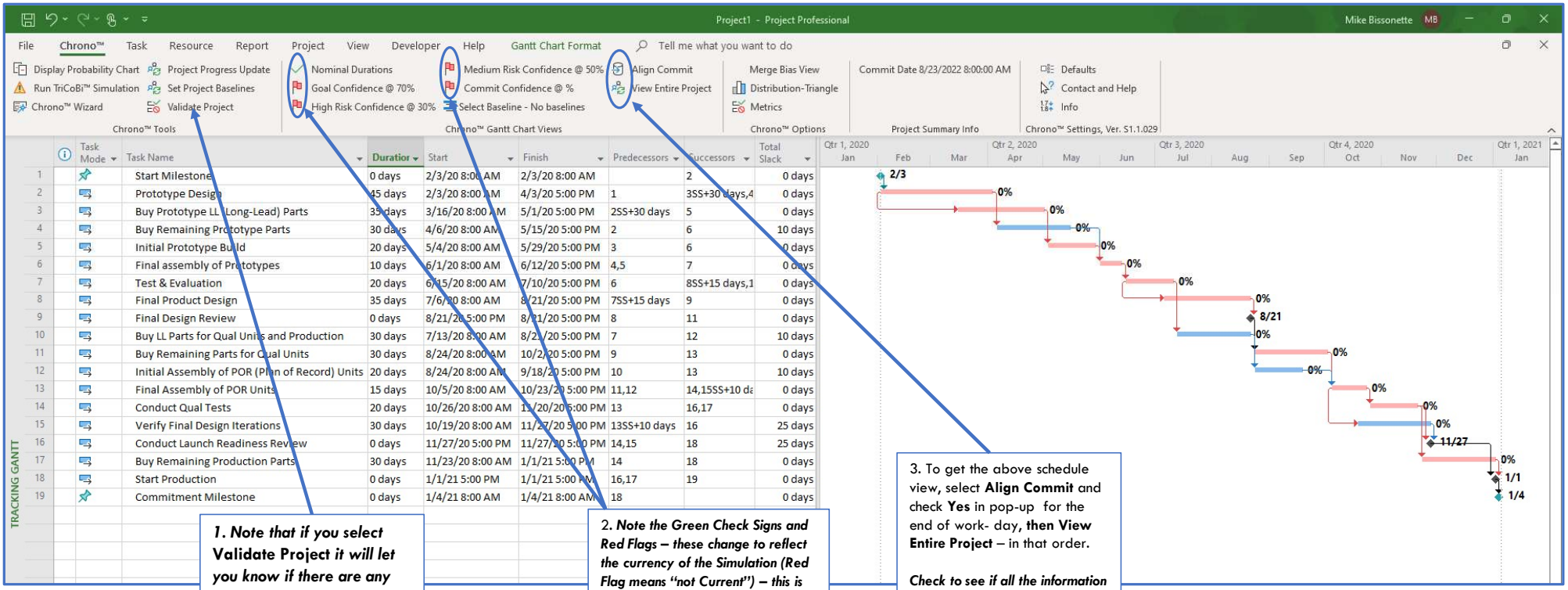
Note that columns can be hidden or shown by right-clicking the column headers. They are never deleted, just hidden or shown, and can be shown multiple times.

2. Select the **Chrono™ Wizard** option and you will open the above pop-up window. Input your Task Durations into the "Nominal in days" window. Then click on **"Next"** to go to the next task. When done entering **Durations** you will be directed to a similar screen to enter **Predecessors** and/or **Successors.**

3. When done entering the schedule information, you will either automatically exit the wizard, or you can select "Exit Wizard Save Changes".

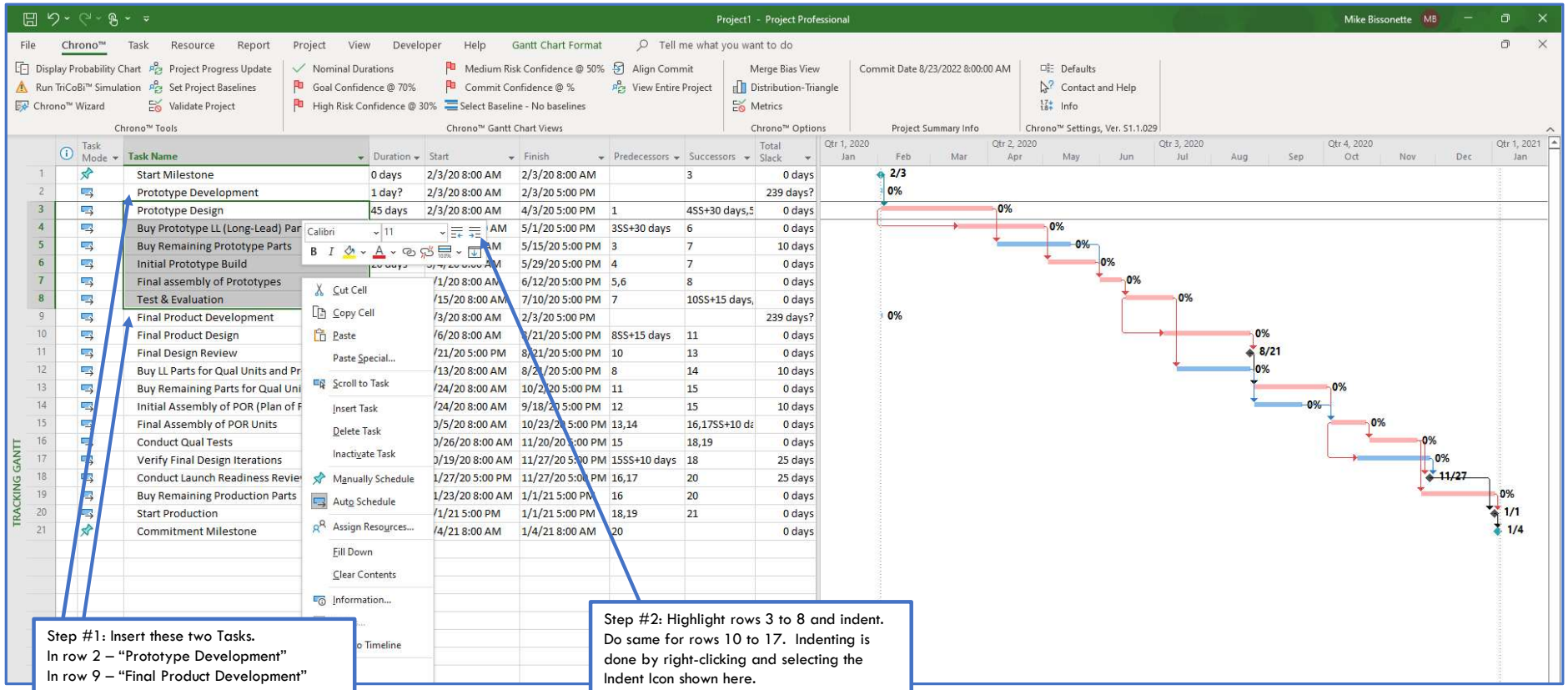
Creating an IMS – Example

Interim Result with Predecessors and Successors



Creating an IMS – Example

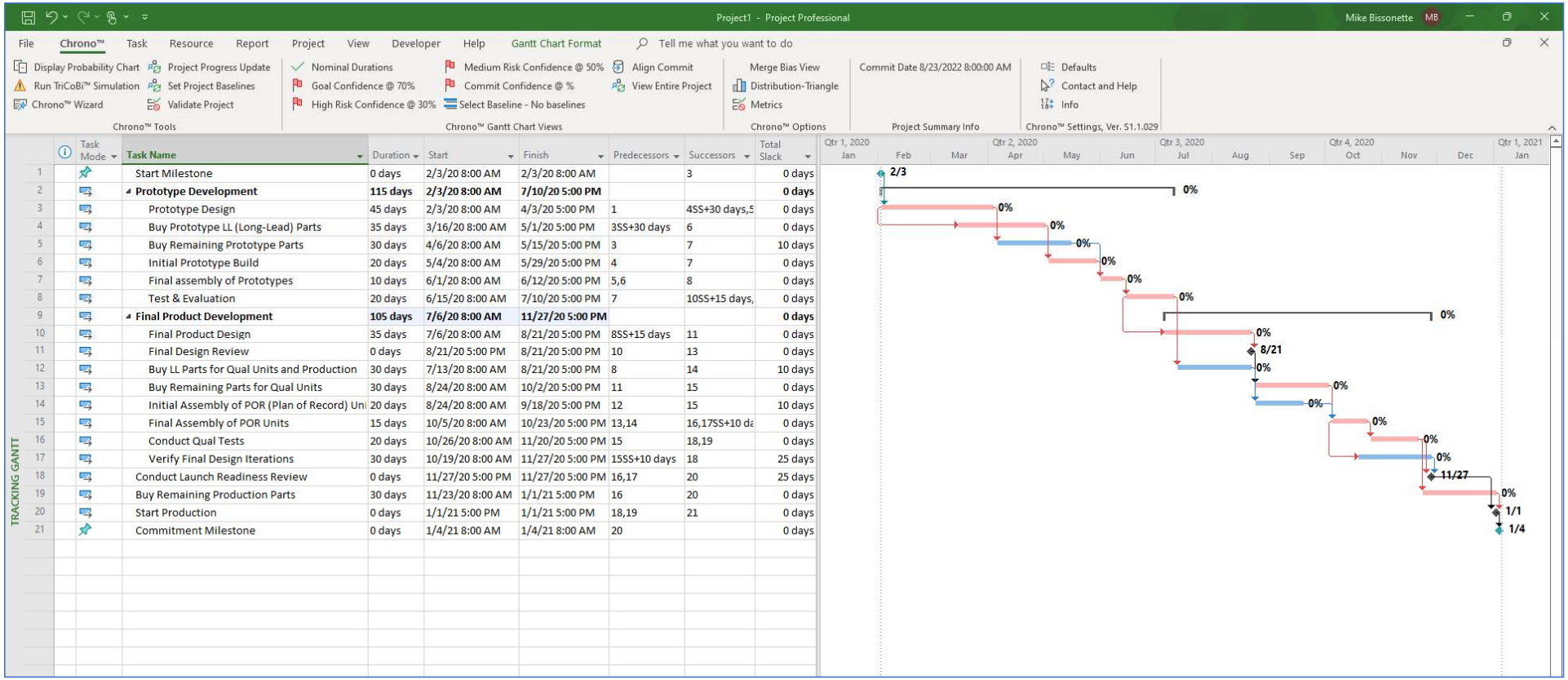
Final IMS Structure Changes



	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack
1		Start Milestone	0 days	2/3/20 8:00 AM	2/3/20 8:00 AM		3	0 days
2		Prototype Development	1 day?	2/3/20 8:00 AM	2/3/20 5:00 PM			239 days?
3		Prototype Design	45 days	2/3/20 8:00 AM	4/3/20 5:00 PM	1	4SS+30 days,5	0 days
4		Buy Prototype LL (Long-Lead) Par		AM	5/1/20 5:00 PM	3SS+30 days	6	0 days
5		Buy Remaining Prototype Parts		AM	5/15/20 5:00 PM	3	7	10 days
6		Initial Prototype Build		AM	5/29/20 5:00 PM	4	7	0 days
7		Final assembly of Prototypes		/1/20 8:00 AM	6/12/20 5:00 PM	5,6	8	0 days
8		Test & Evaluation		/15/20 8:00 AM	7/10/20 5:00 PM	7	10SS+15 days,	0 days
9		Final Product Development		/3/20 8:00 AM	2/3/20 5:00 PM			239 days?
10		Final Product Design		/6/20 8:00 AM	/21/20 5:00 PM	8SS+15 days	11	0 days
11		Final Design Review		/21/20 5:00 PM	8/21/20 5:00 PM	10	13	0 days
12		Buy LL Parts for Qual Units and Pr		/13/20 8:00 AM	8/2 /20 5:00 PM	8	14	10 days
13		Buy Remaining Parts for Qual Uni		/24/20 8:00 AM	10/2 /20 5:00 PM	11	15	0 days
14		Initial Assembly of POR (Plan of F		/24/20 8:00 AM	9/18/ 0 5:00 PM	12	15	10 days
15		Final Assembly of POR Units		0/5/20 8:00 AM	10/23/2 5:00 PM	13,14	16,17SS+10 da	0 days
16		Conduct Qual Tests		0/26/20 8:00 AM	11/20/20 :00 PM	15	18,19	0 days
17		Verify Final Design Iterations		0/19/20 8:00 AM	11/27/20 5:00 PM	15SS+10 days	18	25 days
18		Conduct Launch Readiness Revie		1/27/20 5:00 PM	11/27/20 5:00 PM	16,17	20	25 days
19		Buy Remaining Production Parts		1/23/20 8:00 AM	1/1/21 5:00 PM	16	20	0 days
20		Start Production		/1/21 5:00 PM	1/1/21 5:00 PM	18,19	21	0 days
21		Commitment Milestone		/4/21 8:00 AM	1/4/21 8:00 AM	20		0 days

Creating an IMS – Example

Final IMS



	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack
1		Start Milestone	0 days	2/3/20 8:00 AM	2/3/20 8:00 AM		3	0 days
2		**Prototype Development**	**115 days**	**2/3/20 8:00 AM**	**7/10/20 5:00 PM**			**0 days**
3		Prototype Design	45 days	2/3/20 8:00 AM	4/3/20 5:00 PM	1	4SS+30 days,5	0 days
4		Buy Prototype LL (Long-Lead) Parts	35 days	3/16/20 8:00 AM	5/1/20 5:00 PM	3SS+30 days	6	0 days
5		Buy Remaining Prototype Parts	30 days	4/6/20 8:00 AM	5/15/20 5:00 PM	3	7	10 days
6		Initial Prototype Build	20 days	5/4/20 8:00 AM	5/29/20 5:00 PM	4	7	0 days
7		Final assembly of Prototypes	10 days	6/1/20 8:00 AM	6/12/20 5:00 PM	5,6	8	0 days
8		Test & Evaluation	20 days	6/15/20 8:00 AM	7/10/20 5:00 PM	7	10SS+15 days,	0 days
9		**Final Product Development**	**105 days**	**7/6/20 8:00 AM**	**11/27/20 5:00 PM**			**0 days**
10		Final Product Design	35 days	7/6/20 8:00 AM	8/21/20 5:00 PM	8SS+15 days	11	0 days
11		Final Design Review	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	13	0 days
12		Buy LL Parts for Qual Units and Production	30 days	7/13/20 8:00 AM	8/21/20 5:00 PM	8	14	10 days
13		Buy Remaining Parts for Qual Units	30 days	8/24/20 8:00 AM	10/2/20 5:00 PM	11	15	0 days
14		Initial Assembly of POR (Plan of Record) Uni	20 days	8/24/20 8:00 AM	9/18/20 5:00 PM	12	15	10 days
15		Final Assembly of POR Units	15 days	10/5/20 8:00 AM	10/23/20 5:00 PM	13,14	16,17SS+10 da	0 days
16		Conduct Qual Tests	20 days	10/26/20 8:00 AM	11/20/20 5:00 PM	15	18,19	0 days
17		Verify Final Design Iterations	30 days	10/19/20 8:00 AM	11/27/20 5:00 PM	15SS+10 days	18	25 days
18		Conduct Launch Readiness Review	0 days	11/27/20 5:00 PM	11/27/20 5:00 PM	16,17	20	25 days
19		Buy Remaining Production Parts	30 days	11/23/20 8:00 AM	1/1/21 5:00 PM	16	20	0 days
20		Start Production	0 days	1/1/21 5:00 PM	1/1/21 5:00 PM	18,19	21	0 days
21		Commitment Milestone	0 days	1/4/21 8:00 AM	1/4/21 8:00 AM	20		0 days

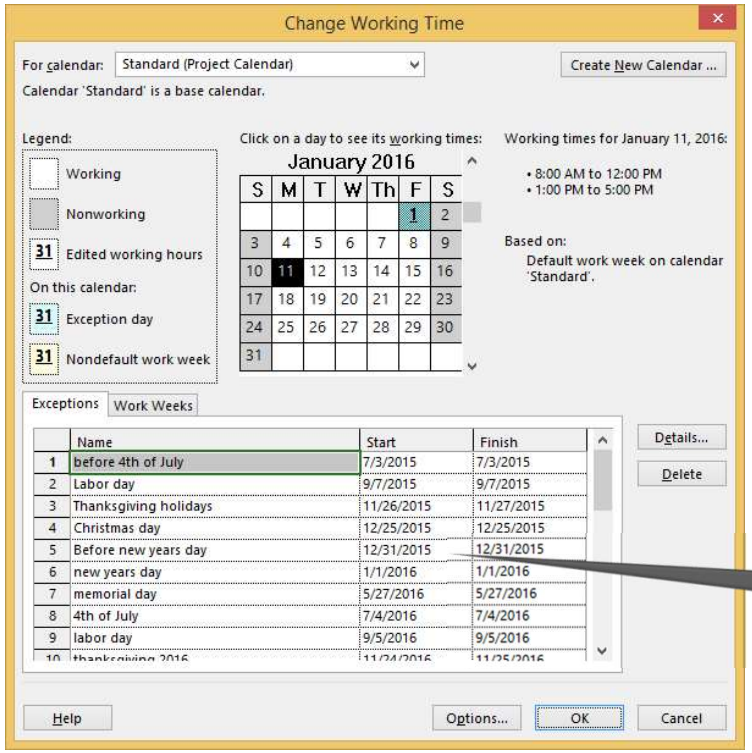
Project Calendar Considerations

Changing the Calendar is the Only non-Chrono™ Tab Function

Below is an example for customizing the calendar

Notes:

1. Even though this example does not require Calendar changes, in real life all non-work-days (i.e., Holidays) should be entered into the "Standard Project Calendar".
2. To set an IMS up for SRA and ES processing only ONE Calendar can be used. The Chrono™ default is the "Standard (Project Calendar)".

