WHEN WILL IT BE DONE?

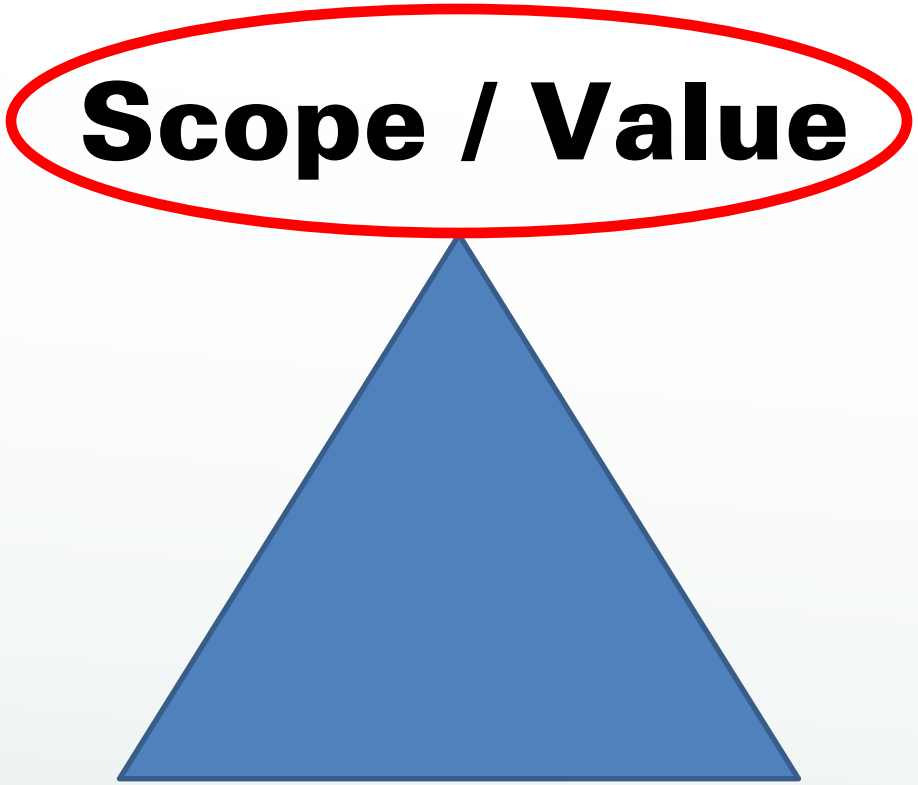
HOW TO FORECAST ANSWERS TO YOUR TOUGHEST AGILE QUESTIONS

William W. Davis, MSPM, PMP

2020 Project Management Symposium

About Me

- 30+ years in Information Technology
- Agilist / Scrum Master / Project Manager
- Pluralsight Author
- Conference Speaker
- Adjunct Instructor
- Creator of Statistical PERT®



When will the **project's scope** be delivered?

When can the next **production release** be ready?

What will be delivered by our **hard delivery date**?

Why Create an Agile Forecast?

- **It aligns the agile team and their stakeholders** on the current progress of the team's development effort
- **It fosters good decision-making** by forecasting whether stakeholder expectations are feasible or infeasible
- **It's easy to do what-if analysis** using historical data and subjective judgment

STATISTICAL PERT®

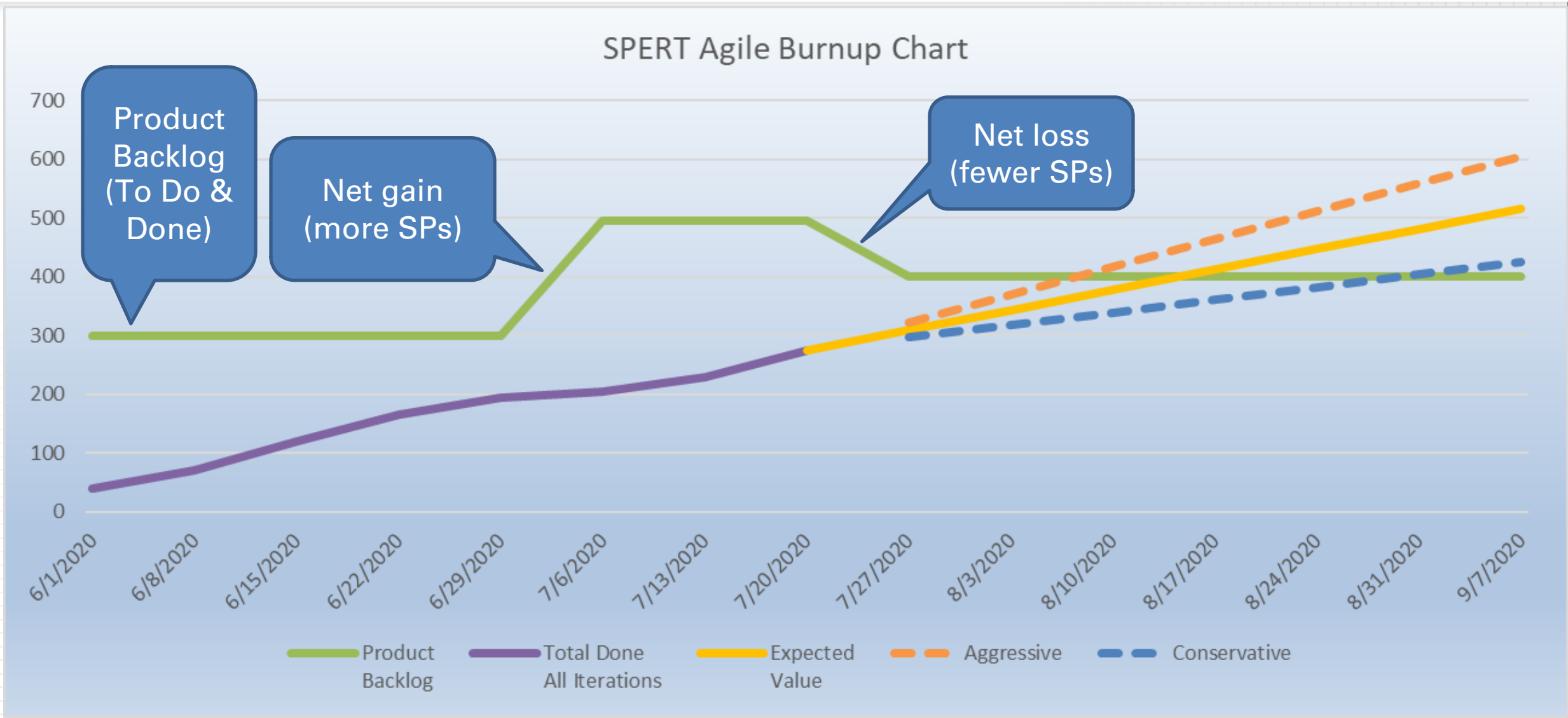
ESTIMATION MADE EASY

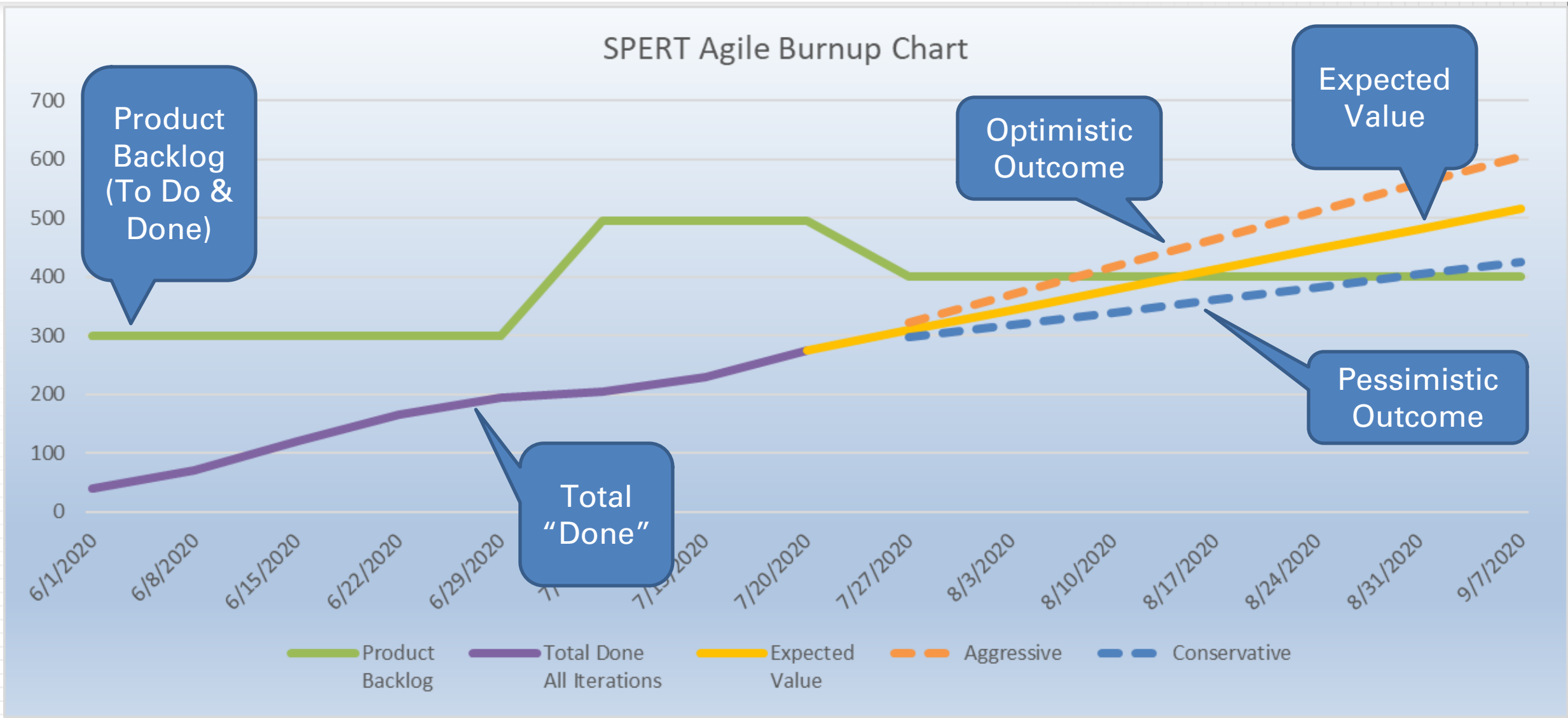
Statistical PERT®

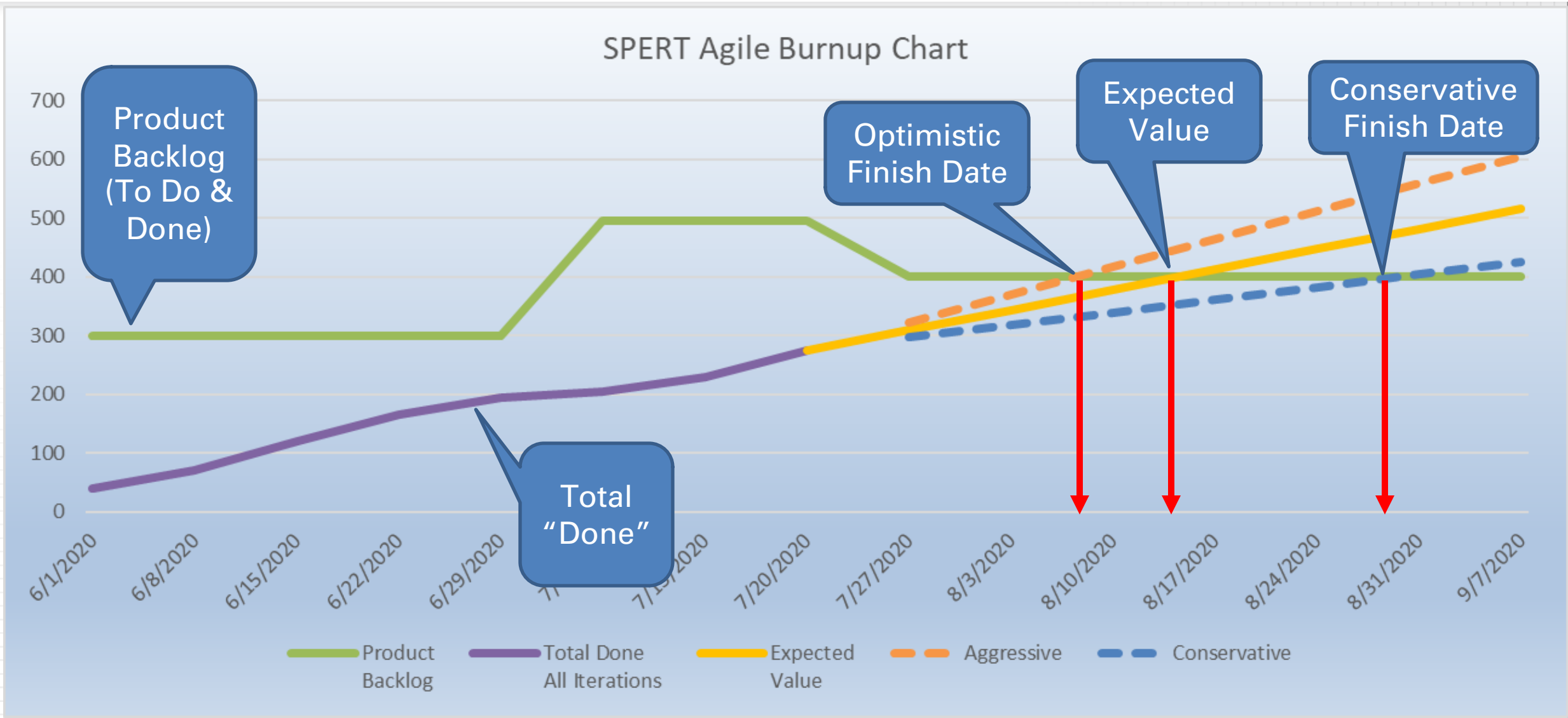
- Freely licensed (GNU GPL) Excel spreadsheet
- Compatible with Excel 2010 and later
- Nothing to install—it's just a spreadsheet!
- No macros, no security issues
- Free download with no registration
- Presented at the 2016 PMI Global Congress

Why Use a ***Probabilistic*** Agile Burn-up Chart?