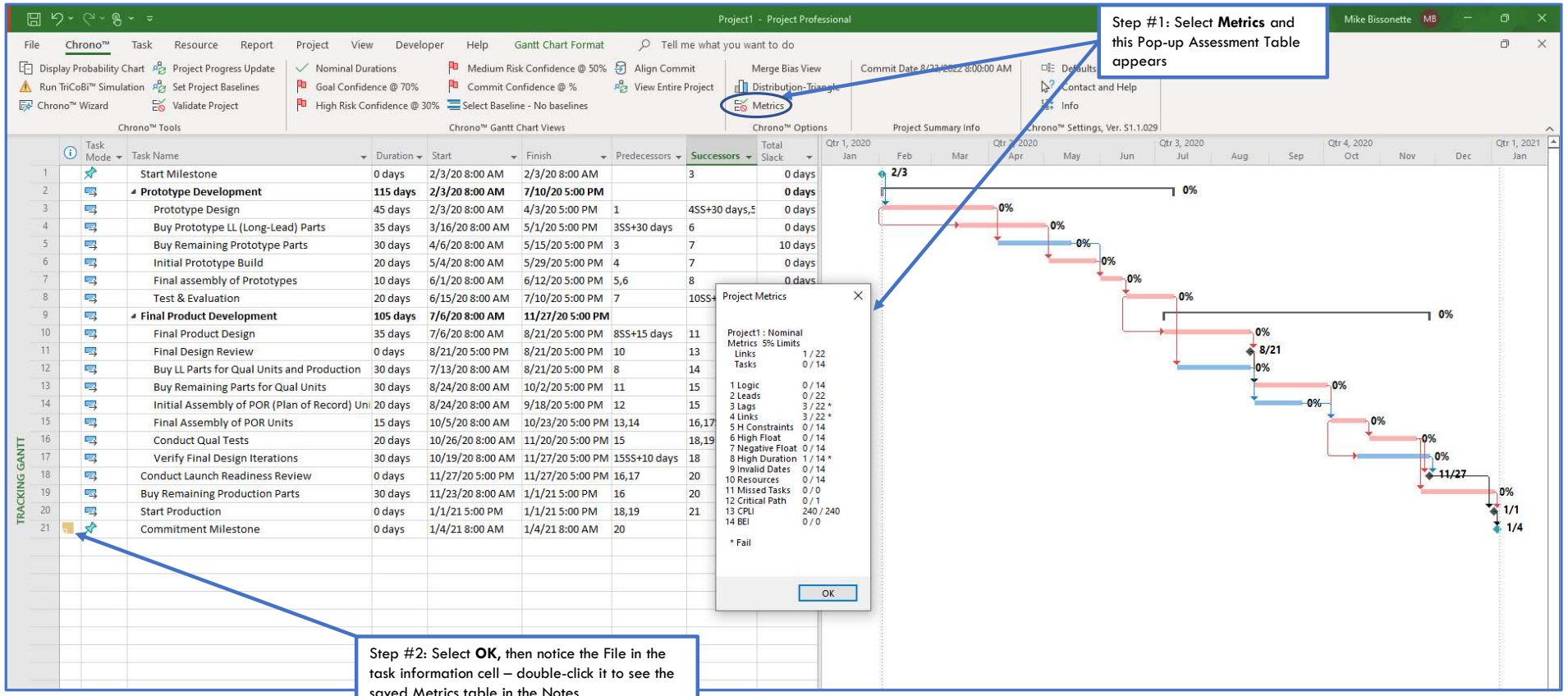


To get to this screen, Select the "Project" tab and then "Change Working Time".

Additional Org. Calendar Info.

Assessing IMS 14-Point Metrics

This Training IMS Deviates per Chrono™ Metrics



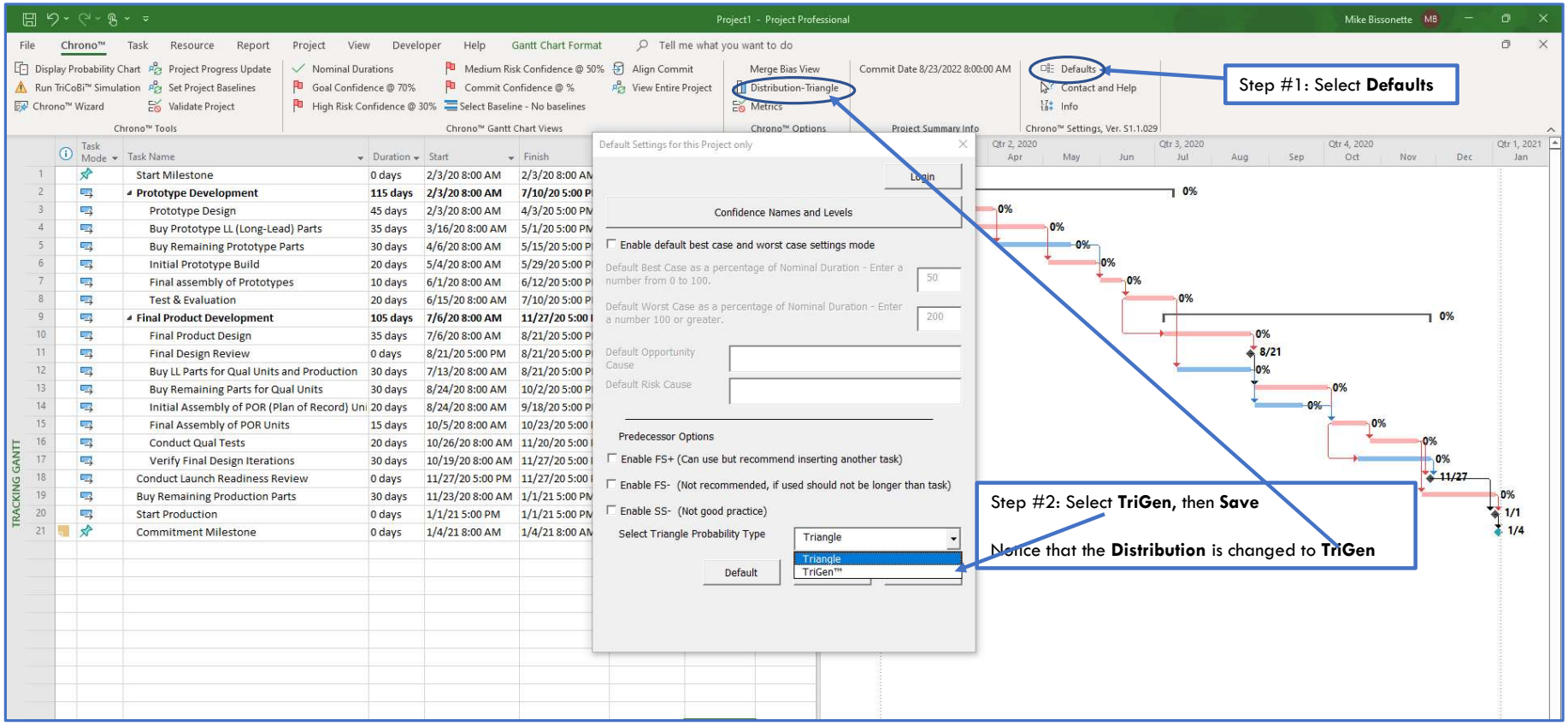
SRA (Schedule Risk Analysis) Training

Example of Performing SRA

CHRONO™ TRAINING REFERENCE GUIDE

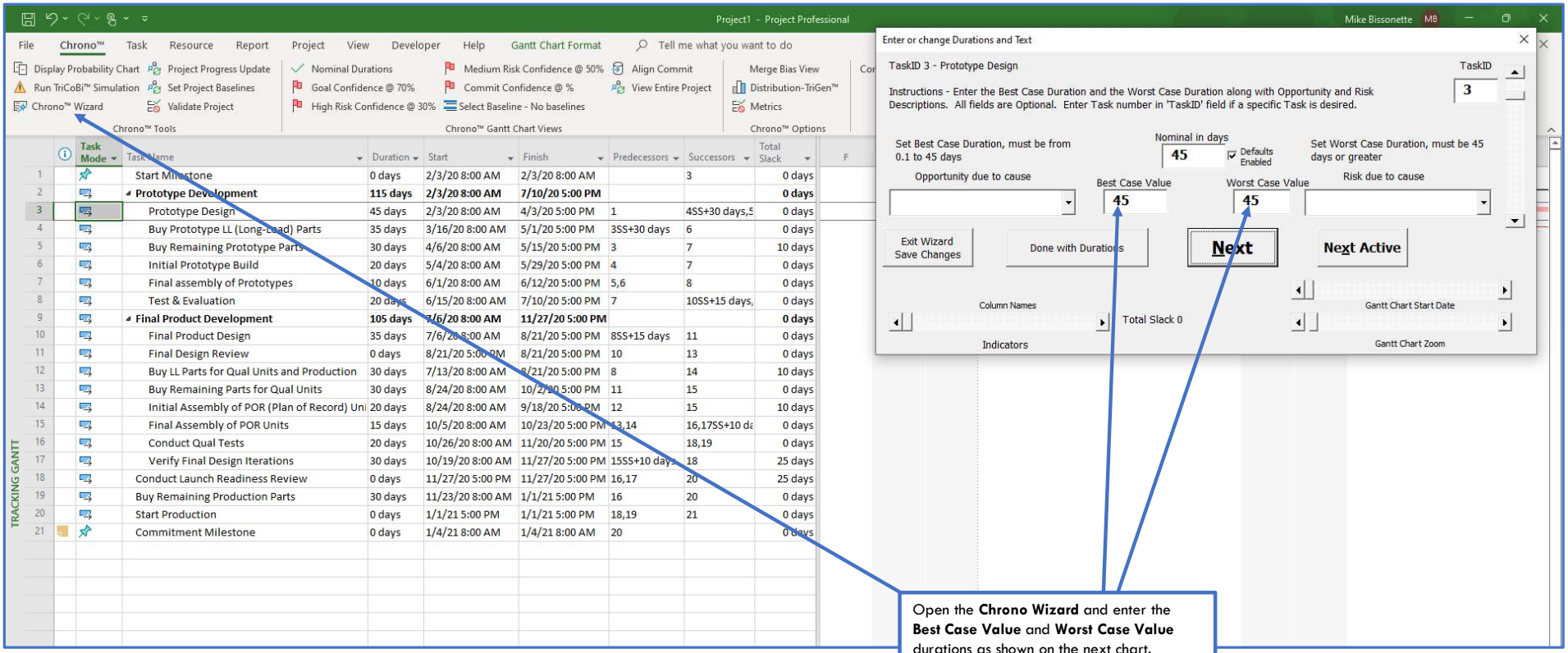
Performing SRA – Example

Changing Defaults



Schedule Risk Analysis – Example

Setting up IMS for SRA (Schedule Risk Analysis)



	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack
1		Start Milestone	0 days	2/3/20 8:00 AM	2/3/20 8:00 AM		3	0 days
2		**Prototype Development**	**115 days**	**2/3/20 8:00 AM**	**7/10/20 5:00 PM**			**0 days**
3		Prototype Design	45 days	2/3/20 8:00 AM	4/3/20 5:00 PM	1	4SS+30 days,5	0 days
4		Buy Prototype LL (Long-Lead) Parts	35 days	3/16/20 8:00 AM	5/1/20 5:00 PM	3SS+30 days	6	0 days
5		Buy Remaining Prototype Parts	30 days	4/6/20 8:00 AM	5/15/20 5:00 PM	3	7	10 days
6		Initial Prototype Build	20 days	5/4/20 8:00 AM	5/29/20 5:00 PM	4	7	0 days
7		Final assembly of Prototypes	10 days	6/1/20 8:00 AM	6/12/20 5:00 PM	5,6	8	0 days
8		Test & Evaluation	20 days	6/15/20 8:00 AM	7/10/20 5:00 PM	7	10SS+15 days,	0 days
9		**Final Product Development**	**105 days**	**7/6/20 8:00 AM**	**11/27/20 5:00 PM**			**0 days**
10		Final Product Design	35 days	7/6/20 8:00 AM	8/21/20 5:00 PM	8SS+15 days	11	0 days
11		Final Design Review	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	13	0 days
12		Buy LL Parts for Qual Units and Production	30 days	7/13/20 8:00 AM	8/21/20 5:00 PM	8	14	10 days
13		Buy Remaining Parts for Qual Units	30 days	8/24/20 8:00 AM	10/2/20 5:00 PM	11	15	0 days
14		Initial Assembly of POR (Plan of Record) Uni	20 days	8/24/20 8:00 AM	9/18/20 5:00 PM	12	15	10 days
15		Final Assembly of POR Units	15 days	10/5/20 8:00 AM	10/23/20 5:00 PM	13,14	16,17SS+10 da	0 days
16		Conduct Qual Tests	20 days	10/26/20 8:00 AM	11/20/20 5:00 PM	15	18,19	0 days
17		Verify Final Design Iterations	30 days	10/19/20 8:00 AM	11/27/20 5:00 PM	15SS+10 days	18	25 days
18		Conduct Launch Readiness Review	0 days	11/27/20 5:00 PM	11/27/20 5:00 PM	16,17	20	25 days
19		Buy Remaining Production Parts	30 days	11/23/20 8:00 AM	1/1/21 5:00 PM	16	20	0 days
20		Start Production	0 days	1/1/21 5:00 PM	1/1/21 5:00 PM	18,19	21	0 days
21		Commitment Milestone	0 days	1/4/21 8:00 AM	1/4/21 8:00 AM	20		0 days

Overall Project SRA Set-up

Example 3-Point Duration Estimates

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Task ID	Task Name	3-Point Durations		
		BC	Nominal	WC
1	Start Milestone		0 days	
2	**Prototype Development**		**115 days**	
3	Prototype Design	40 days	45 days	60 days
4	Buy Prototype LL (Long-Lead) Parts	35 days	35 days	35 days
5	Buy Remaining Prototype Parts	30 days	30 days	40 days
6	Initial Prototype Build	15 days	20 days	25 days
7	Final Assembly of Prototypes	8 days	10 days	20 days
8	Test & Evaluation	15 days	20 days	40 days
9	**Final Product Development**		**105 days**	
10	Final Product Design	30 days	35 days	50 days
11	Final Design Review		0 days	
12	Buy LL Parts for Qual Units and Production	30 days	30 days	30 days
13	Buy Remaining Parts for Qual Units	30 days	30 days	40 days
14	Initial Assembly of POR (Plan of Record) Units	15 days	20 days	25 days
15	Final Assembly of POR Units	8 days	15 days	20 days
16	Conduct Qual Tests	15 days	20 days	50 days
17	Verify Final Design Iterations	20 days	30 days	40 days
18	Conduct Launch Readiness Review		0 days	
19	Buy Remaining Production Parts	30 days	30 days	40 days
20	Start Production		0 days	
21	Commitment Milestone		0 days	

Note that after you enter the numbers you will see that whenever the **Best-Case** and/or **Worst-Case** Durations are equal to the Nominal **Duration** *Microsoft Project* inserts a "**0 days**" Duration.

Once done, select "Exit" and the **Chrono Wizard** runs the Validation routine automatically. If all is well you will see a message "**Setup Wizard – Passed**" – if not, you will be assisted in making the necessary corrections.

You will have to resize your Gantt view again to see the additional columns of data shown on the next chart.

Performing SRA is Easy & Fast

Ready to Run the TriCoBi™ Simulation

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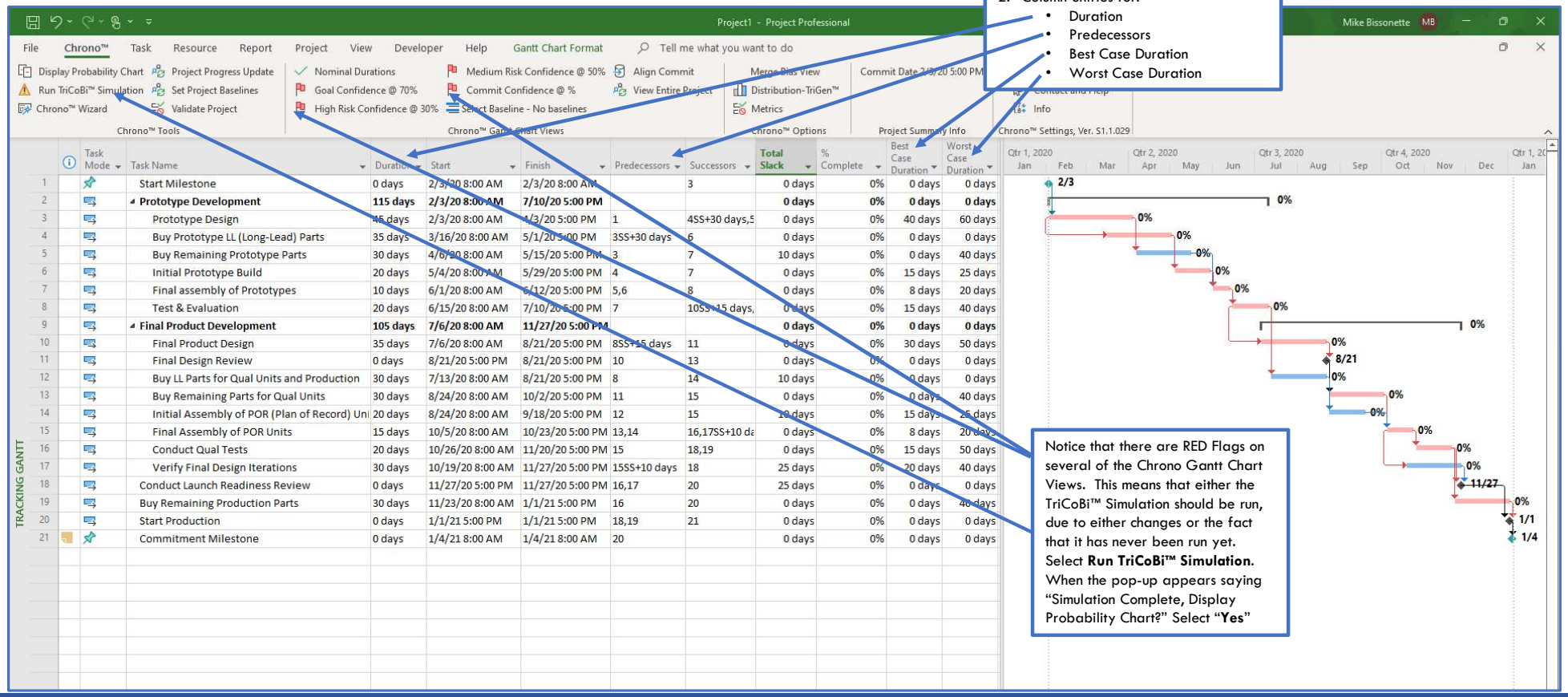
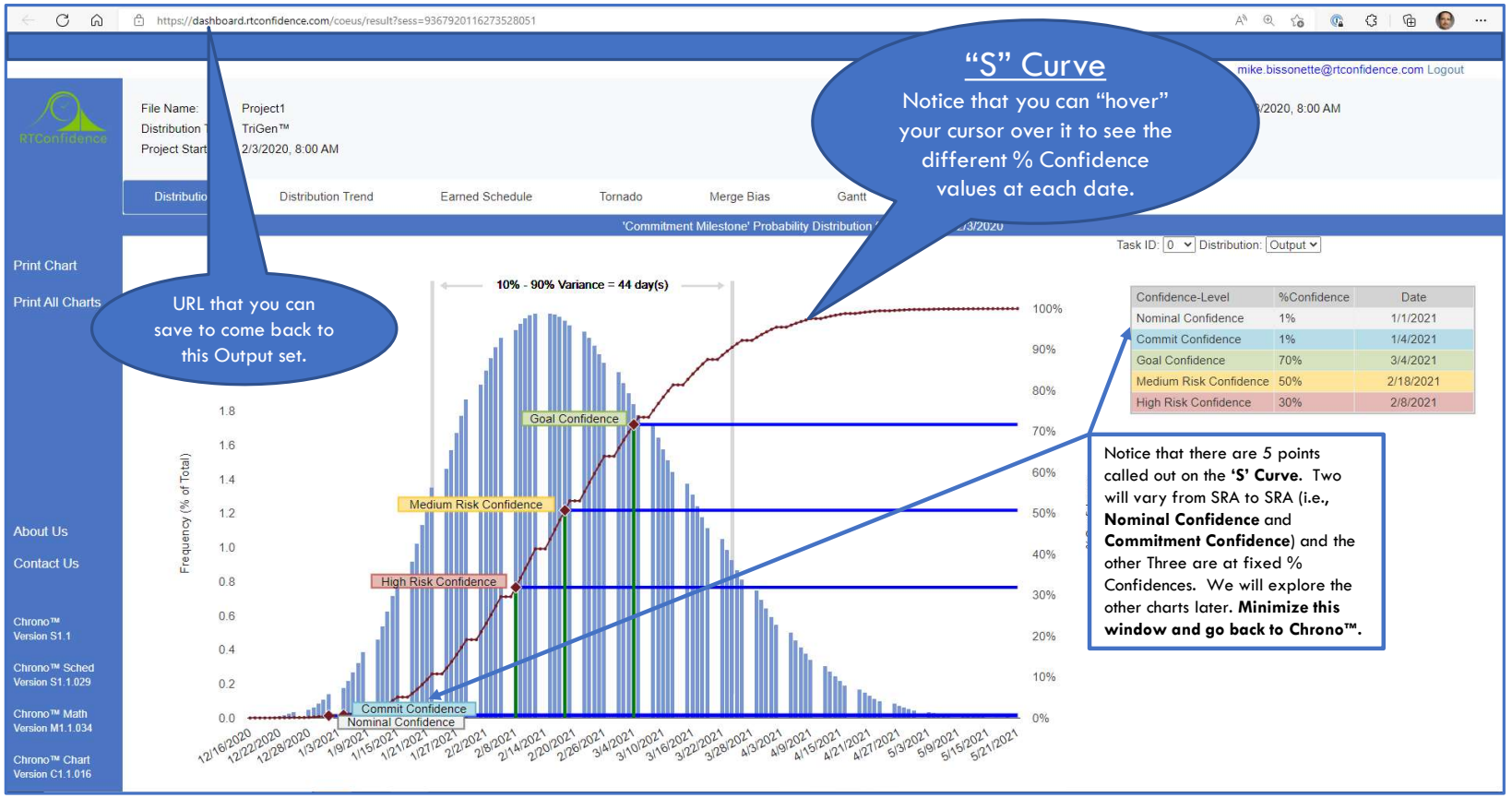
Double-check:
1. Durations of Summary Tasks
2. Column entries for:
   - Duration
   - Predecessors
   - Best Case Duration
   - Worst Case Duration