- It ***visually*** conveys a lot of information quickly
- It shows ***three*** **possible outcomes**
  - Optimistic
  - Expected
  - Conservative
- It's ***easy*** to keep updated as things change






SPERT Agile Burnup Chart
Product Backlog (To Do & Done)
Optimistic Finish Date
Expected Value
Conservative Finish Date
Total "Done"
700
600
500
400
300
200
100
0
6/1/2020
6/8/2020
6/15/2020
6/22/2020
6/29/2020
7/20/2020
7/27/2020
8/3/2020
8/10/2020
8/17/2020
8/24/2020
8/31/2020
9/7/2020
Product Backlog
Total Done All Iterations
Expected Value
Aggressive
Conservative

The Scenario

- A Scrum team starts working on a new product
- They estimate in story points *(the unit-of-measure is irrelevant)*
- Their initial product backlog has 300 story points *(incl. epics)*
- They start working the last week of May
- The new product must be ready before Labor Day
- They use one-week sprints *(sprint length is immaterial)*

Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

Click for help

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
							47.2	21.6
1	6/1/2020	300	40	40	300			
2	6/8/2020	260	30	70	300			
3	6/15/2020	230	50	120	300		#N/A	#N/A
4	6/22/2020	180	45	165	300		#N/A	#N/A
5	6/29/2020	135	30	195	300		#N/A	#N/A
6	7/6/2020	300	10	205	495		#N/A	#N/A
7	7/13/2020	290	25	230	495		#N/A	#N/A
8	7/20/2020	265	45	275	495	275	#N/A	#N/A
9	7/27/2020	125			400	309	322	297
10	8/3/2020	125			400	344	369	318
11	8/10/2020	125			400	378	417	340
12	8/17/2020	125			400	413	464	361
13	8/24/2020	125			400	447	511	383
14	8/31/2020	125			400	481	558	404
15	9/7/2020	125			400	516	605	426
16								

Avg Work Completed All Iterations	Standard Deviation All Iterations
34.4	12.4

Use Only History since Iteration ID	Average Work Completed Since Then
	34.4

Average (Velocity) Override	Standard Deviation Override

SPERT Average (Velocity)	SPERT Standard Deviation
34.4	12.4

PMSYMPOSIUM.UMD.EDU

Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
							40.2	29.8
1	6/1/2020	300	40	40	300			
2	6/8/2020	260	30	70	300	70		
3	6/15/2020	230			300	105	110	100
4	6/22/2020	230			300	140	150	130
5	6/29/2020	230			300	17		
6	7/6/2020	230			300	2		
7	7/13/2020	230			300	2		
8	7/20/2020	230			300	2		
9	7/27/2020	230			300	3		
10	8/3/2020	230			300	3		
11	8/10/2020	230			300	3		
12	8/17/2020	230			300	4		
13	8/24/2020	230			300	45		
14	8/31/2020	230			300	490	552	428
15	9/7/2020	230			300	525	592	458
16								

You can control how optimistic / aggressive and pessimistic / conservative you want the forecast lines to be.

(Avoid extreme values like < 5% or > 95%)

PMSYMPOSIUM.UMD.EDU

Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
1	6/1/2020				0			
2	6/8/2020				0			
3	6/15/2020						#N/A	#N/A
4	6/22/2020						#N/A	#N/A
5	6/29/2020						#N/A	#N/A
6	7/6/2020						#N/A	#N/A
7	7/13/2020				0		#N/A	#N/A
8	7/20/2020				0		#N/A	#N/A
9	7/27/2020				0		#N/A	#N/A
10	8/3/2020				0		#N/A	#N/A
11	8/10/2020				0		#N/A	#N/A
12	8/17/2020				0		#N/A	#N/A
13	8/24/2020				0		#N/A	#N/A
14	8/31/2020				0		#N/A	#N/A
15	9/7/2020				0		#N/A	#N/A
16								

Step 1. Populate the "Iteration (Sprint) Finish Date" column

PMSYMPOSIUM.UMD.EDU

Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
1	6/1/2020	300			300			
2	6/8/2020				0			
3	6/15/2020						#N/A	#N/A
4	6/22/2020						#N/A	#N/A
5	6/29/2020						#N/A	#N/A
6	7/6/2020						#N/A	#N/A
7	7/13/2020						#N/A	#N/A
8	7/20/2020						#N/A	#N/A
9	7/27/2020				0		#N/A	#N/A
10	8/3/2020				0		#N/A	#N/A
11	8/10/2020				0		#N/A	#N/A
12	8/17/2020				0		#N/A	#N/A
13	8/24/2020				0		#N/A	#N/A
14	8/31/2020				0		#N/A	#N/A
15	9/7/2020				0		#N/A	#N/A
16								

Step 2. Estimate the Product Backlog and put the estimated value of the whole backlog in cell C5

PMSYMPOSIUM.UMD.EDU

Statistical PERT® (SPERT®) *Normal Edition* Agile Burnup Chart

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
1	6/1/2020	300	40	40	300			
2	6/8/2020				40			
3	6/15/2020						#N/A	#N/A
4	6/22/2020						#N/A	#N/A
5	6/29/2020						#N/A	#N/A
6	7/6/2020						#N/A	#N/A
7	7/13/2020						#N/A	#N/A
8	7/20/2020						#N/A	#N/A
9	7/27/2020				40		#N/A	#N/A
10	8/3/2020				40		#N/A	#N/A
11	8/10/2020				40		#N/A	#N/A
12	8/17/2020				40		#N/A	#N/A
13	8/24/2020				40		#N/A	#N/A
14	8/31/2020				40		#N/A	#N/A
15	9/7/2020				40		#N/A	#N/A
16								

Step 3. When the iteration ends, total all the "Done" items and enter that value in cell D5

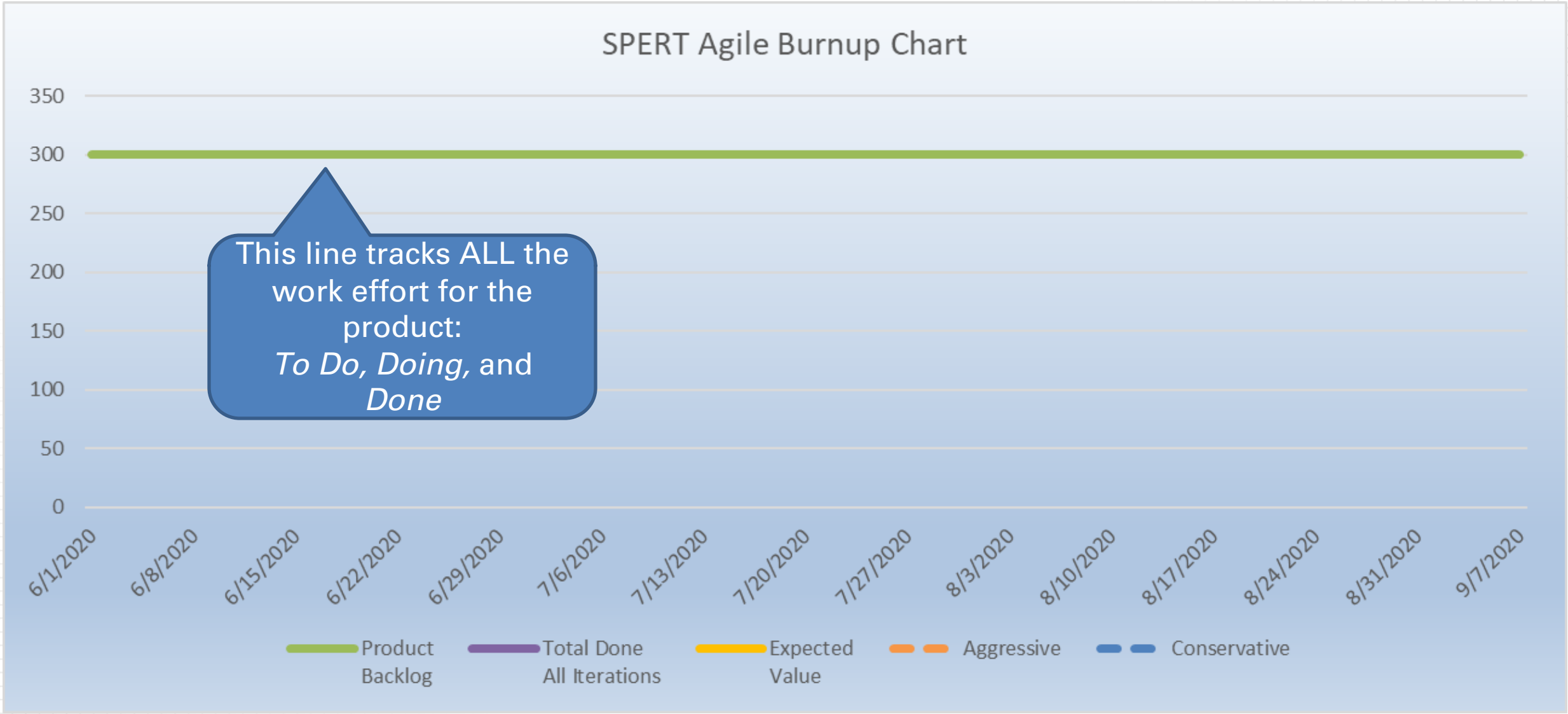
PMSYMPOSIUM.UMD.EDU

Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
1	6/1/2020	300	40	40	300			
2	6/8/2020	260			300			
3	6/15/2020	260			300		#N/A	#N/A
4	6/22/2020	260					#N/A	#N/A
5	6/29/2020	260					#N/A	#N/A
6	7/6/2020	260					#N/A	#N/A
7	7/13/2020	260					#N/A	#N/A
8	7/20/2020	260					#N/A	#N/A
9	7/27/2020	260					#N/A	#N/A
10	8/3/2020	260					#N/A	#N/A
11	8/10/2020	260					#N/A	#N/A
12	8/17/2020	260					#N/A	#N/A
13	8/24/2020	260			300		#N/A	#N/A
14	8/31/2020	260			300		#N/A	#N/A
15	9/7/2020	260			300		#N/A	#N/A
16								

Step 4. Examine the Product Backlog. Enter the estimated value of all remaining Product Backlog items in cell C6 and copy that value down to the last row with a finish date entry

PMSYMPOSIUM.UMD.EDU



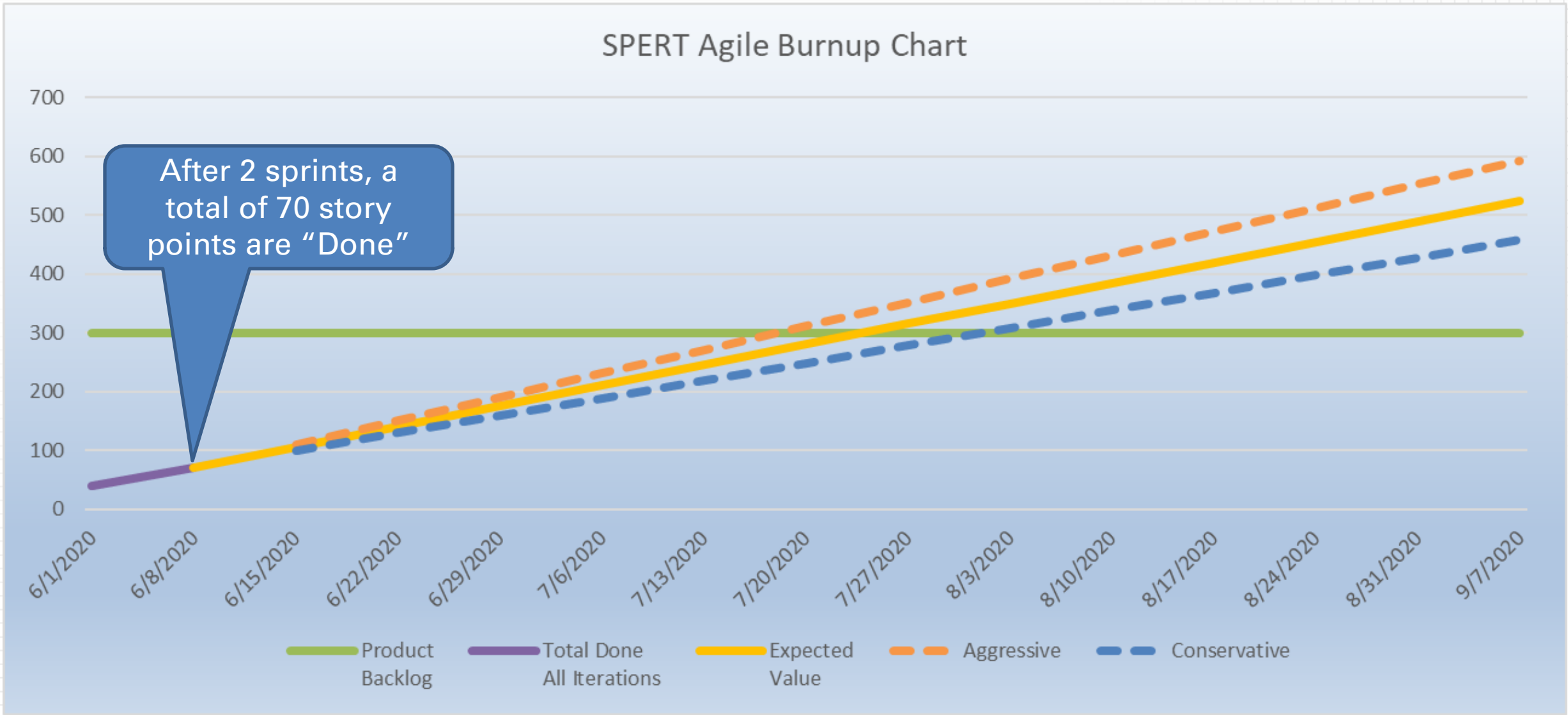
Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0% 40.2	Conservative 85.0% 29.8
1	6/1/2020	300	40	40	300			
2	6/8/2020	260	30			70		
3	6/15/2020	230				05	110	100
4	6/22/2020	230				40	150	130
5	6/29/2020	230				75	191	159
6	7/6/2020	230				10	231	189
7	7/13/2020	230				45	271	219
8	7/20/2020	230				80	311	249
9	7/27/2020	230				315	351	279
10	8/3/2020	230			300	350	391	309
11	8/10/2020	230			300	385	432	338
12	8/17/2020	230			300	420	472	368
13	8/24/2020	230			300	455	512	398
14	8/31/2020	230			300	490	552	428
15	9/7/2020	230			300	525	592	458
16								

Now, just repeat the process of entering in the sum of all "Done" items in the "Actual 'Done' This Iteration" column, and…