Notice that there are RED Flags on several of the Chrono Gantt Chart Views. This means that either the TriCoBi™ Simulation should be run, due to either changes or the fact that it has never been run yet. Select **Run TriCoBi™ Simulation**. When the pop-up appears saying "Simulation Complete, Display Probability Chart?" Select "**Yes**"

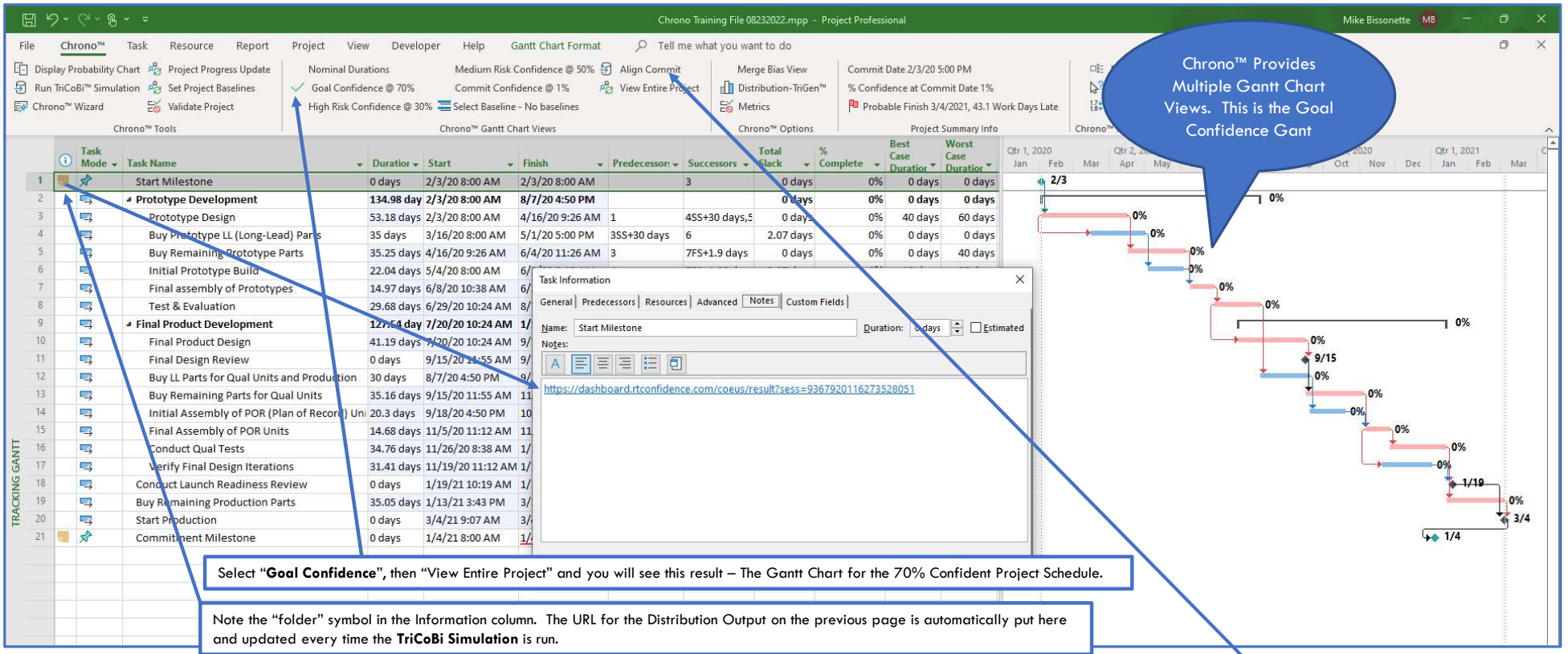
Chrono™ SRA Tool Results – Example

TriCoBi™ Simulation Output (Cloud Processed)



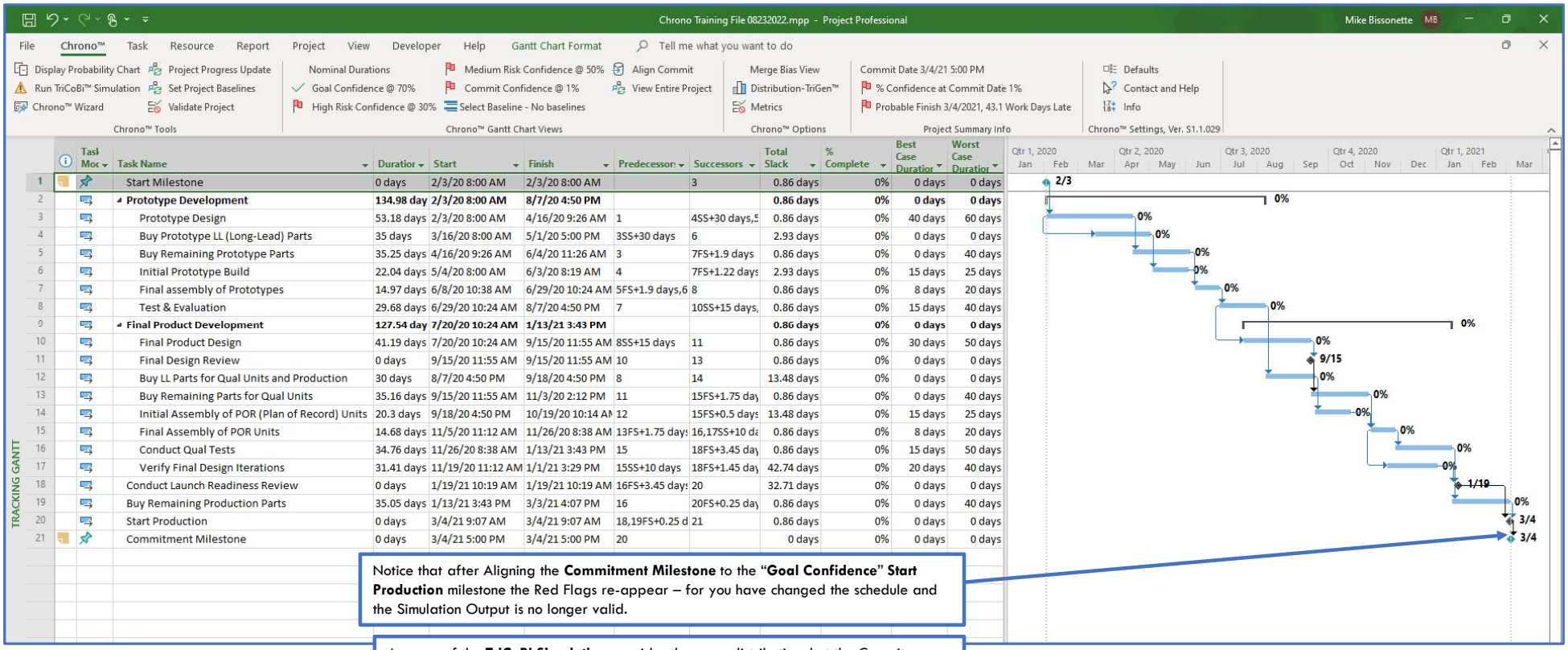
SRA Info is Sent Back to Chrono™

Chrono™ Produces Additional Gantt Chart Data



SRA Info is Sent Back to Chrono™

Chrono™ Produces Additional Gantt Chart Data



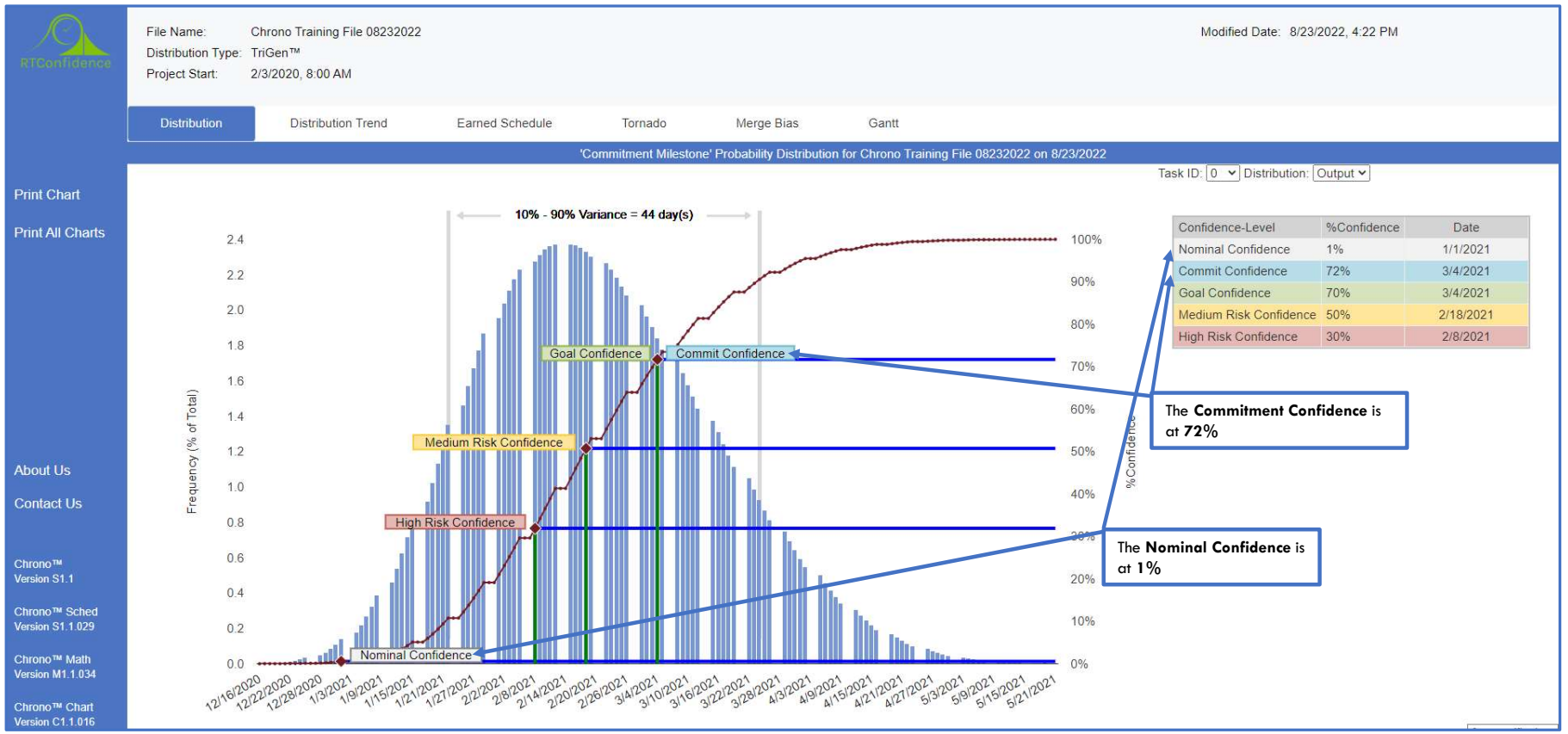
	Task Mod	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	2/3/20 8:00 AM	2/3/20 8:00 AM		3	0.86 days	0%	0 days	0 days
2		**Prototype Development**	**134.98 day**	**2/3/20 8:00 AM**	**8/7/20 4:50 PM**			**0.86 days**	**0%**	**0 days**	**0 days**
3		Prototype Design	53.18 days	2/3/20 8:00 AM	4/16/20 9:26 AM	1	4SS+30 days,5	0.86 days	0%	40 days	60 days
4		Buy Prototype LL (Long-Lead) Parts	35 days	3/16/20 8:00 AM	5/1/20 5:00 PM	3SS+30 days	6	2.93 days	0%	0 days	0 days
5		Buy Remaining Prototype Parts	35.25 days	4/16/20 9:26 AM	6/4/20 11:26 AM	3	7FS+1.9 days	0.86 days	0%	0 days	40 days
6		Initial Prototype Build	22.04 days	5/4/20 8:00 AM	6/3/20 8:19 AM	4	7FS+1.22 days	2.93 days	0%	15 days	25 days
7		Final assembly of Prototypes	14.97 days	6/8/20 10:38 AM	6/29/20 10:24 AM	5FS+1.9 days,6	8	0.86 days	0%	8 days	20 days
8		Test & Evaluation	29.68 days	6/29/20 10:24 AM	8/7/20 4:50 PM	7	10SS+15 days,	0.86 days	0%	15 days	40 days
9		**Final Product Development**	**127.54 day**	**7/20/20 10:24 AM**	**1/13/21 3:43 PM**			**0.86 days**	**0%**	**0 days**	**0 days**
10		Final Product Design	41.19 days	7/20/20 10:24 AM	9/15/20 11:55 AM	8SS+15 days	11	0.86 days	0%	30 days	50 days
11		Final Design Review	0 days	9/15/20 11:55 AM	9/15/20 11:55 AM	10	13	0.86 days	0%	0 days	0 days
12		Buy LL Parts for Qual Units and Production	30 days	8/7/20 4:50 PM	9/18/20 4:50 PM	8	14	13.48 days	0%	0 days	0 days
13		Buy Remaining Parts for Qual Units	35.16 days	9/15/20 11:55 AM	11/3/20 2:12 PM	11	15FS+1.75 day	0.86 days	0%	0 days	40 days
14		Initial Assembly of POR (Plan of Record) Units	20.3 days	9/18/20 4:50 PM	10/19/20 10:14 AM	12	15FS+0.5 days	13.48 days	0%	15 days	25 days
15		Final Assembly of POR Units	14.68 days	11/5/20 11:12 AM	11/26/20 8:38 AM	13FS+1.75 days	16,17SS+10 da	0.86 days	0%	8 days	20 days
16		Conduct Qual Tests	34.76 days	11/26/20 8:38 AM	1/13/21 3:43 PM	15	18FS+3.45 day	0.86 days	0%	15 days	50 days
17		Verify Final Design Iterations	31.41 days	11/19/20 11:12 AM	1/1/21 3:29 PM	15SS+10 days	18FS+1.45 day	42.74 days	0%	20 days	40 days
18		Conduct Launch Readiness Review	0 days	1/19/21 10:19 AM	1/19/21 10:19 AM	16FS+3.45 days	20	32.71 days	0%	0 days	0 days
19		Buy Remaining Production Parts	35.05 days	1/13/21 3:43 PM	3/3/21 4:07 PM	16	20FS+0.25 day	0.86 days	0%	0 days	40 days
20		Start Production	0 days	3/4/21 9:07 AM	3/4/21 9:07 AM	18,19FS+0.25 d	21	0.86 days	0%	0 days	0 days
21		Commitment Milestone	0 days	3/4/21 5:00 PM	3/4/21 5:00 PM	20		0 days	0%	0 days	0 days

Notice that after Aligning the **Commitment Milestone** to the "**Goal Confidence**" **Start Production** milestone the Red Flags re-appear – for you have changed the schedule and the Simulation Output is no longer valid.

A re-run of the **TriCoBi Simulation** provides the same distribution, but the Commit Milestone is repositioned as shown on the next chart.