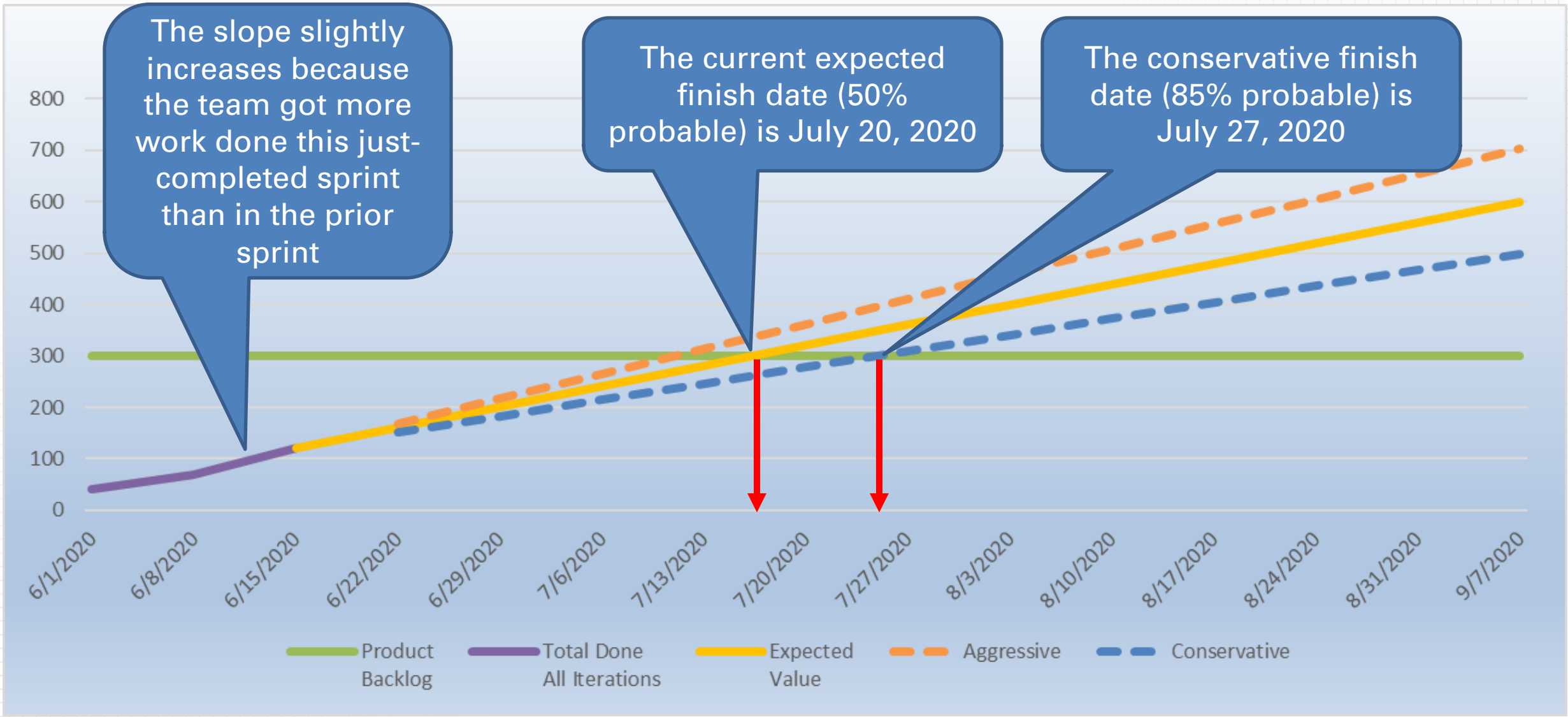
…the revised amount remaining in the Product Backlog

PMSYMPOSIUM.UMD.EDU



Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

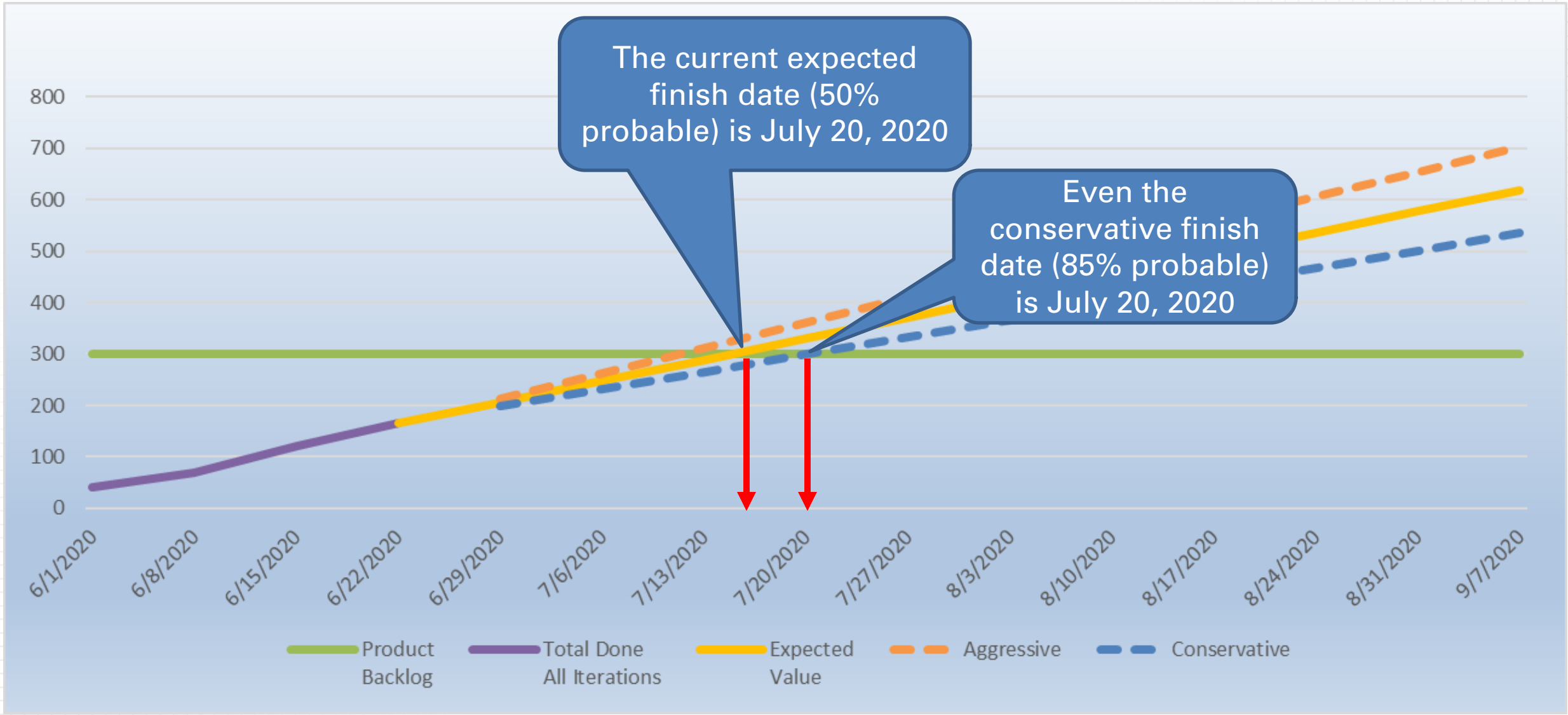
ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
							48.5	31.5
1	6/1/2020	300	40	40	300			
2	6/8/2020	260	30	70	300			
3	6/15/2020	230	50	120	300	120	#N/A	#N/A
4	6/22/2020	180			300	160	168	152
5	6/29/2020	180			300	200	217	183
6	7/6/2020	180			300	240	265	215
7	7/13/2020	180			300	280	314	246
8	7/20/2020	180			300	320	362	278
9	7/27/2020	180			300	360	411	309
10	8/3/2020	180			300	400	459	341
11	8/10/2020	180			300	440	508	372
12	8/17/2020	180			300	480	556	404
13	8/24/2020	180			300	520	605	435
14	8/31/2020	180			300	560	653	467
15	9/7/2020	180			300	600	702	498
16								



Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
							48.9	33.6
1	6/1/2020	300	40	40	300			
2	6/8/2020	260	30	70	300			
3	6/15/2020	230	50	120	300		#N/A	#N/A
4	6/22/2020	180	45	165	300	165	#N/A	#N/A
5	6/29/2020	135			300	206	214	199
6	7/6/2020	135			300	248	263	232
7	7/13/2020	135			300	289	312	266
8	7/20/2020	135			300	330	361	299
9	7/27/2020	135			300	371	410	333
10	8/3/2020	135			300	413	458	367
11	8/10/2020	135			300	454	507	400
12	8/17/2020	135			300	495	556	434
13	8/24/2020	135			300	536	605	467
14	8/31/2020	135			300	578	654	501
15	9/7/2020	135			300	619	703	534
16								