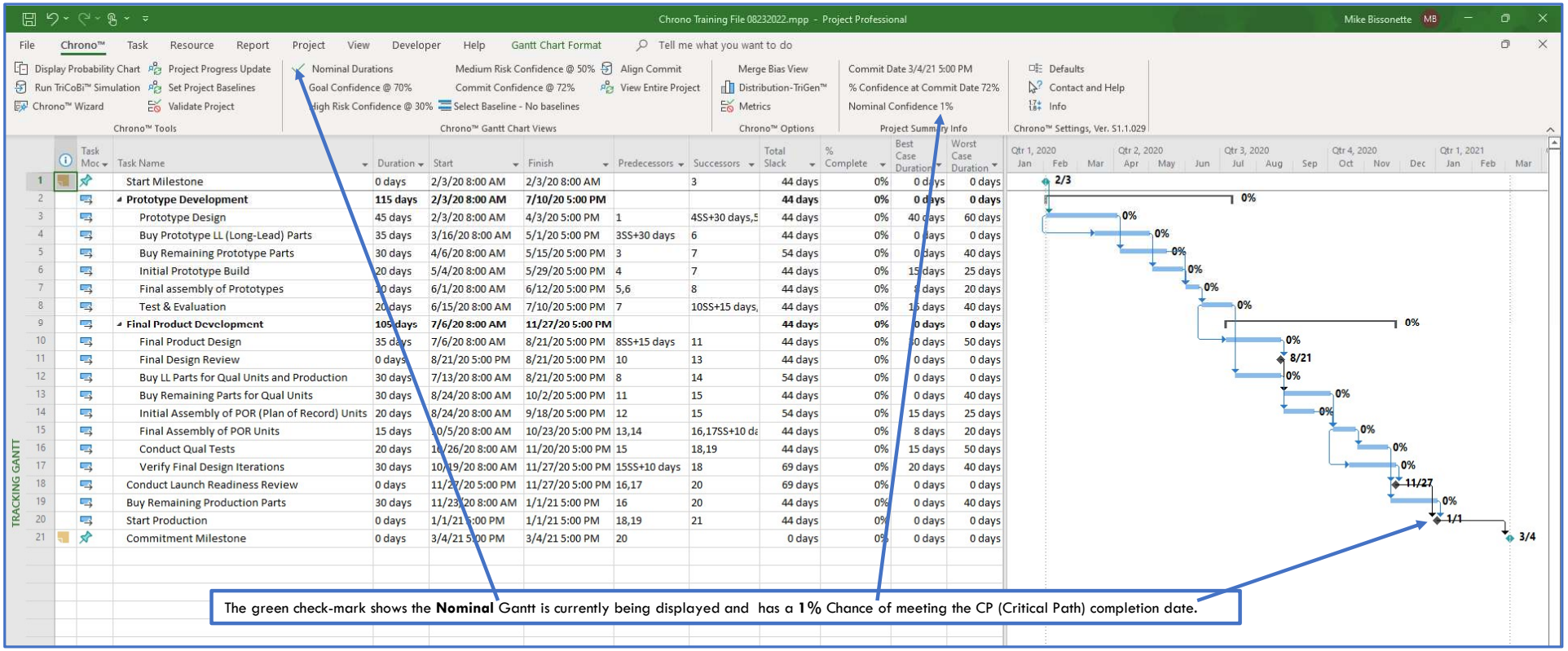
SRA is Easy and Fast with Chrono™

Simulation Output – "Distribution" Chart



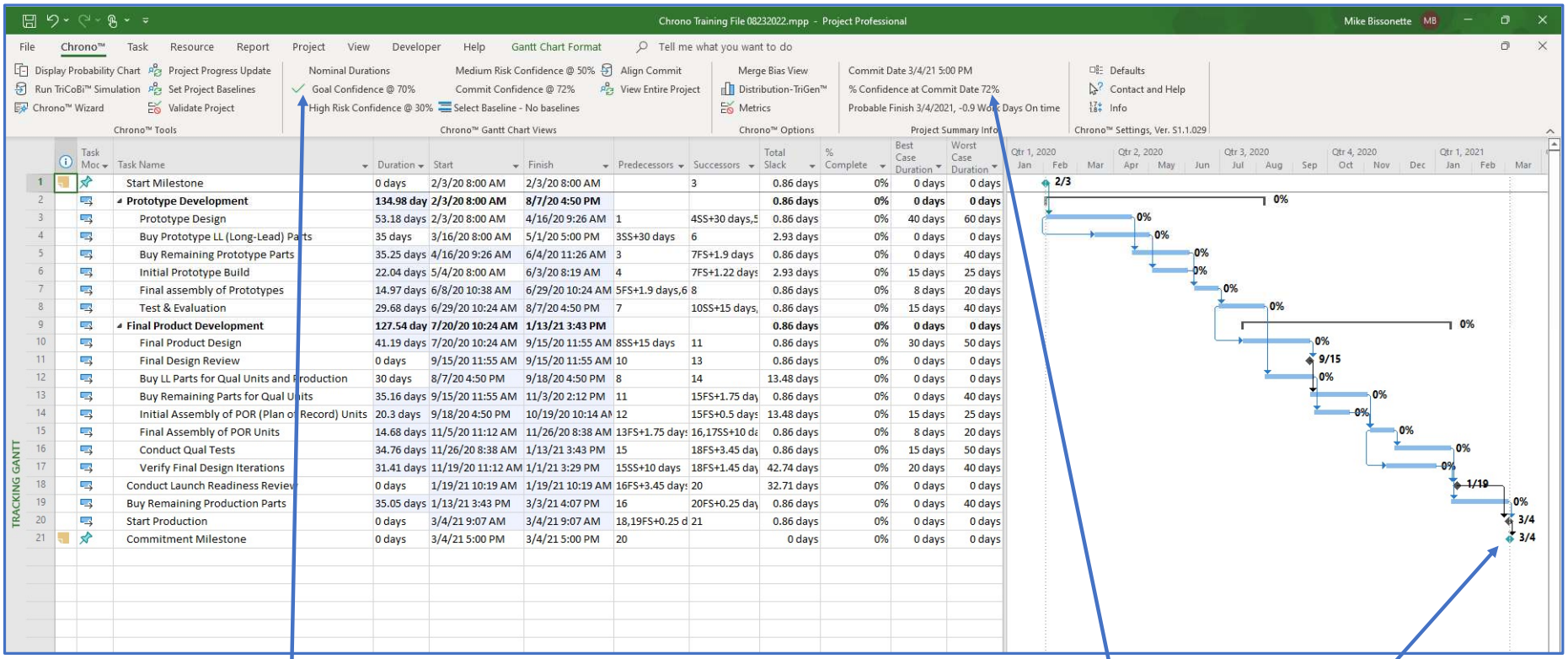
SRA Info is Sent Back to Chrono™

The Post-Simulation Nominal Gantt Chart



SRA Helps Establish Commitments

Post-Simulation Commit Confidence Gantt Chart

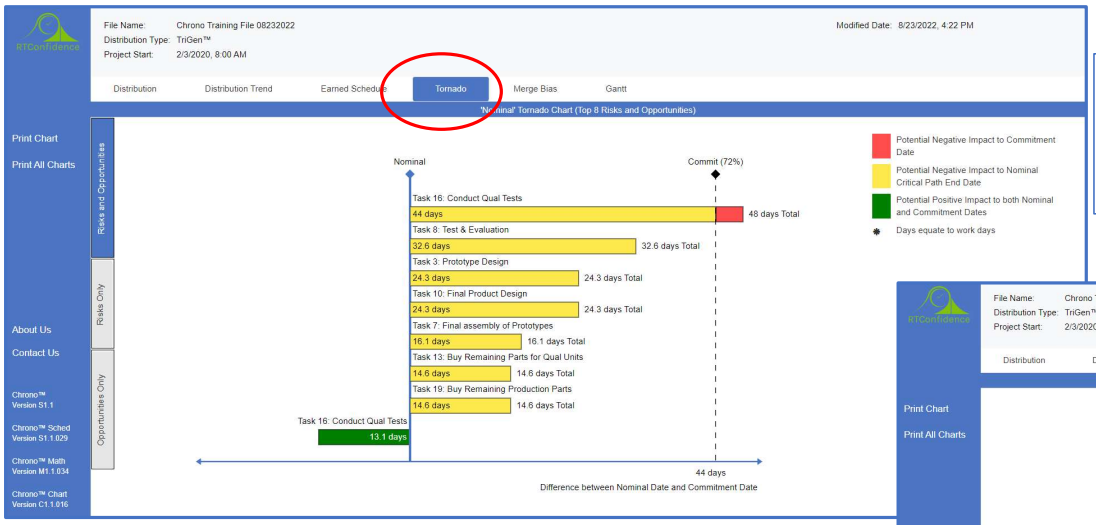


	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	2/3/20 8:00 AM	2/3/20 8:00 AM		3	0.86 days	0%	0 days	0 days
2		**Prototype Development**	**134.98 day**	**2/3/20 8:00 AM**	**8/7/20 4:50 PM**			**0.86 days**	**0%**	**0 days**	**0 days**
3		Prototype Design	53.18 days	2/3/20 8:00 AM	4/16/20 9:26 AM	1	4SS+30 days,5	0.86 days	0%	40 days	60 days
4		Buy Prototype LL (Long-Lead) Parts	35 days	3/16/20 8:00 AM	5/1/20 5:00 PM	3SS+30 days	6	2.93 days	0%	0 days	0 days
5		Buy Remaining Prototype Parts	35.25 days	4/16/20 9:26 AM	6/4/20 11:26 AM	3	7FS+1.9 days	0.86 days	0%	0 days	40 days
6		Initial Prototype Build	22.04 days	5/4/20 8:00 AM	6/3/20 8:19 AM	4	7FS+1.22 days	2.93 days	0%	15 days	25 days
7		Final assembly of Prototypes	14.97 days	6/8/20 10:38 AM	6/29/20 10:24 AM	5FS+1.9 days,6	8	0.86 days	0%	8 days	20 days
8		Test & Evaluation	29.68 days	6/29/20 10:24 AM	8/7/20 4:50 PM	7	10SS+15 days,	0.86 days	0%	15 days	40 days
9		**Final Product Development**	**127.54 day**	**7/20/20 10:24 AM**	**1/13/21 3:43 PM**			**0.86 days**	**0%**	**0 days**	**0 days**
10		Final Product Design	41.19 days	7/20/20 10:24 AM	9/15/20 11:55 AM	8SS+15 days	11	0.86 days	0%	30 days	50 days
11		Final Design Review	0 days	9/15/20 11:55 AM	9/15/20 11:55 AM	10	13	0.86 days	0%	0 days	0 days
12		Buy LL Parts for Qual Units and Production	30 days	8/7/20 4:50 PM	9/18/20 4:50 PM	8	14	13.48 days	0%	0 days	0 days
13		Buy Remaining Parts for Qual Units	35.16 days	9/15/20 11:55 AM	11/3/20 2:12 PM	11	15FS+1.75 day	0.86 days	0%	0 days	40 days
14		Initial Assembly of POR (Plan or Record) Units	20.3 days	9/18/20 4:50 PM	10/19/20 10:14 AM	12	15FS+0.5 days	13.48 days	0%	15 days	25 days
15		Final Assembly of POR Units	14.68 days	11/5/20 11:12 AM	11/26/20 8:38 AM	13FS+1.75 days	16,17SS+10 da	0.86 days	0%	8 days	20 days
16		Conduct Qual Tests	34.76 days	11/26/20 8:38 AM	1/13/21 3:43 PM	15	18FS+3.45 day	0.86 days	0%	15 days	50 days
17		Verify Final Design Iterations	31.41 days	11/19/20 11:12 AM	1/1/21 3:29 PM	15SS+10 days	18FS+1.45 day	42.74 days	0%	20 days	40 days
18		Conduct Launch Readiness Review	0 days	1/19/21 10:19 AM	1/19/21 10:19 AM	16FS+3.45 days	20	32.71 days	0%	0 days	0 days
19		Buy Remaining Production Parts	35.05 days	1/13/21 3:43 PM	3/3/21 4:07 PM	16	20FS+0.25 day	0.86 days	0%	0 days	40 days
20		Start Production	0 days	3/4/21 9:07 AM	3/4/21 9:07 AM	18,19FS+0.25 d	21	0.86 days	0%	0 days	0 days
21		Commitment Milestone	0 days	3/4/21 5:00 PM	3/4/21 5:00 PM	20		0 days	0%	0 days	0 days

When you click on the Goal Confidence Gantt (or the **Commit Confidence** Gantt) you will see this result, and Chrono™ tells you what the % Confidence is (**72% here**) of meeting the commitment completion date.

Chrono™ SRA Outputs

"Tornado" & "Merge Bias" Charts

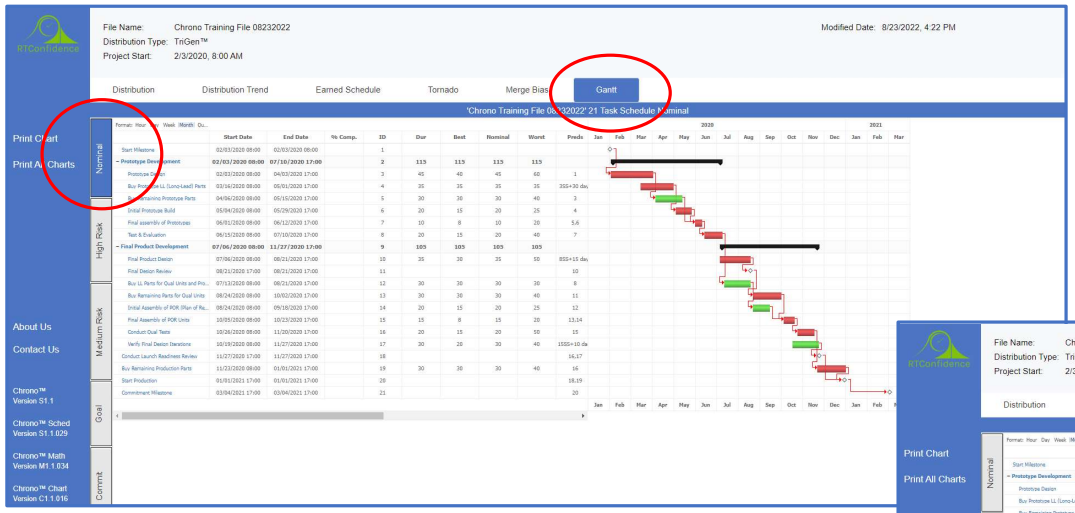


A "Tornado" chart provides you with the highest priority Tasks to address, if necessary, to improve your schedule. The top item is that which impacts the schedule the most.

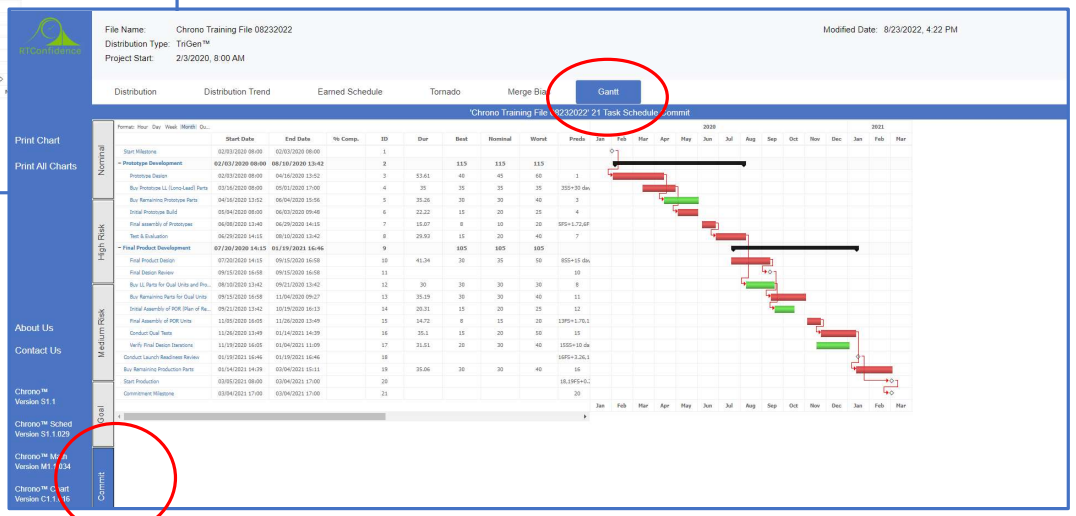
A "Merge Bias" chart provides you with the highest priority Merge Paths (where two or more task outputs feed a common task input) to address, if necessary, to improve your schedule. The top item is that which impacts the schedule the most.

Chrono™ SRA Outputs

Gantt Charts – Nominal (Target) & Commitment



The Nominal Gantt chart provides you with all the critical schedule data relative to the team's "Target" – based on the Single-Point estimates provided.

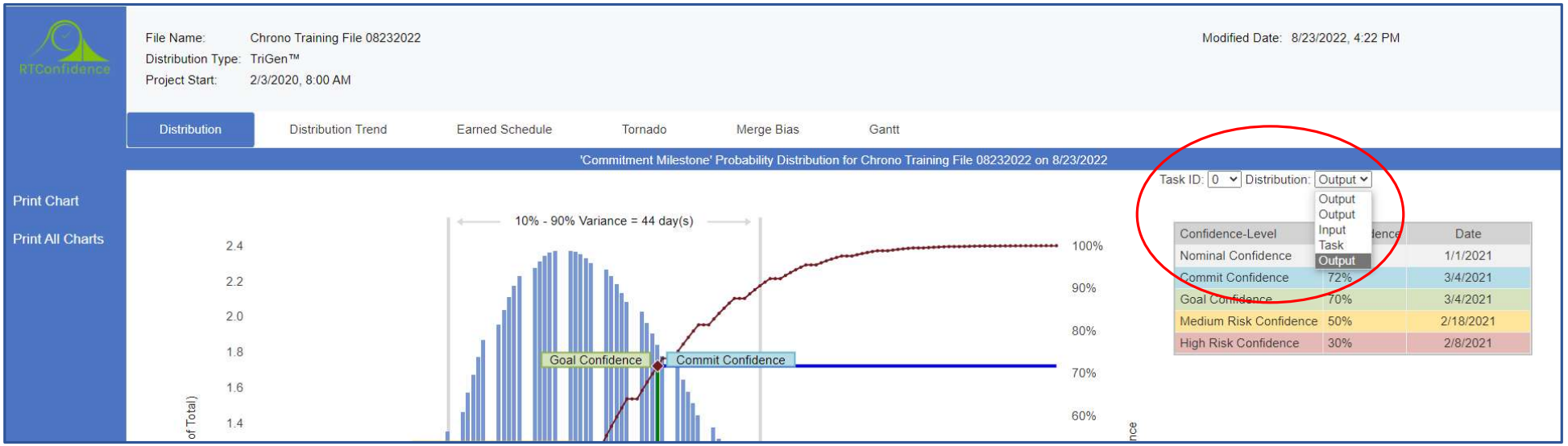


The Commitment Gantt chart provides you with all the critical schedule data relative to the PM's "Commitment" – aligned with the Goal Confidence guidelines provided by the Management Team.

Schedule Development Process

Final Chrono™ Note

- The Distribution Chart Shows only the Result for the Last IMS Milestone
- Other Task Milestones can be Viewed via the Drop-down Menu Selections:
  - Task ID: #
  - Distribution: Output, Input or Task (Input + Task = Output)
  - Try this for Task #7
  - Select Task #0 Distribution "Output" to get back to the Completion Milestone Chart



ES (Earned Schedule) Training

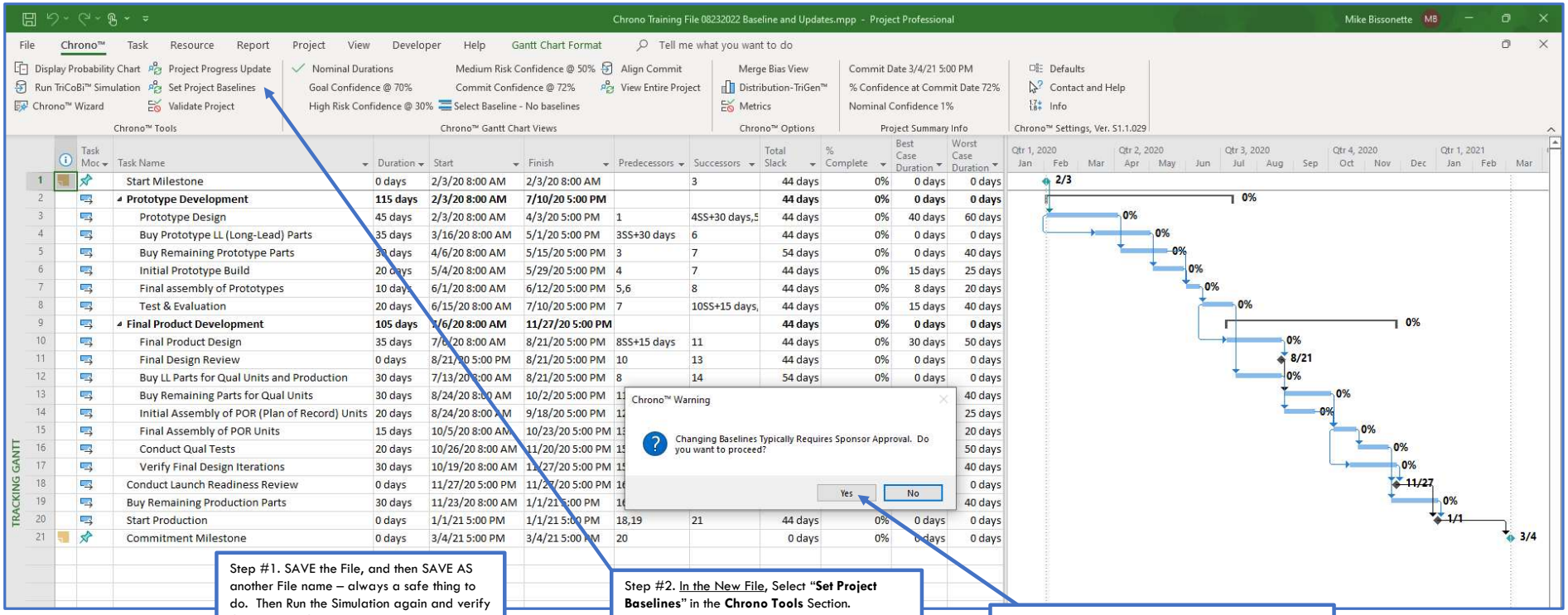
Example of Performing ES

CHRONO™ TRAINING REFERENCE GUIDE

Baselines and Schedule Updates

Establishing Project Baselines

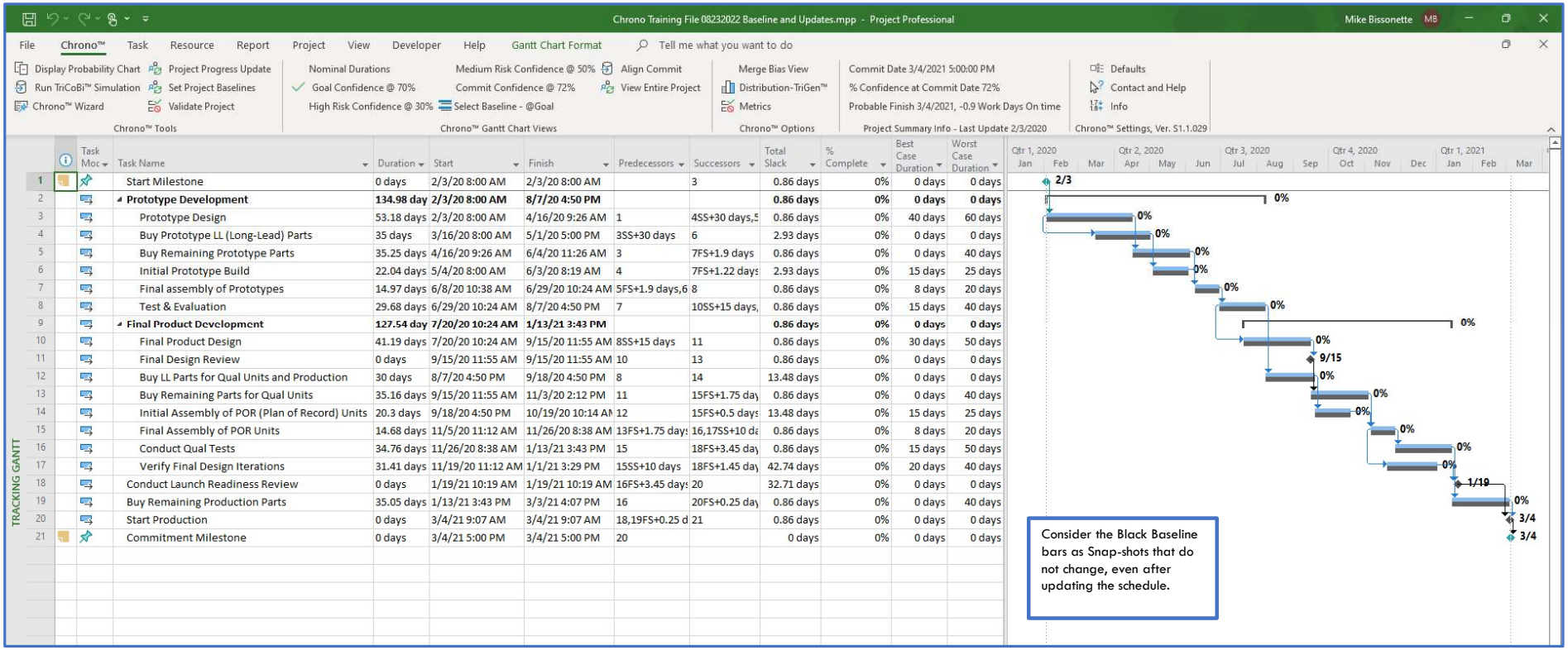
If you haven't already done so – SAVE then SAVE_AS New File Name



	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	2/3/20 8:00 AM	2/3/20 8:00 AM		3	44 days	0%	0 days	0 days
2		**Prototype Development**	**115 days**	**2/3/20 8:00 AM**	**7/10/20 5:00 PM**			**44 days**	**0%**	**0 days**	**0 days**
3		Prototype Design	45 days	2/3/20 8:00 AM	4/3/20 5:00 PM	1	4SS+30 days,5	44 days	0%	40 days	60 days
4		Buy Prototype LL (Long-Lead) Parts	35 days	3/16/20 8:00 AM	5/1/20 5:00 PM	3SS+30 days	6	44 days	0%	0 days	0 days
5		Buy Remaining Prototype Parts	30 days	4/6/20 8:00 AM	5/15/20 5:00 PM	3	7	54 days	0%	0 days	40 days
6		Initial Prototype Build	20 days	5/4/20 8:00 AM	5/29/20 5:00 PM	4	7	44 days	0%	15 days	25 days
7		Final assembly of Prototypes	10 days	6/1/20 8:00 AM	6/12/20 5:00 PM	5,6	8	44 days	0%	8 days	20 days
8		Test & Evaluation	20 days	6/15/20 8:00 AM	7/10/20 5:00 PM	7	10SS+15 days,	44 days	0%	15 days	40 days
9		**Final Product Development**	**105 days**	**7/6/20 8:00 AM**	**11/27/20 5:00 PM**			**44 days**	**0%**	**0 days**	**0 days**
10		Final Product Design	35 days	7/6/20 8:00 AM	8/21/20 5:00 PM	8SS+15 days	11	44 days	0%	30 days	50 days
11		Final Design Review	0 days	8/21/20 5:00 PM	8/21/20 5:00 PM	10	13	44 days	0%	0 days	0 days
12		Buy LL Parts for Qual Units and Production	30 days	7/13/20 8:00 AM	8/21/20 5:00 PM	8	14	54 days	0%	0 days	0 days
13		Buy Remaining Parts for Qual Units	30 days	8/24/20 8:00 AM	10/2/20 5:00 PM	12					40 days
14		Initial Assembly of POR (Plan of Record) Units	20 days	8/24/20 8:00 AM	9/18/20 5:00 PM	12					25 days
15		Final Assembly of POR Units	15 days	10/5/20 8:00 AM	10/23/20 5:00 PM	13					20 days
16		Conduct Qual Tests	20 days	10/26/20 8:00 AM	11/20/20 5:00 PM	15					50 days
17		Verify Final Design Iterations	30 days	10/19/20 8:00 AM	11/27/20 5:00 PM	15					40 days
18		Conduct Launch Readiness Review	0 days	11/27/20 5:00 PM	11/27/20 5:00 PM	16					0 days
19		Buy Remaining Production Parts	30 days	11/23/20 8:00 AM	1/1/21 5:00 PM	16					40 days
20		Start Production	0 days	1/1/21 5:00 PM	1/1/21 5:00 PM	18,19	21	44 days	0%	0 days	0 days
21		Commitment Milestone	0 days	3/4/21 5:00 PM	3/4/21 5:00 PM	20		0 days	0%	0 days	0 days

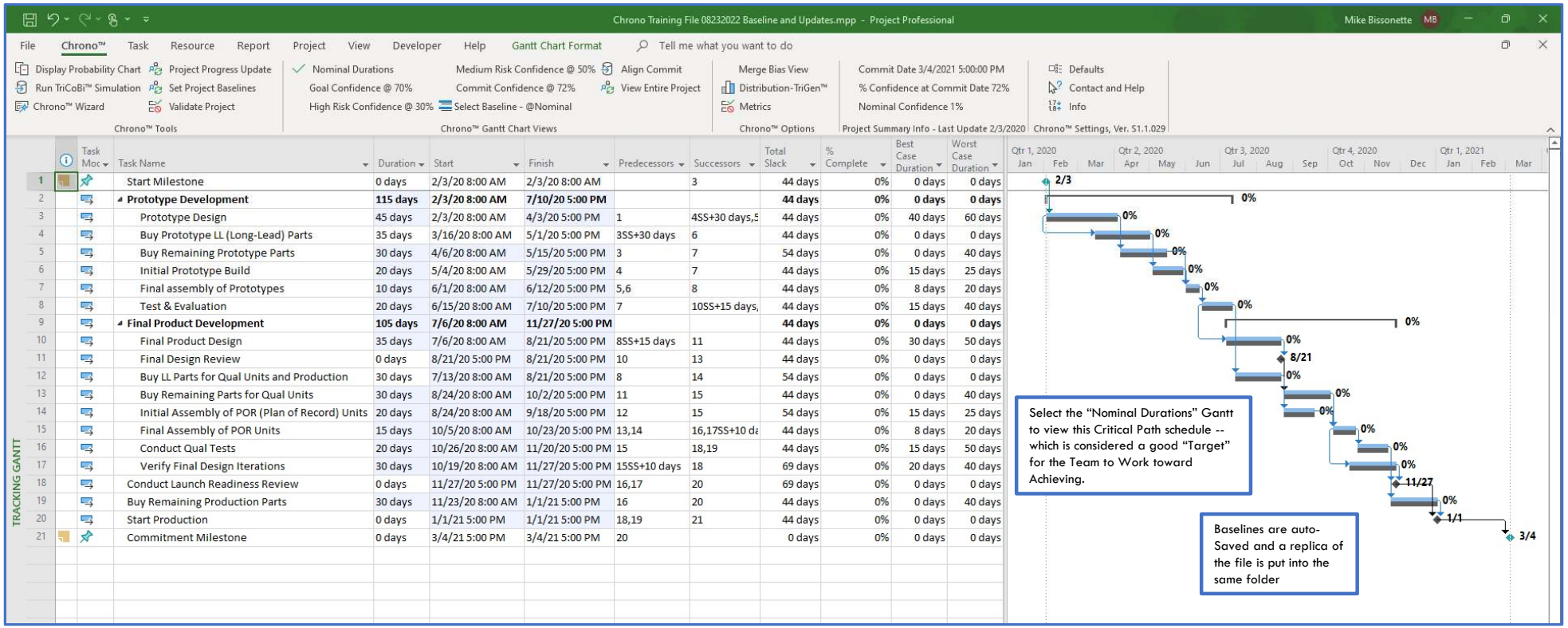
Establishing Baselines

The Baseline Goal Gantt (i.e., Commit Schedule)



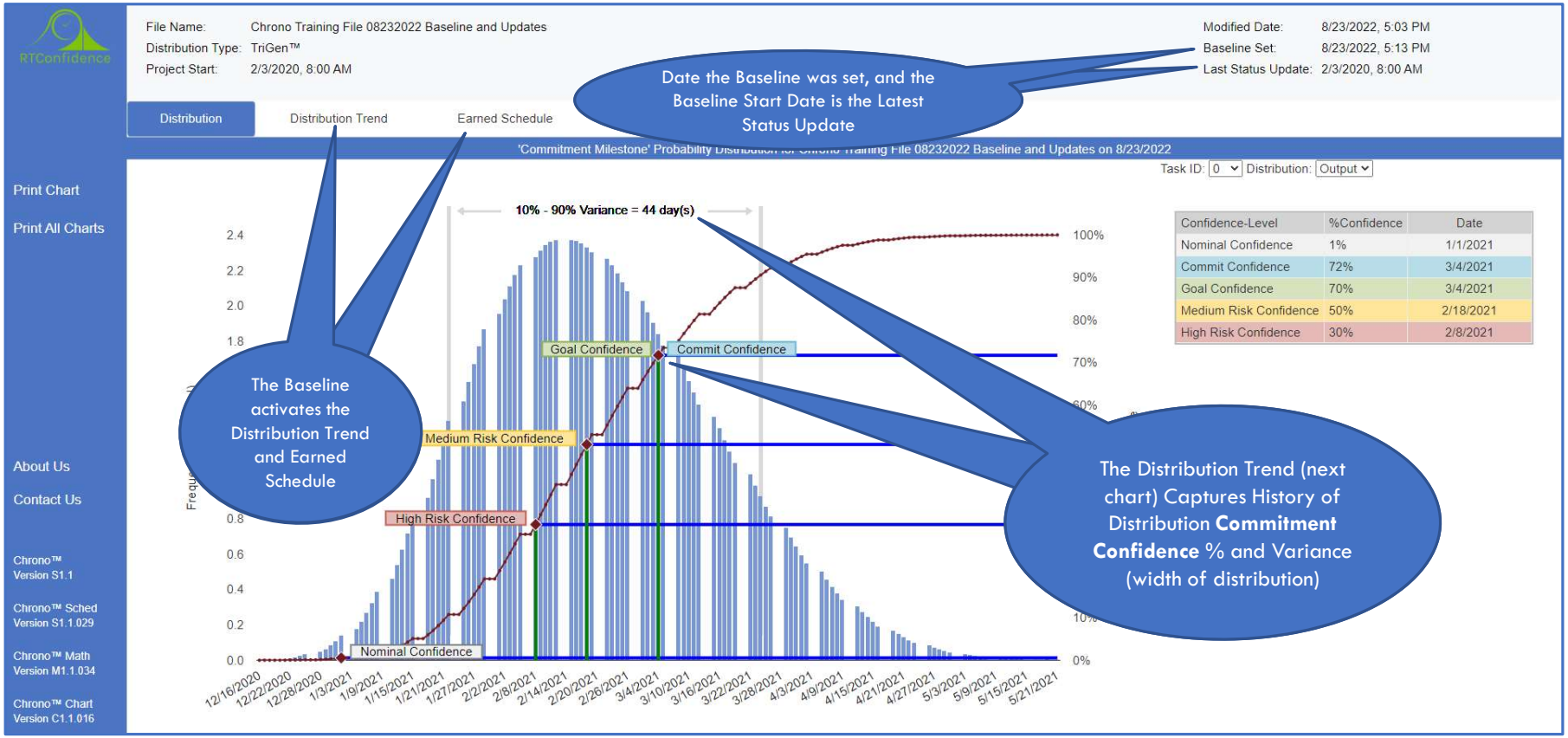
Establishing Baselines

The Baseline Nominal Gantt (i.e., Target Schedule)