PMSYMPOSIUM.UMD.EDU

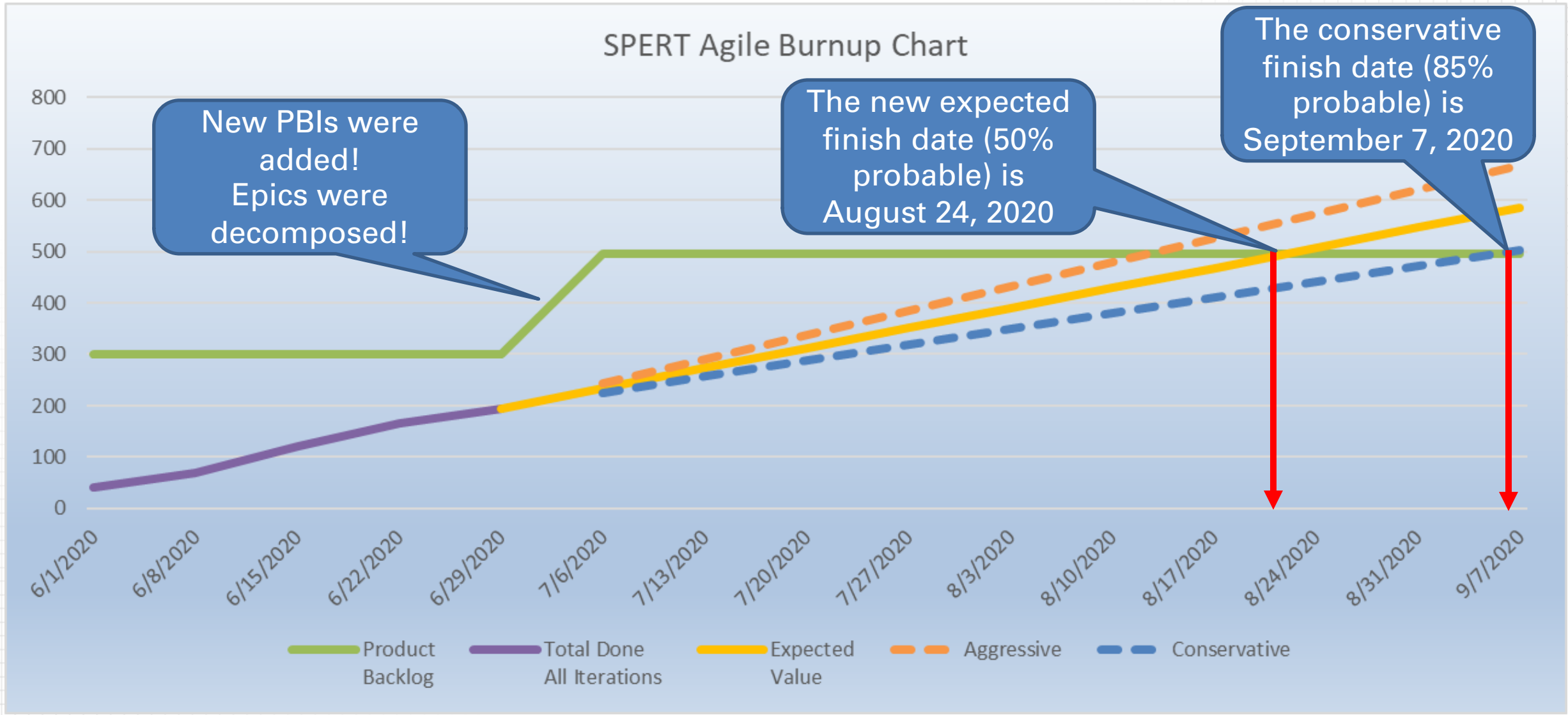


Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
							47.3	30.7
1	6/1/2020	300	40	40	300			
2	6/8/2020	260	30	70	300			
3	6/15/2020	230	50	120	300		#N/A	#N/A
4	6/22/2020	180	45	165	300		#N/A	#N/A
5	6/29/2020	135	30	195	300	195	#N/A	#N/A
6	7/6/2020	300			495	234	242	226
7	7/13/2020	300			495	273	290	256
8	7/20/2020	300				312	337	287
9	7/27/2020	300				351	384	318
10	8/3/2020	300				390	431	349
11	8/10/2020	300				429	479	379
12	8/17/2020	300				468	526	410
13	8/24/2020	300			495	507	573	441
14	8/31/2020	300			495	546	621	471
15	9/7/2020	300			495	585	668	502
16								

New PBIs were added!
Epics were decomposed!

PMSYMPOSIUM.UMD.EDU

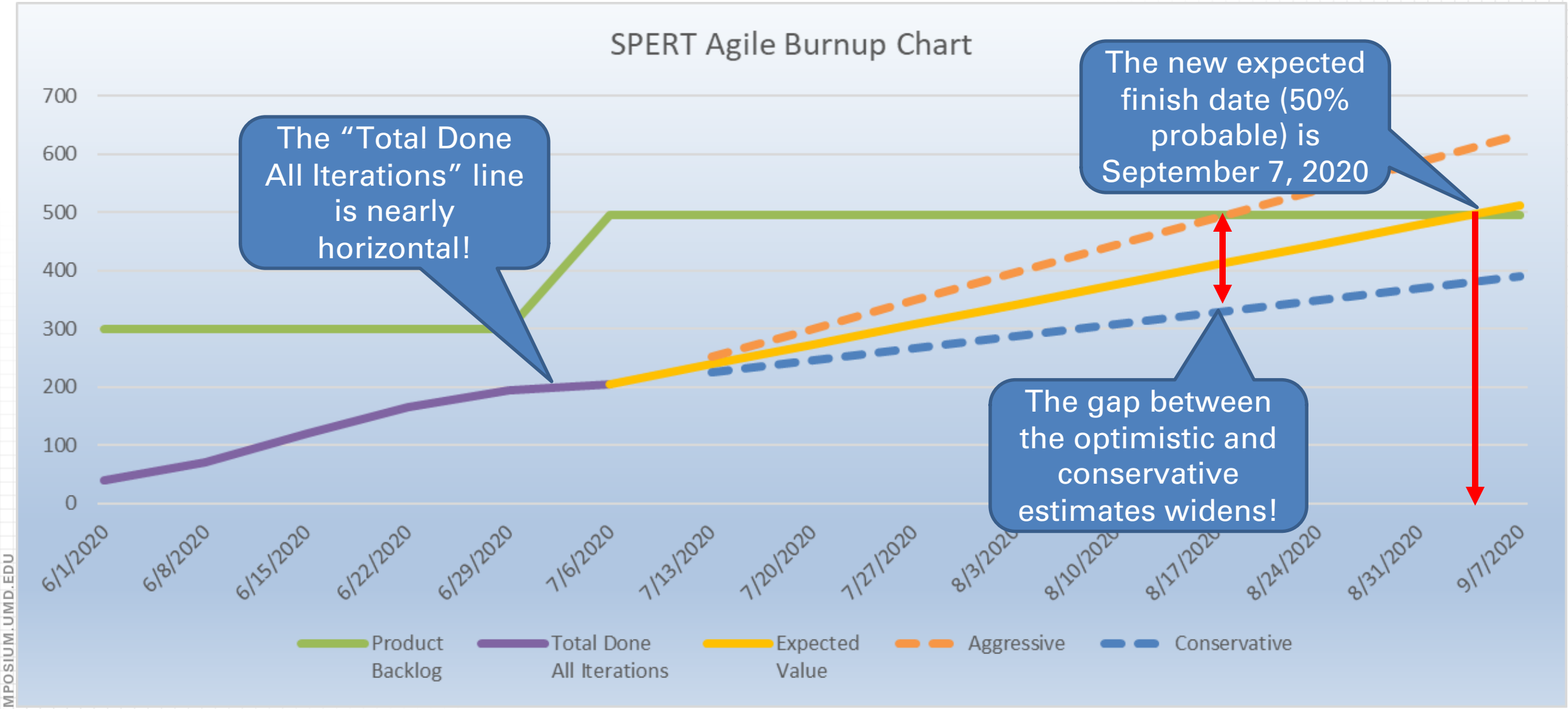


Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0%	Conservative 85.0%
							47.7	20.6
1	6/1/2020	300	40	40	300			
2	6/8/2020	260	30	70	300			
3	6/15/2020	230	50	120	300		#N/A	#N/A
4	6/22/2020	180	45	165	300		#N/A	#N/A
5	6/29/2020	135	30	195	300		#N/A	#N/A
6	7/6/2020	300	10	205	495	205	#N/A	#N/A
7	7/13/2020	290			495	239	253	226
8	7/20/2020	290				273	300	246
9	7/27/2020	290				308	348	267
10	8/3/2020	290				342	396	288
11	8/10/2020	290				376	443	308
12	8/17/2020	290				410	491	329
13	8/24/2020	290			495	444	539	350
14	8/31/2020	290			495	478	586	370
15	9/7/2020	290			495	513	634	391
16								

Production Problem! Re-allocated team members!