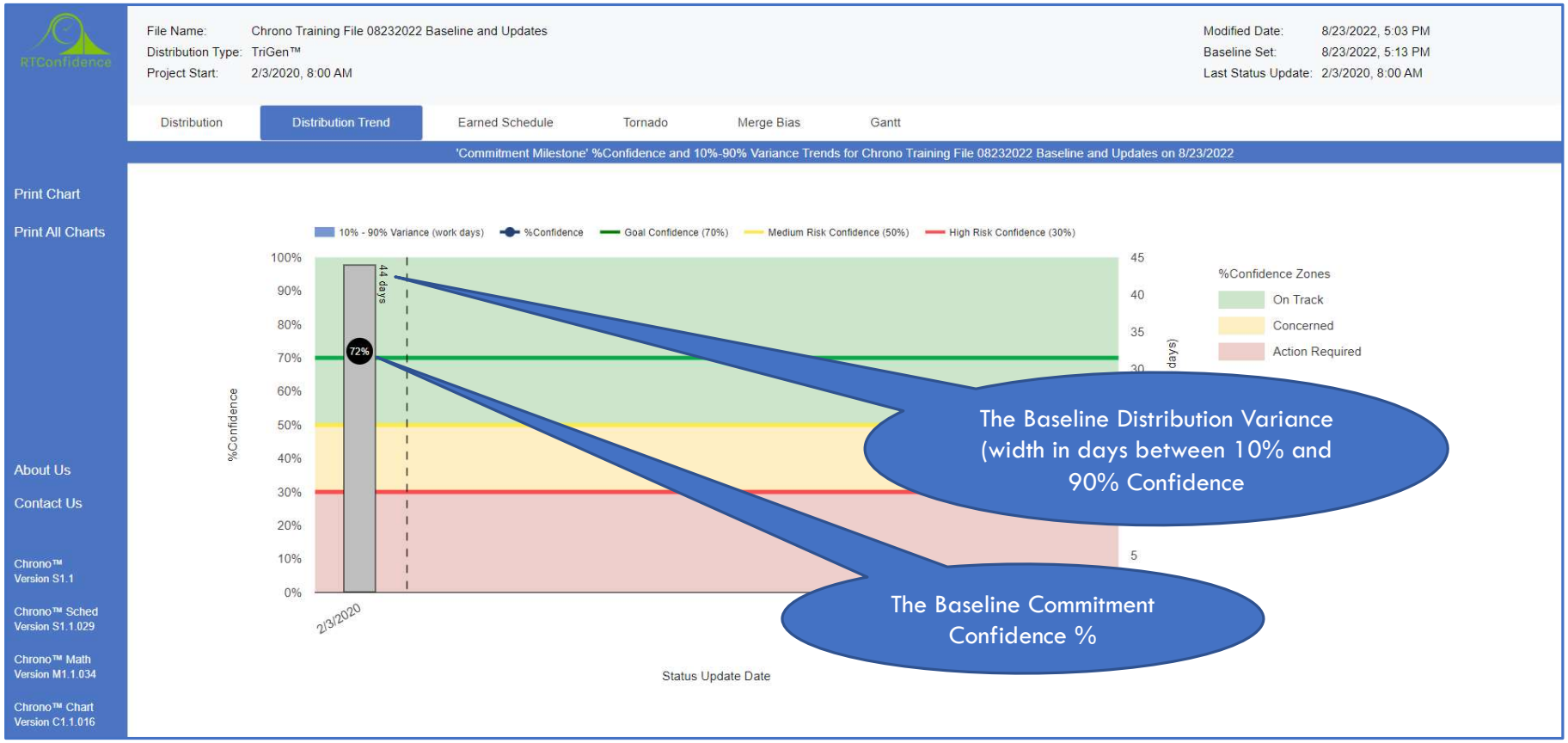
SRA Simulation Output Display

Result of Setting the Project Baseline



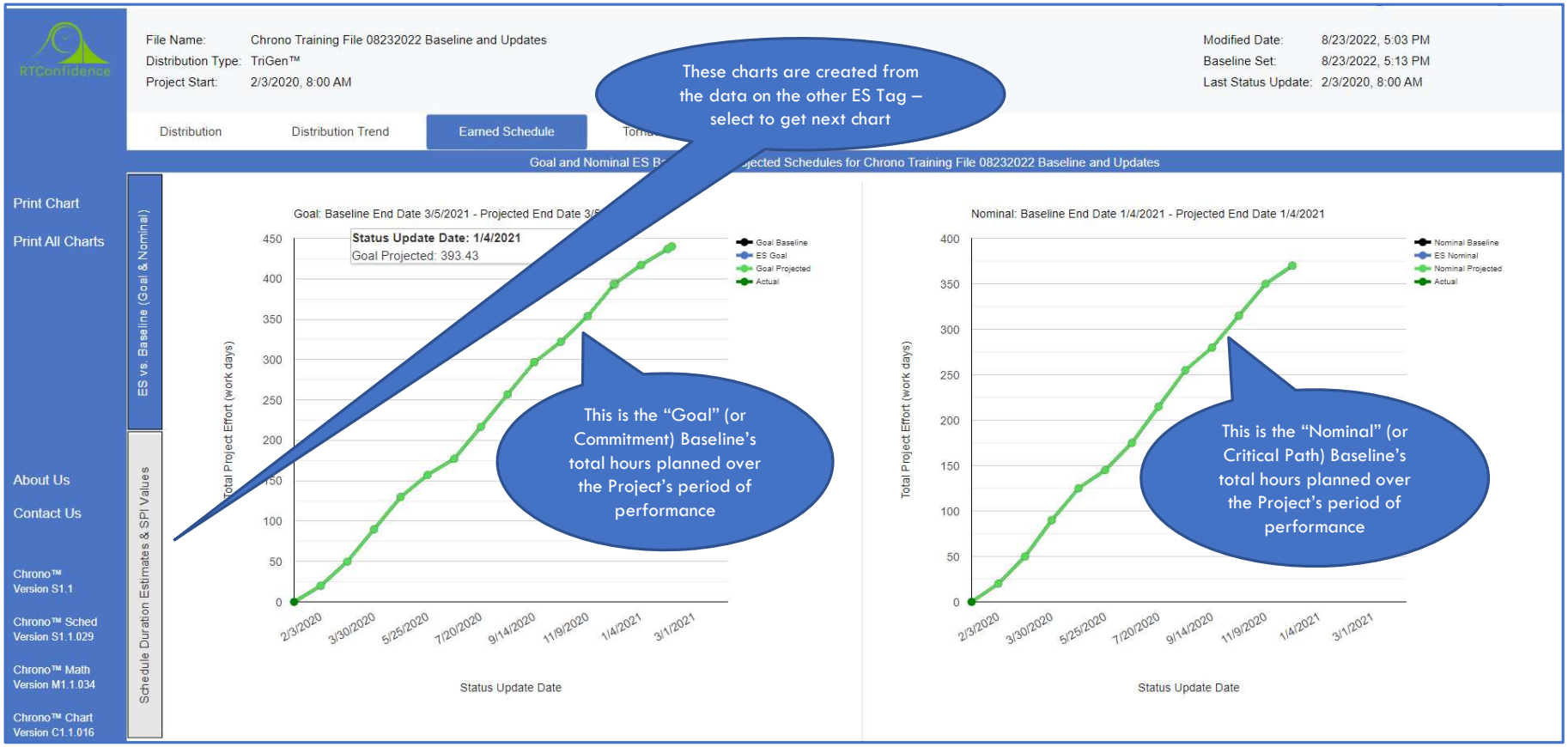
SRA Simulation Output Display

Result of Setting the Project Baseline



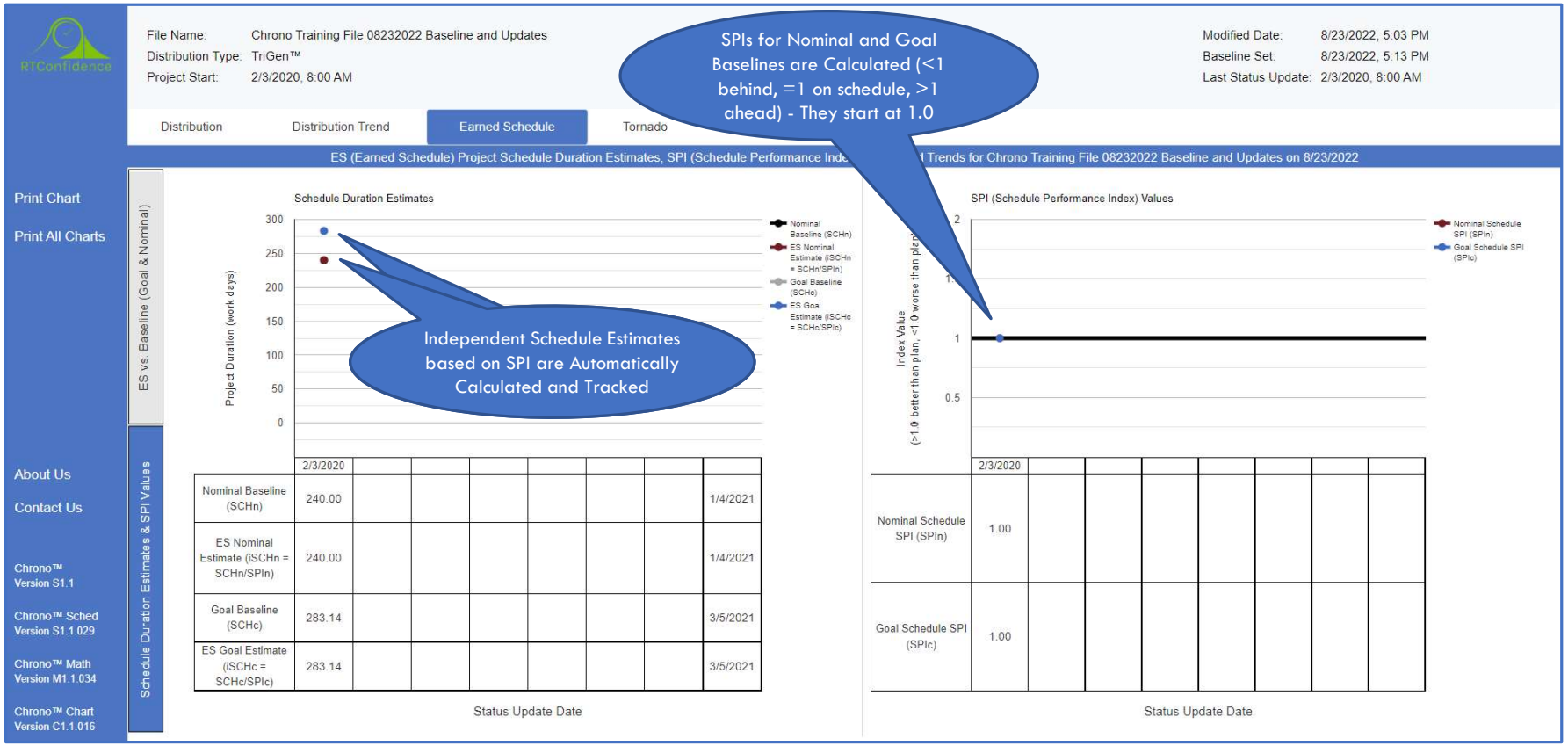
SRA Simulation Output Display

ES Metrics Set Up – will Automatically Calculate



SRA Simulation Output Display

ES Metrics Set Up – will Automatically Calculate



Project Progress Update #1

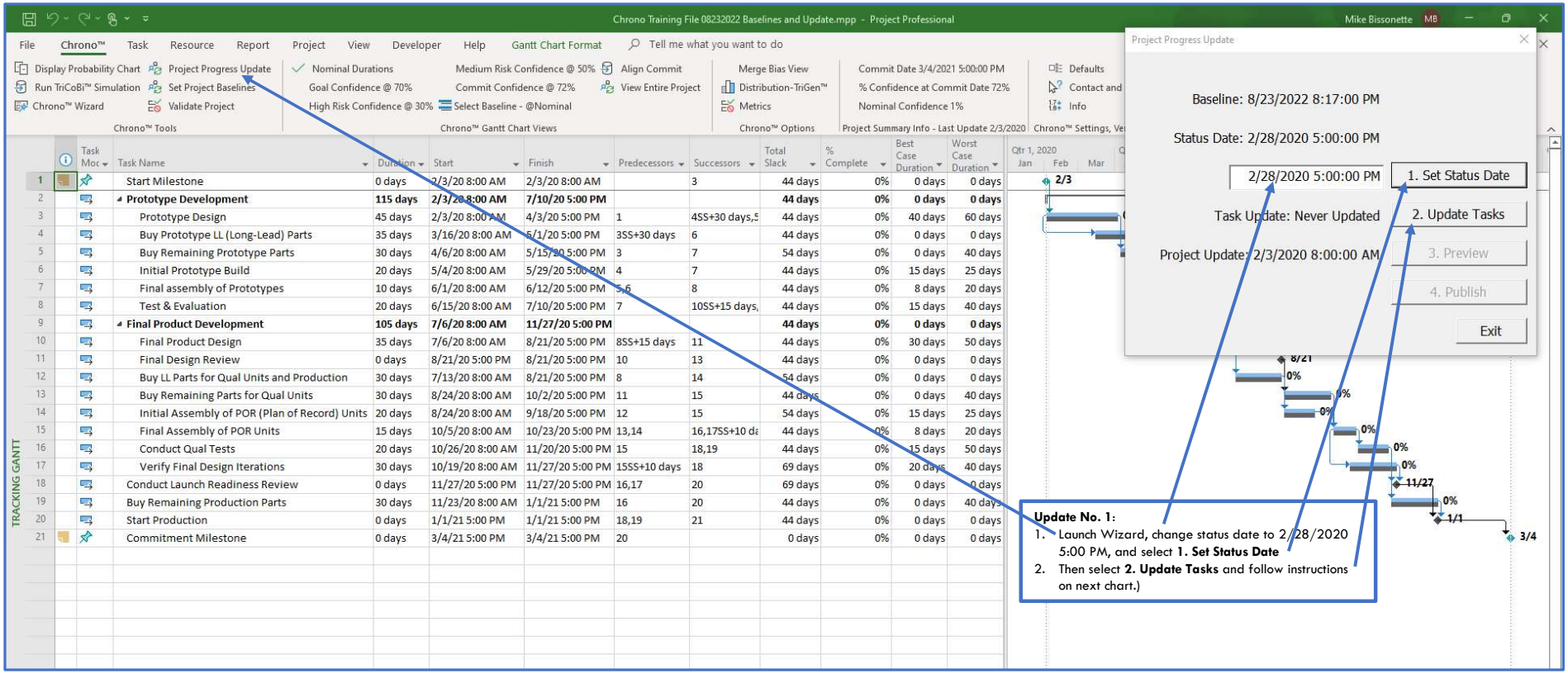
Scenario Explanation (reiterated on next charts)

RTConfidence

1. Project was Baselined to Start on February 3, 2020 (a Monday)
2. The Project Started as Planned
3. The First of the Monthly Project Progress Updates represents progress made up to 5pm Friday (2/28/2020)
4. Task 3 (Prototype Design) was the only Task worked on during that period
5. The design was more difficult than originally estimated and its completion is now expected to be delayed by 1 week (5 work-days)
   - Remaining Task (#3) Duration is now expected to be 30 more work-days
   - Must Change remaining work-days from 25 to 30, with BC=28 and WC=35
6. It is also determined by the Project Team that the "Buy Prototype LL (Long-Lead) Parts" Task (#4) will take and extra two more weeks (10 work-days) longer as well, due to Added Design Complexity
   - This Task has not begun, but we can make the Change to the Duration
   - Increase Task 4 by 10 work-days (from 35 to 45), with BC=0 and WC=0

Chrono™ Project Progress Updating

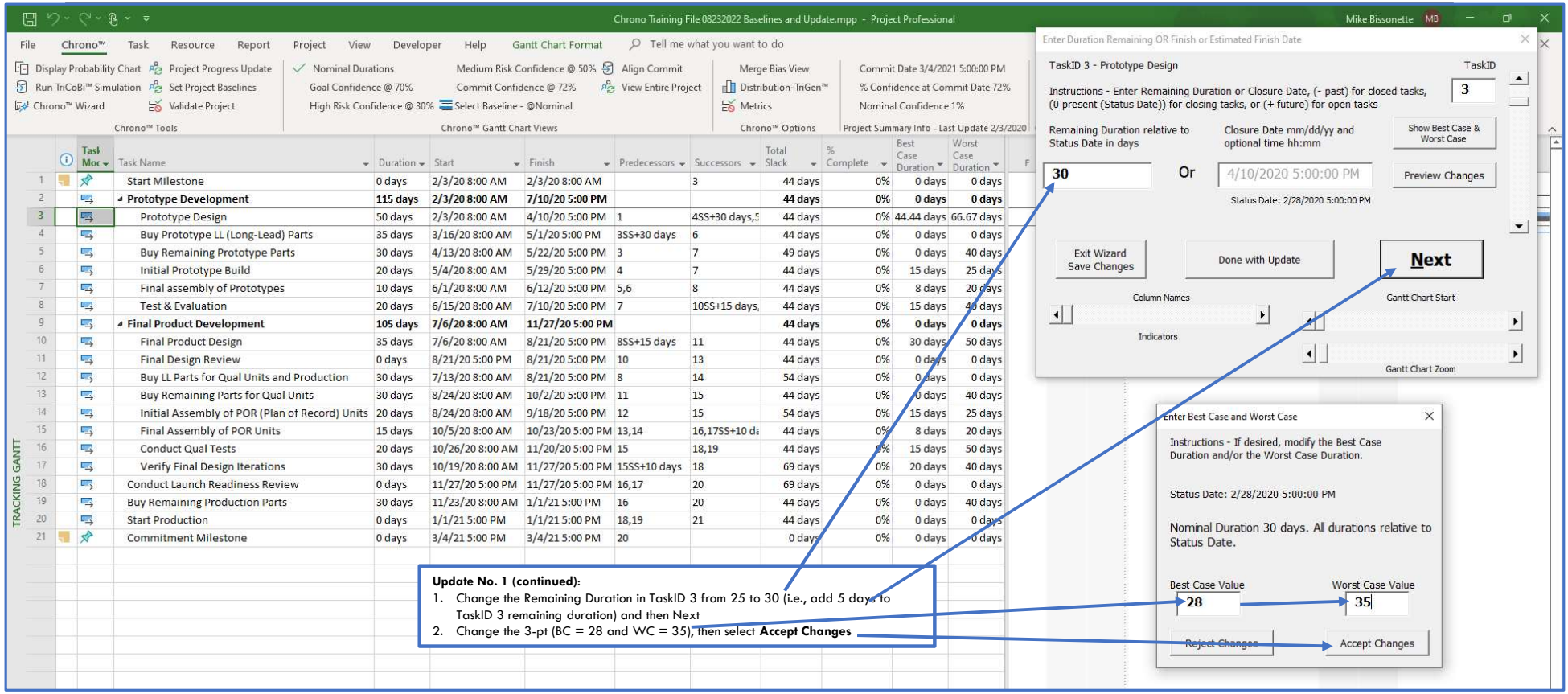
Using the Project Update Wizard



Chrono™ Project Progress Updating

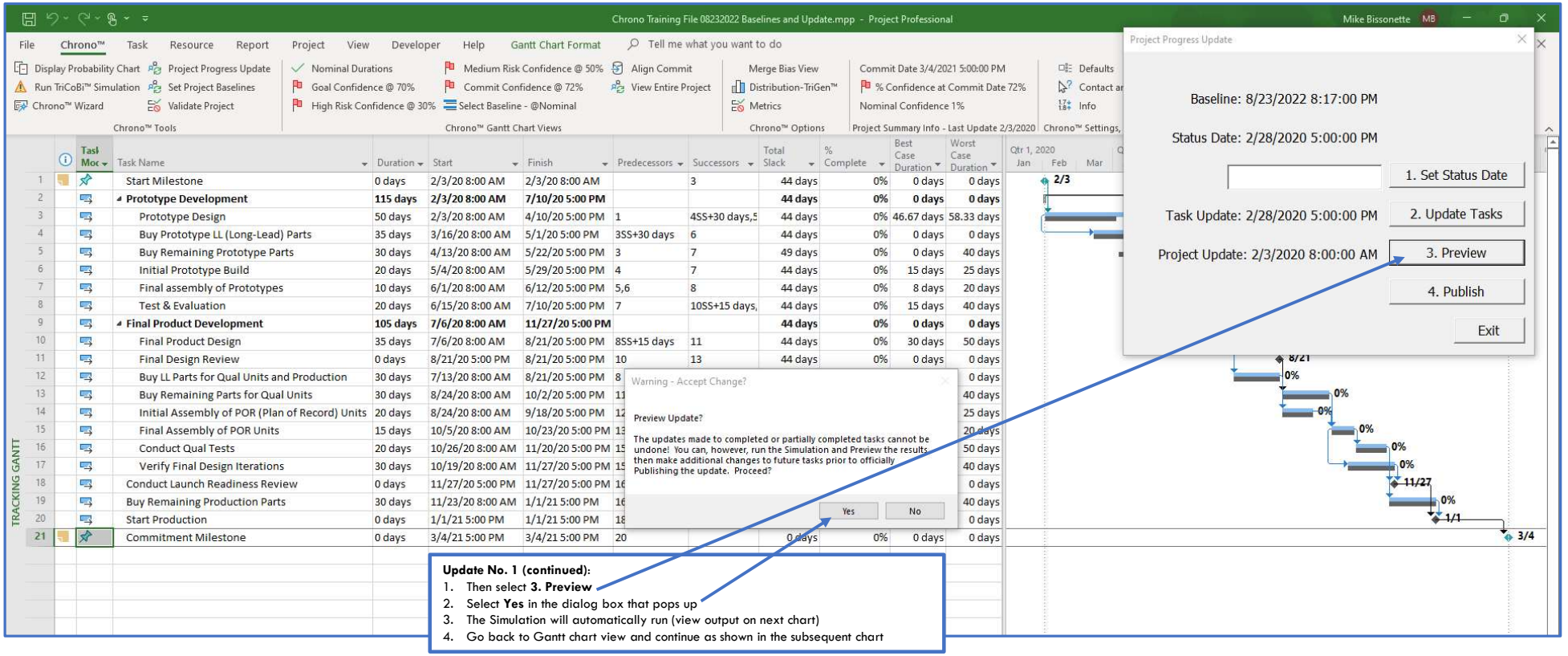
The Project Update Wizard Keeps you Honest

RTConfidence



Chrono™ Project Progress Updating

The Project Update Wizard Keeps you Honest

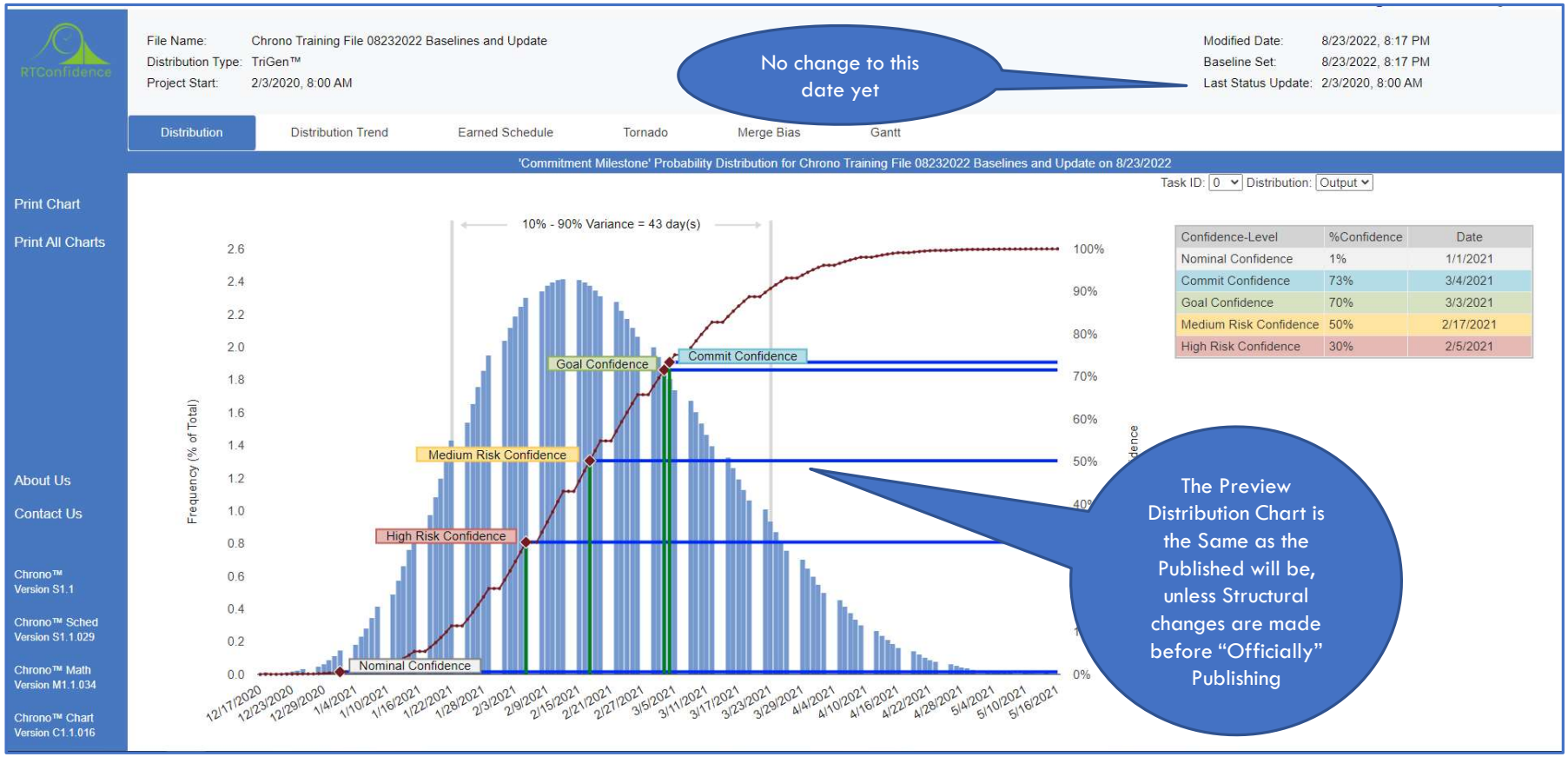


Update No. 1 (continued):

1. Then select **3. Preview**
2. Select **Yes** in the dialog box that pops up
3. The Simulation will automatically run (view output on next chart)
4. Go back to Gantt chart view and continue as shown in the subsequent chart

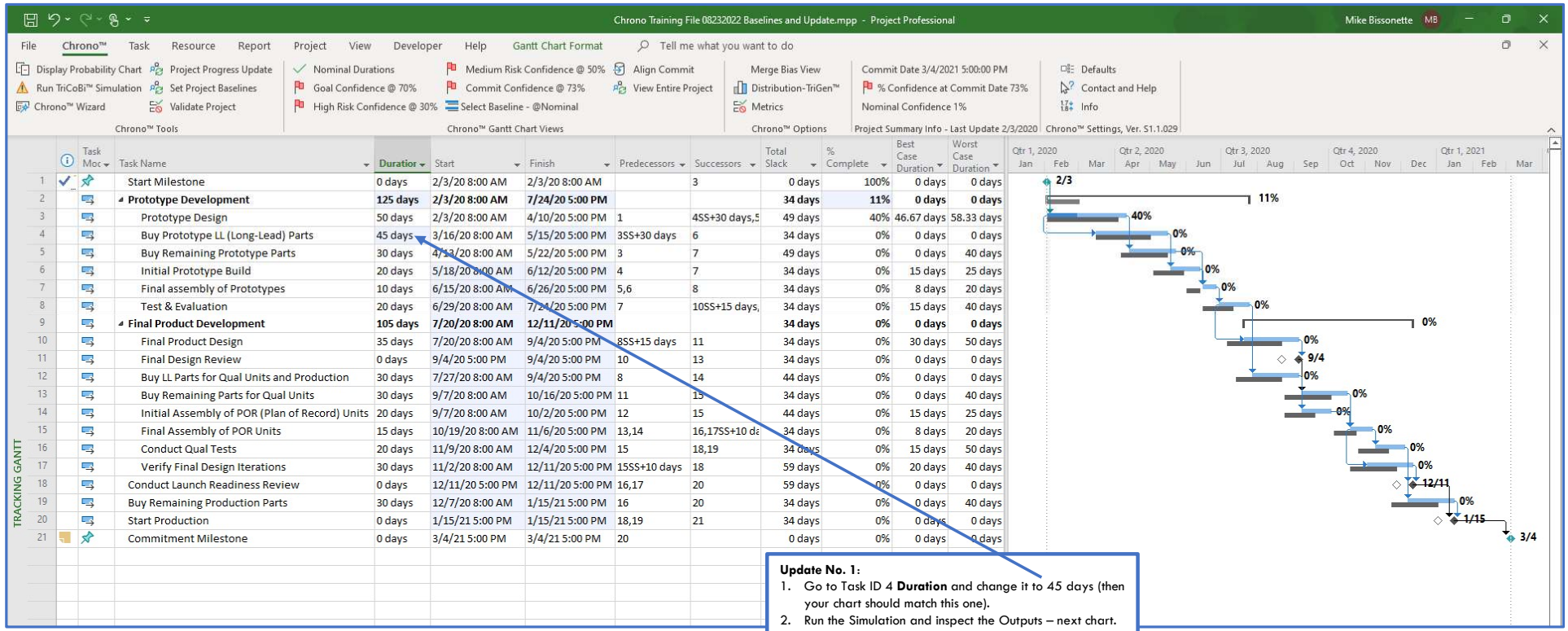
SRA Simulation Output – Update #1

Result of "Previewing" the Update



Chrono™ Project Progress Updating

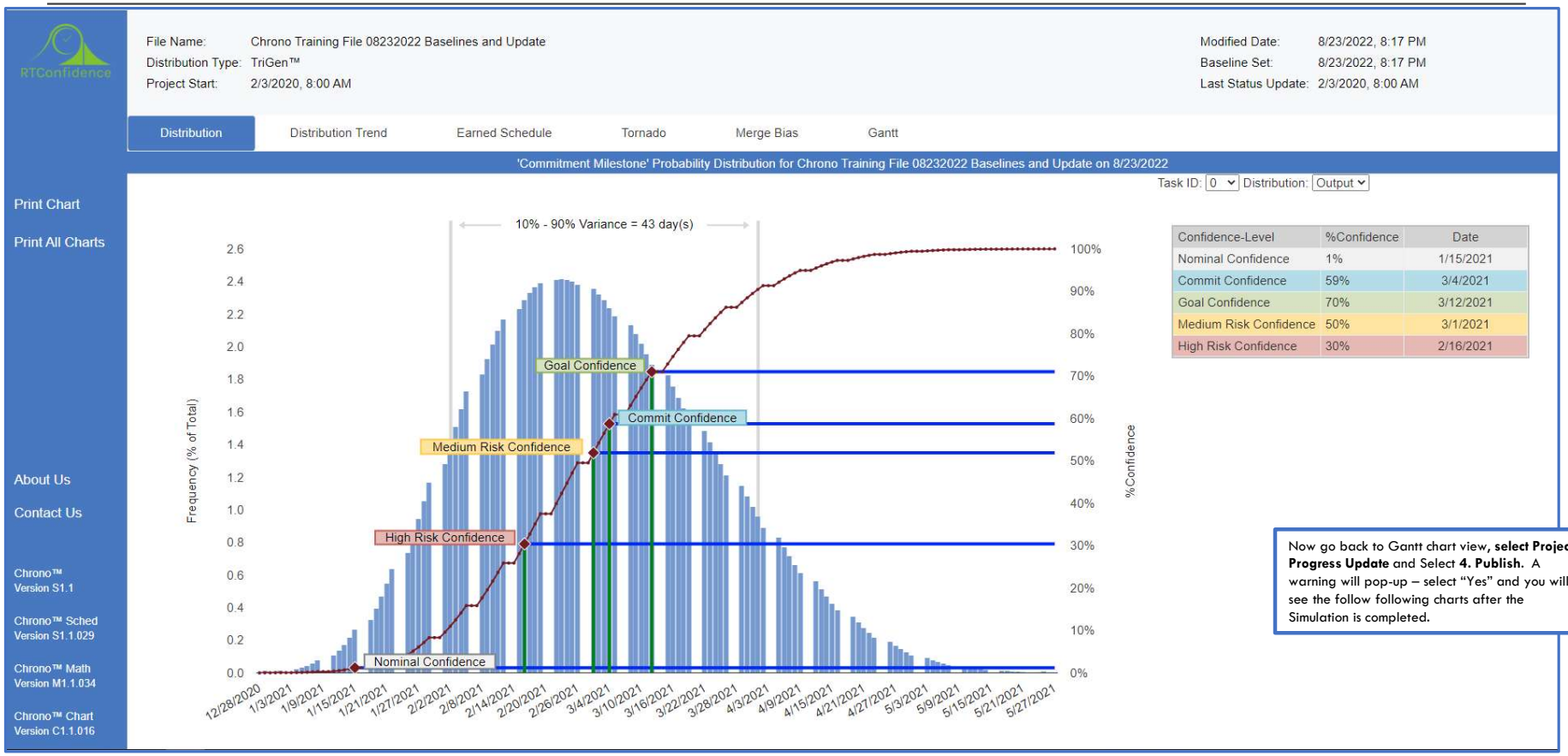
Adjusting Future Tasks after Preview, before Publishing



	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	2/3/20 8:00 AM	2/3/20 8:00 AM		3	0 days	100%	0 days	0 days
2		**Prototype Development**	**125 days**	**2/3/20 8:00 AM**	**7/24/20 5:00 PM**			**34 days**	**11%**	**0 days**	**0 days**
3		Prototype Design	50 days	2/3/20 8:00 AM	4/10/20 5:00 PM	1	4SS+30 days,5	49 days	40%	46.67 days	58.33 days
4		Buy Prototype LL (Long-Lead) Parts	45 days	3/16/20 8:00 AM	5/15/20 5:00 PM	3SS+30 days	6	34 days	0%	0 days	0 days
5		Buy Remaining Prototype Parts	30 days	4/13/20 8:00 AM	5/22/20 5:00 PM	3	7	49 days	0%	0 days	40 days
6		Initial Prototype Build	20 days	5/18/20 8:00 AM	6/12/20 5:00 PM	4	7	34 days	0%	15 days	25 days
7		Final assembly of Prototypes	10 days	6/15/20 8:00 AM	6/26/20 5:00 PM	5,6	8	34 days	0%	8 days	20 days
8		Test & Evaluation	20 days	6/29/20 8:00 AM	7/24/20 5:00 PM	7	10SS+15 days,	34 days	0%	15 days	40 days
9		**Final Product Development**	**105 days**	**7/20/20 8:00 AM**	**12/11/20 5:00 PM**			**34 days**	**0%**	**0 days**	**0 days**
10		Final Product Design	35 days	7/20/20 8:00 AM	9/4/20 5:00 PM	8SS+15 days	11	34 days	0%	30 days	50 days
11		Final Design Review	0 days	9/4/20 5:00 PM	9/4/20 5:00 PM	10	13	34 days	0%	0 days	0 days
12		Buy LL Parts for Qual Units and Production	30 days	7/27/20 8:00 AM	9/4/20 5:00 PM	8	14	44 days	0%	0 days	0 days
13		Buy Remaining Parts for Qual Units	30 days	9/7/20 8:00 AM	10/16/20 5:00 PM	11	15	34 days	0%	0 days	40 days
14		Initial Assembly of POR (Plan of Record) Units	20 days	9/7/20 8:00 AM	10/2/20 5:00 PM	12	15	44 days	0%	15 days	25 days
15		Final Assembly of POR Units	15 days	10/19/20 8:00 AM	11/6/20 5:00 PM	13,14	16,17SS+10 da	34 days	0%	8 days	20 days
16		Conduct Qual Tests	20 days	11/9/20 8:00 AM	12/4/20 5:00 PM	15	18,19	34 days	0%	15 days	50 days
17		Verify Final Design Iterations	30 days	11/2/20 8:00 AM	12/11/20 5:00 PM	15SS+10 days	18	59 days	0%	20 days	40 days
18		Conduct Launch Readiness Review	0 days	12/11/20 5:00 PM	12/11/20 5:00 PM	16,17	20	59 days	0%	0 days	0 days
19		Buy Remaining Production Parts	30 days	12/7/20 8:00 AM	1/15/21 5:00 PM	16	20	34 days	0%	0 days	40 days
20		Start Production	0 days	1/15/21 5:00 PM	1/15/21 5:00 PM	18,19	21	34 days	0%	0 days	0 days
21		Commitment Milestone	0 days	3/4/21 5:00 PM	3/4/21 5:00 PM	20		0 days	0%	0 days	0 days