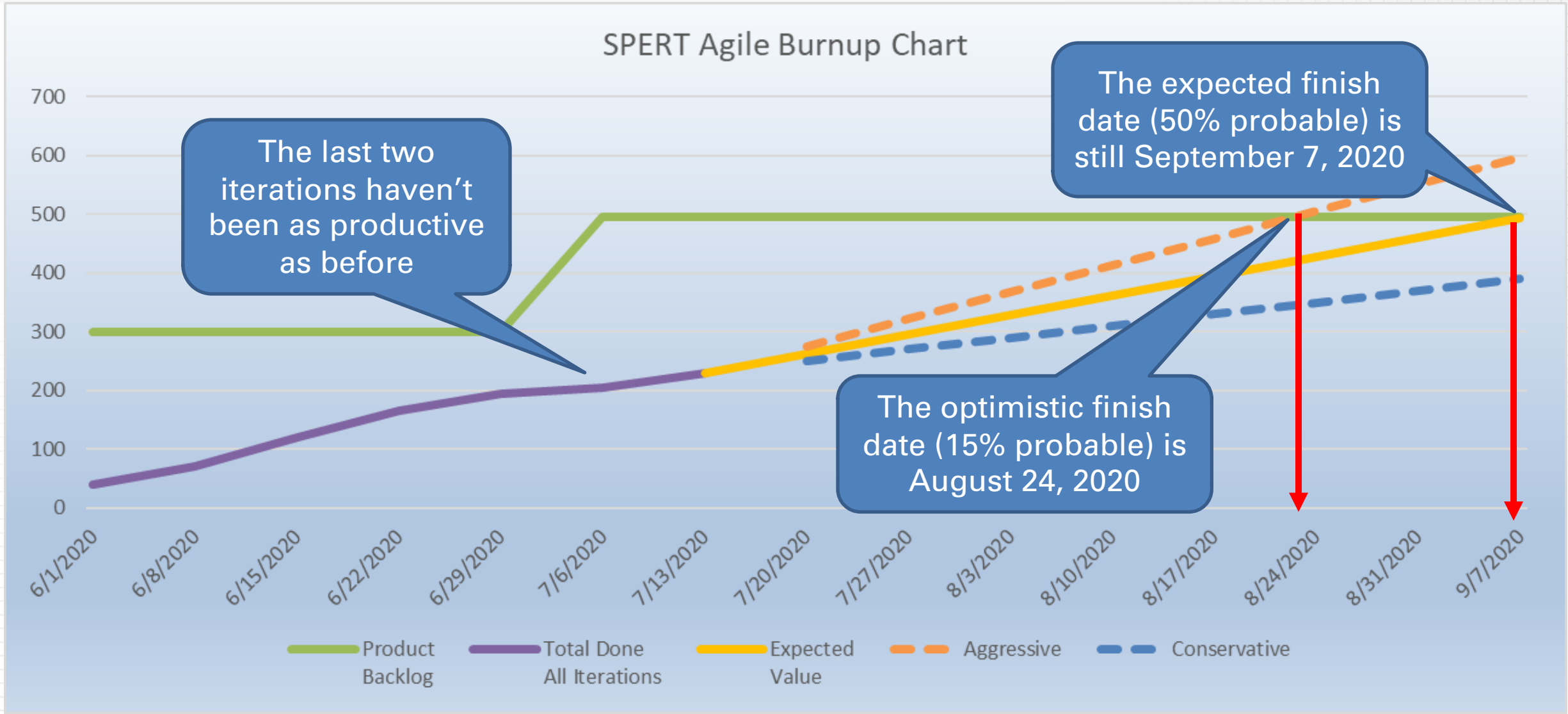
PMSYMPOSIUM.UMD.EDU



Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0% 45.8	Conservative 85.0% 19.9
1	6/1/2020	300	40	40	300			
2	6/8/2020	260	30	70	300			
3	6/15/2020	230	50	120	300		#N/A	#N/A
4	6/22/2020	180	45	165	300		#N/A	#N/A
5	6/29/2020	135	30	195	300		#N/A	#N/A
6	7/6/2020	300	10	205	495		#N/A	#N/A
7	7/13/2020	290	25	230	495	230	#N/A	#N/A
8	7/20/2020	265			495	263	276	250
9	7/27/2020	265			495	296	322	270
10	8/3/2020	265			495	329	367	290
11	8/10/2020	265			495	361	413	310
12	8/17/2020	265			495	394	459	330
13	8/24/2020	265			495	427	505	349
14	8/31/2020	265			495	460	551	369
15	9/7/2020	265			495	493	596	389
16								

PMSYMPOSIUM.UMD.EDU



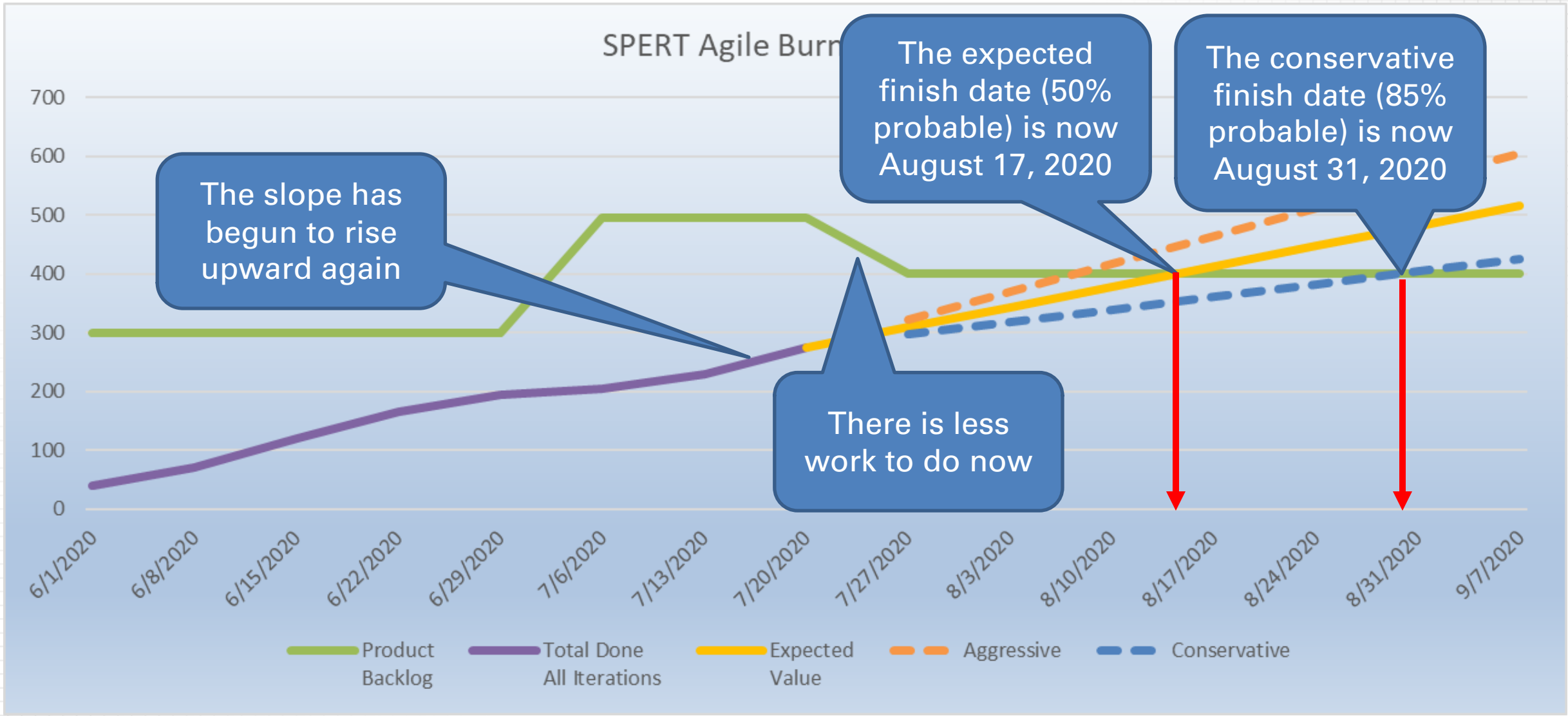
Statistical PERT® (SPERT®) *Normal Edition* *Agile Burnup Chart*

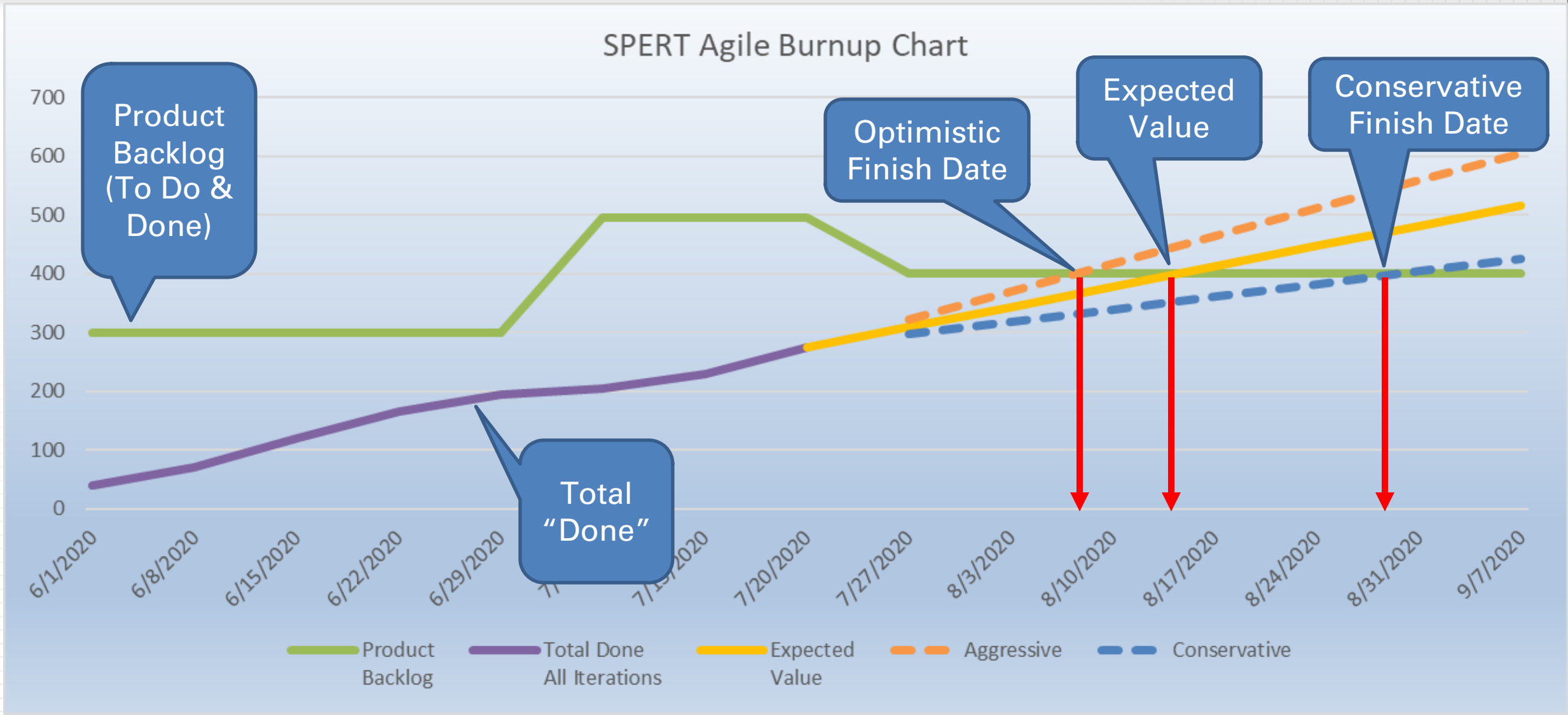
ID	Iteration (Sprint) Finish Dates	Product Backlog	Actual "Done" This Iteration	Total "Done" All Iterations	Prod. Backlog: All To-Do + Total "Done"	Expected Value	Aggressive 15.0% 47.2	Conservative 85.0% 21.6
1	6/1/2020	300	40	40	300			
2	6/8/2020	260	30	70	300			
3	6/15/2020	230	50	120	300		#N/A	#N/A
4	6/22/2020	180	45	165			#N/A	#N/A
5	6/29/2020	135	30	195			#N/A	#N/A
6	7/6/2020	300	10	205			#N/A	#N/A
7	7/13/2020	290	25	230			#N/A	#N/A
8	7/20/2020	265	45			275	#N/A	#N/A
9	7/27/2020	125				309	322	297
10	8/3/2020	125			400	344	369	318
11	8/10/2020	125			400	378	417	340
12	8/17/2020	125			400	413	464	361
13	8/24/2020	125			400	447	511	383
14	8/31/2020	125			400	481	558	404
15	9/7/2020	125			400	516	605	426
16								

The team is re-focused on the work of their Product Backlog

The Product Owner removes items from the Product Backlog!

PMSYMPOSIUM.UMD.EDU





STATISTICAL PERT®

ESTIMATION MADE EASY

projectmanagement.com/deliverables/

PMI's **ProjectManagement.com** sister website

Project Management.com

Webinars | Templates | Community | Topics | Knowledge & Tools | Events

Click **Templates** and then choose **Deliverables**

Home > Deliverables >

Deliverables

Statistical PERT™ (SPERT™) Estimation Worksheet

DELIVERABLE
by William Davis

Updated for 202 T is an estimation technique that project professionals use to ety

Statistical PERT™ (SPERT™) Estimation Worksheet (*freely licensed* Excel template!)

While numerous key performance indicators (KPIs) typically influence IT projects generally, the benefit of tracking all of them may be outweighed by the cost to do so. Therefore, each project must carefully select and manage those KPIs most relevant to its specific situation.

Risk Management Package

PREMIUM DELIVERABLE
by Stefano Pittaluga

This Excel template is for project managers approaching risk management for the first time. It shares steps and examples to achieve a simple but effective risk management plan, probability and impact assessment table/matrix, rating assessment table and risk register.

Monthly Status Report Template

PREMIUM DELIVERABLE
by Danilo Uvalin

This report helps you provide a concise and precise update on the current status of a clinical study and the achieved progress during the reporting period. It is usually distributed to a sponsor of the project, as well as the management of the company where the PM works. The main benefit of this report is that it addresses the major project constraints and provides only the relevant information needed to successfully manage the project and communicate with a diverse international team, typical for a matrix-based pharmaceutical company.

Or just download directly from the **StatisticalPERT.com** website

Questions?

Connect with Me!

LinkedIn: famousdavis
Email: famousdavispmp@gmail.com