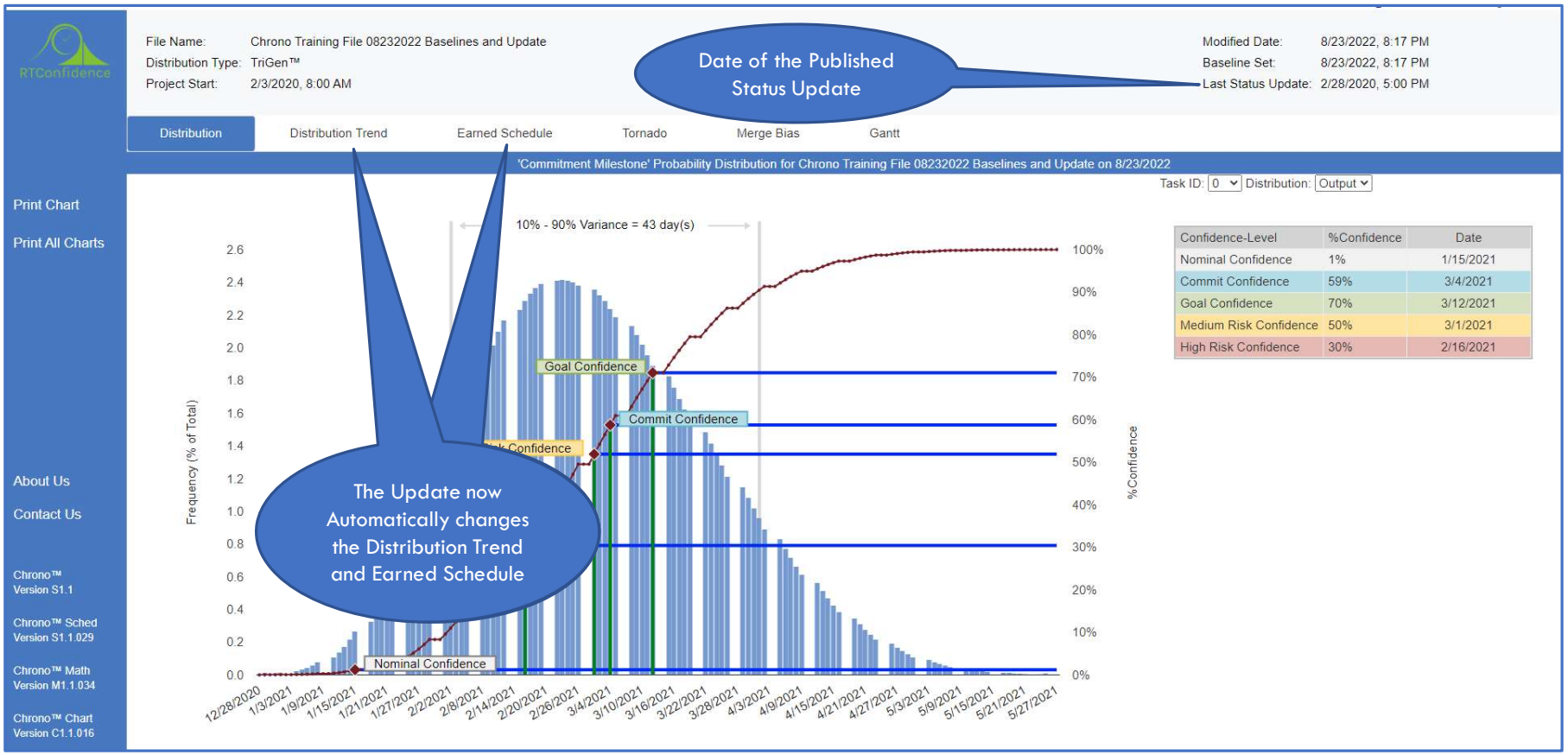
SRA Simulation Output – Update #1

Result of Second Preview – after last change



SRA Simulation Output – Update #1

Result of Officially Publishing the Update



SRA Simulation Output – Update #1

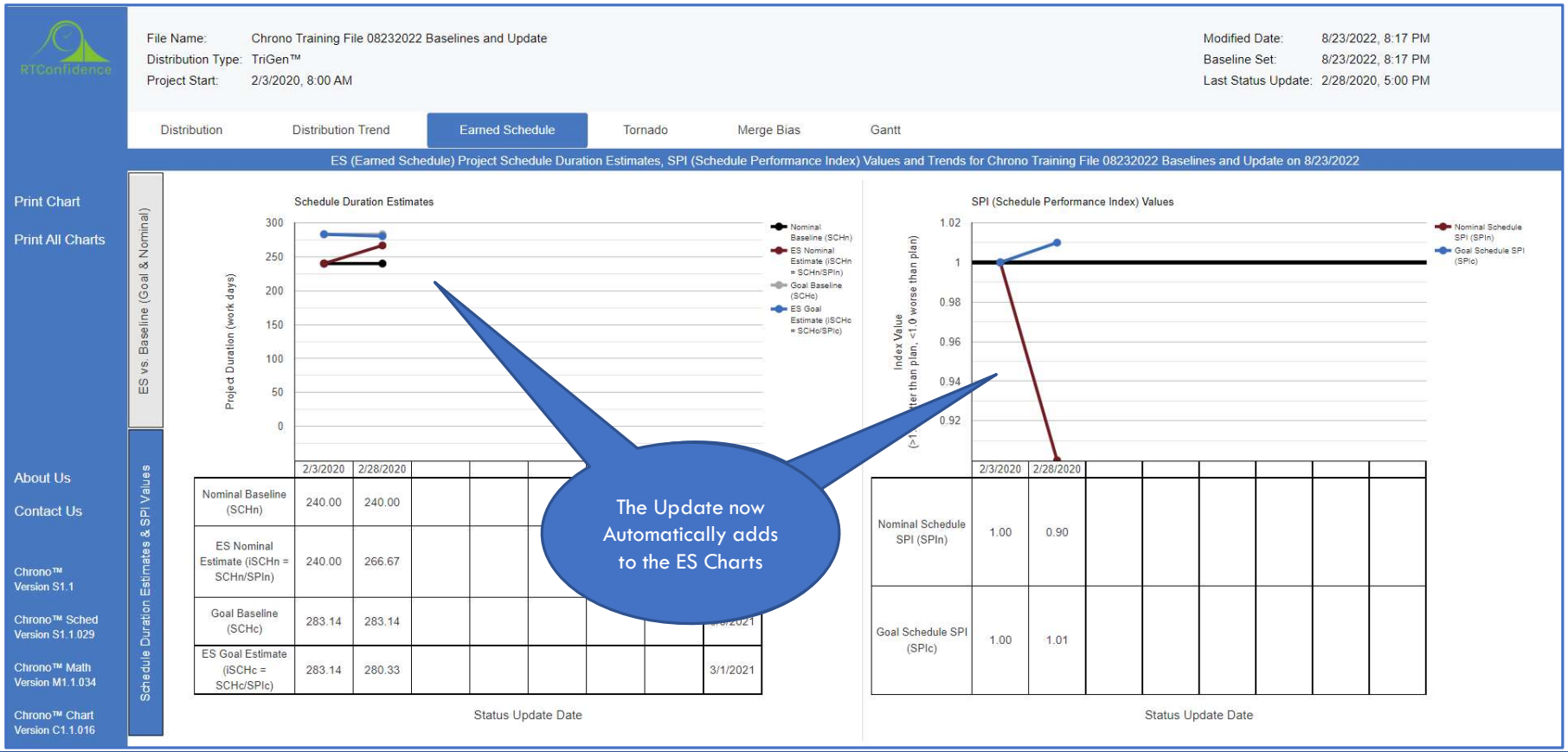
Result of Officially Publishing the Update

SRA Simulation Output – Update #1

Result of Officially Publishing the Update

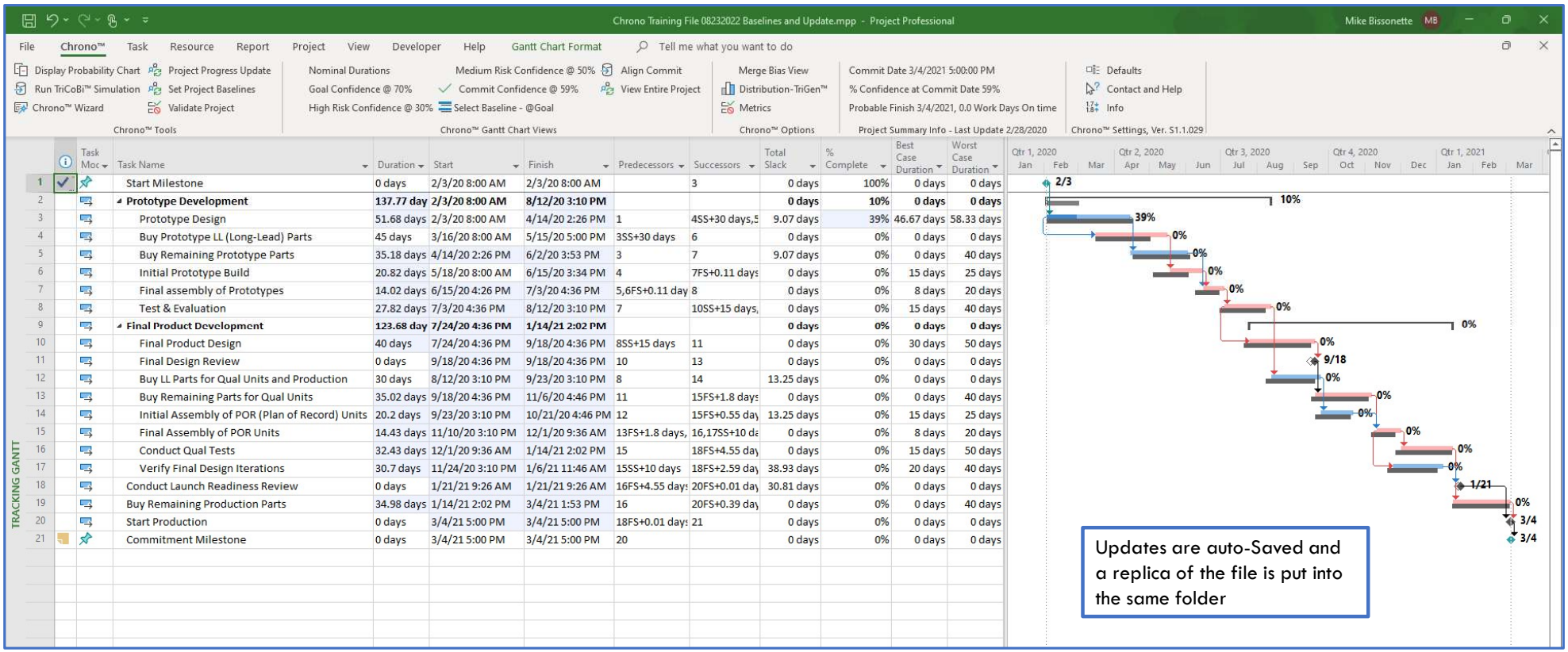
SRA Simulation Output – Update #1

Result of Officially Publishing the Update



Chrono™ Project Progress Updating

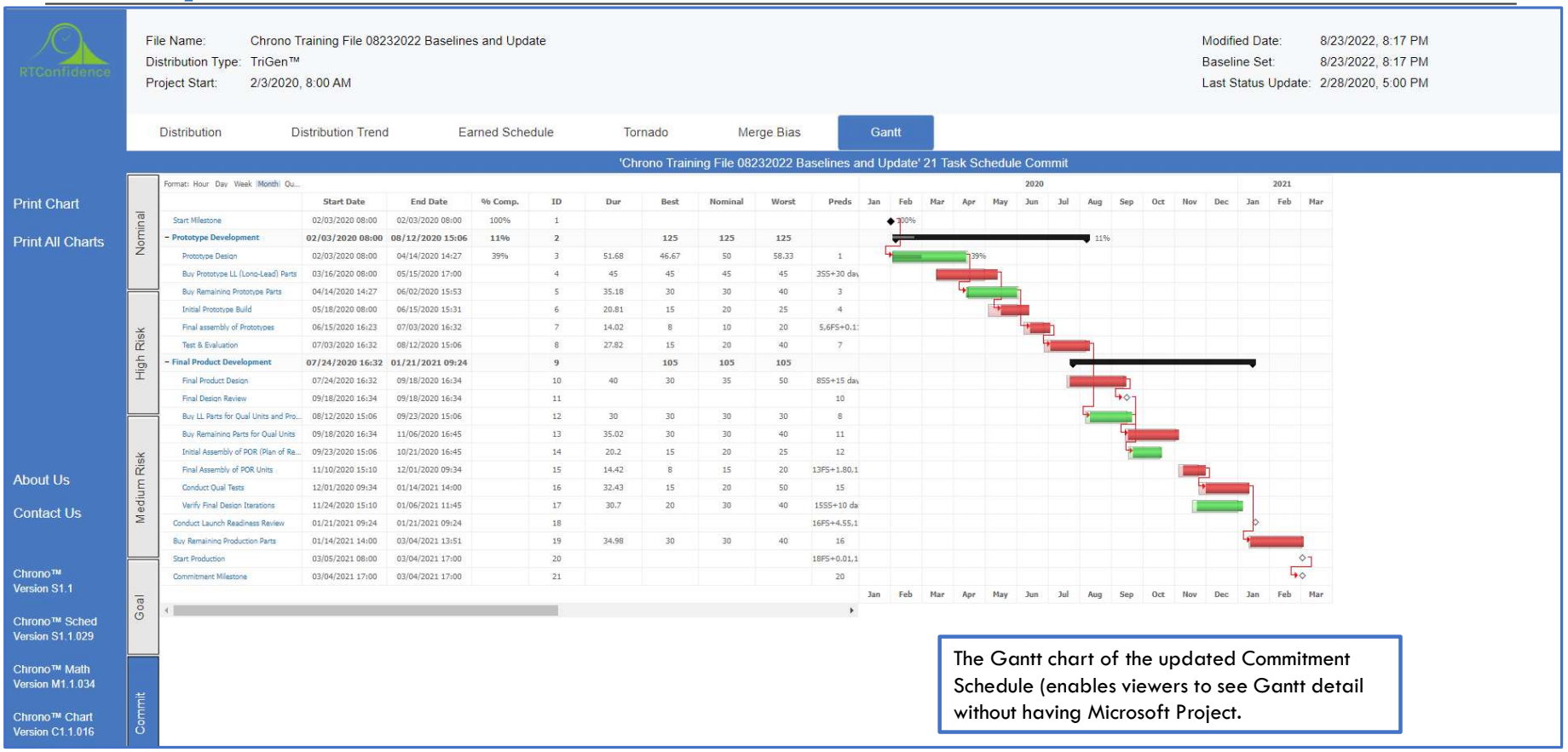
The Updated Commit Confidence Gantt View



	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Best Case Duration	Worst Case Duration
1		Start Milestone	0 days	2/3/20 8:00 AM	2/3/20 8:00 AM		3	0 days	100%	0 days	0 days
2		**Prototype Development**	**137.77 day**	**2/3/20 8:00 AM**	**8/12/20 3:10 PM**			**0 days**	**10%**	**0 days**	**0 days**
3		Prototype Design	51.68 days	2/3/20 8:00 AM	4/14/20 2:26 PM	1	4SS+30 days,5	9.07 days	39%	46.67 days	58.33 days
4		Buy Prototype LL (Long-Lead) Parts	45 days	3/16/20 8:00 AM	5/15/20 5:00 PM	3SS+30 days	6	0 days	0%	0 days	0 days
5		Buy Remaining Prototype Parts	35.18 days	4/14/20 2:26 PM	6/2/20 3:53 PM	3	7	9.07 days	0%	0 days	40 days
6		Initial Prototype Build	20.82 days	5/18/20 8:00 AM	6/15/20 3:34 PM	4	7FS+0.11 days	0 days	0%	15 days	25 days
7		Final assembly of Prototypes	14.02 days	6/15/20 4:26 PM	7/3/20 4:36 PM	5,6FS+0.11 day	8	0 days	0%	8 days	20 days
8		Test & Evaluation	27.82 days	7/3/20 4:36 PM	8/12/20 3:10 PM	7	10SS+15 days,	0 days	0%	15 days	40 days
9		**Final Product Development**	**123.68 day**	**7/24/20 4:36 PM**	**1/14/21 2:02 PM**			**0 days**	**0%**	**0 days**	**0 days**
10		Final Product Design	40 days	7/24/20 4:36 PM	9/18/20 4:36 PM	8SS+15 days	11	0 days	0%	30 days	50 days
11		Final Design Review	0 days	9/18/20 4:36 PM	9/18/20 4:36 PM	10	13	0 days	0%	0 days	0 days
12		Buy LL Parts for Qual Units and Production	30 days	8/12/20 3:10 PM	9/23/20 3:10 PM	8	14	13.25 days	0%	0 days	0 days
13		Buy Remaining Parts for Qual Units	35.02 days	9/18/20 4:36 PM	11/6/20 4:46 PM	11	15FS+1.8 days	0 days	0%	0 days	40 days
14		Initial Assembly of POR (Plan of Record) Units	20.2 days	9/23/20 3:10 PM	10/21/20 4:46 PM	12	15FS+0.55 day	13.25 days	0%	15 days	25 days
15		Final Assembly of POR Units	14.43 days	11/10/20 3:10 PM	12/1/20 9:36 AM	13FS+1.8 days,	16,17SS+10 da	0 days	0%	8 days	20 days
16		Conduct Qual Tests	32.43 days	12/1/20 9:36 AM	1/14/21 2:02 PM	15	18FS+4.55 day	0 days	0%	15 days	50 days
17		Verify Final Design Iterations	30.7 days	11/24/20 3:10 PM	1/6/21 11:46 AM	15SS+10 days	18FS+2.59 day	38.93 days	0%	20 days	40 days
18		Conduct Launch Readiness Review	0 days	1/21/21 9:26 AM	1/21/21 9:26 AM	16FS+4.55 days	20FS+0.01 day	30.81 days	0%	0 days	0 days
19		Buy Remaining Production Parts	34.98 days	1/14/21 2:02 PM	3/4/21 1:53 PM	16	20FS+0.39 day	0 days	0%	0 days	40 days
20		Start Production	0 days	3/4/21 5:00 PM	3/4/21 5:00 PM	18FS+0.01 days	21	0 days	0%	0 days	0 days
21		Commitment Milestone	0 days	3/4/21 5:00 PM	3/4/21 5:00 PM	20		0 days	0%	0 days	0 days

Chrono™ Project Progress Updating

The Updated Commit Confidence Gantt View



The Gantt chart of the updated Commitment Schedule (enables viewers to see Gantt detail without having Microsoft Project.

Our Books and Content Say it All!

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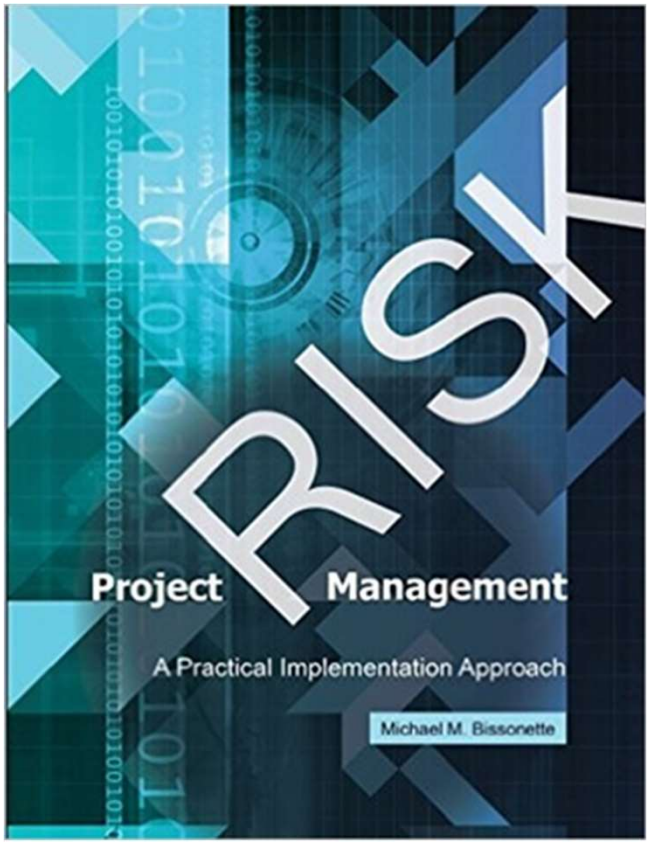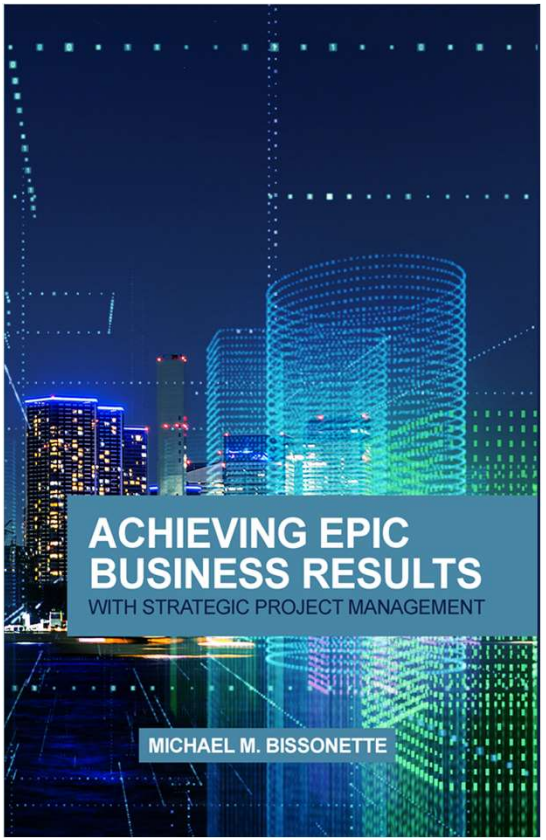
Please go to RTConfidence.com for More Info