

Welcome to ACEIT 8.2

Supporting
Inflation & Escalation
Best Practices



ACEIT: Designed to Support Best Practices

Since the 1980's, ACEIT has been designed to...



Provide a **standardized framework** to support estimating processes for US Government and other organizations



Support cost analysts to follow **established best practices** with analysis, model development, uncertainty, and reporting

OSD CAPE seeks to better define program costs associated with inflation vs. escalation.
ACEIT 8.2 supports that mission.

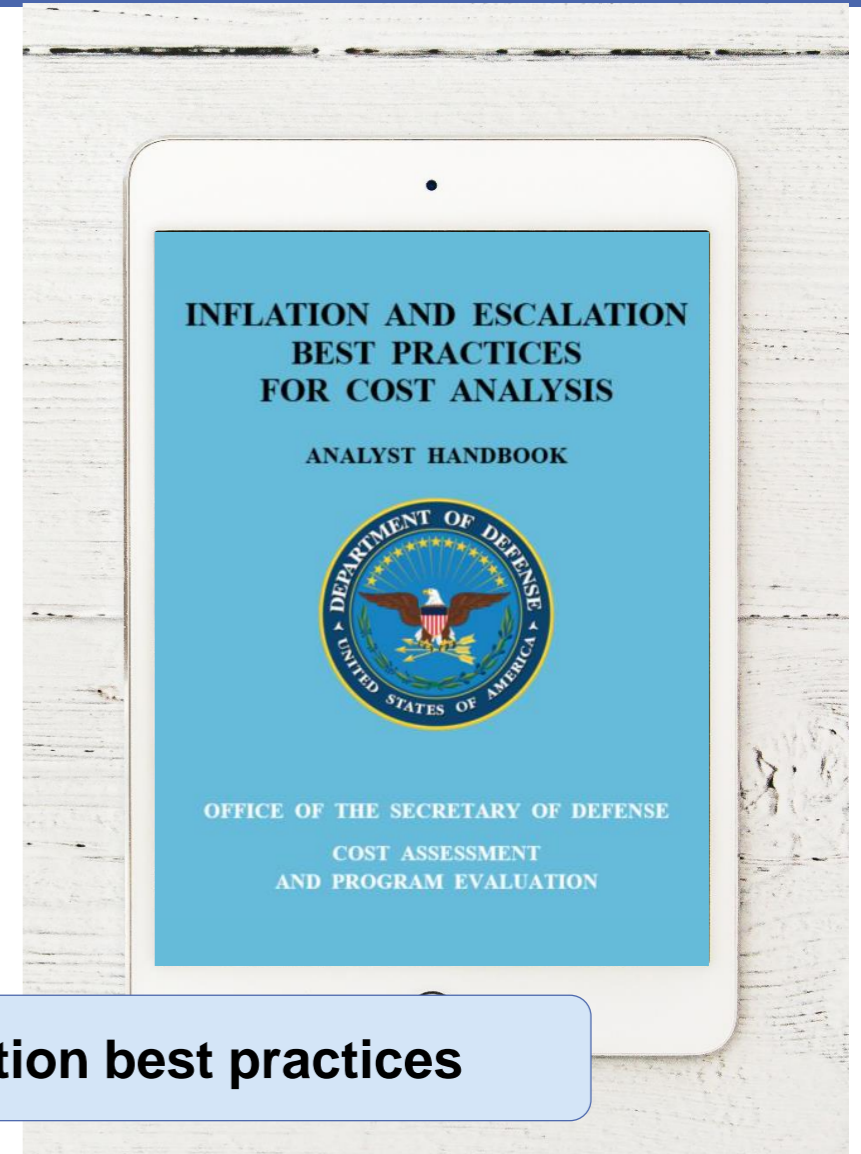
OSD CAPE Inflation and Escalation Guidance

In December 2021, OSD CAPE published updated guidance on inflation and escalation practices

CAPE Goals

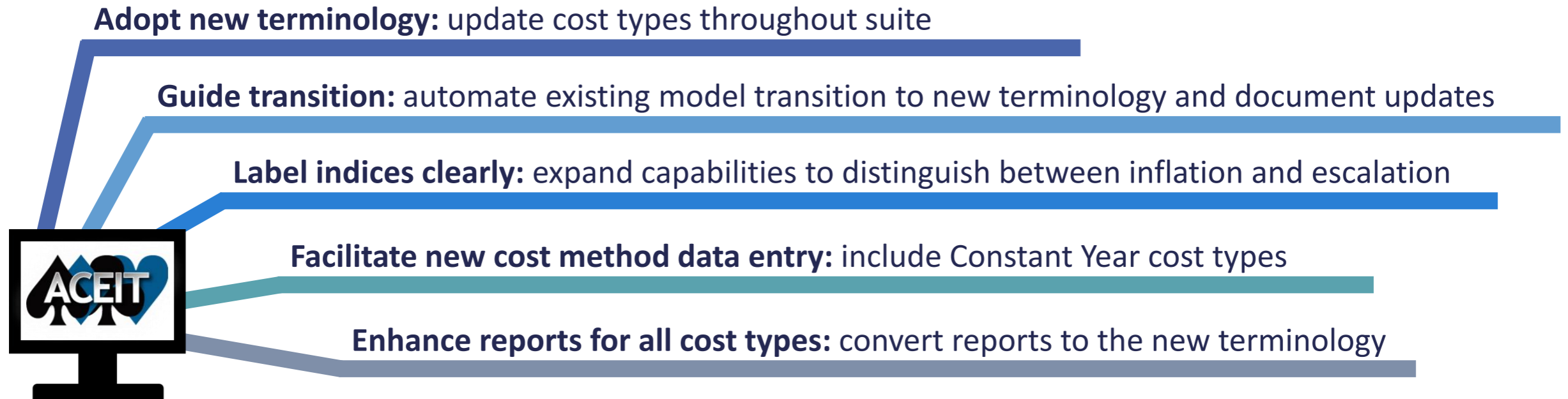
- Account for differences between inflation and escalation
- Adopt consistent terminology
- Use realistic escalation rates to estimate costs in Then-Year dollars
- Make long-term assumptions about fuel prices, military pay, others rates that balance realism and stability of estimates
- Normalize inputs appropriately for use in cost estimate calculations
- Use Then Year and Constant Year dollars for external budgeting and decision making reports
- Document and label all indices used

These guidelines go beyond OSD: they are **cost estimation best practices**



Empowering Analysts to Adopt New Practices

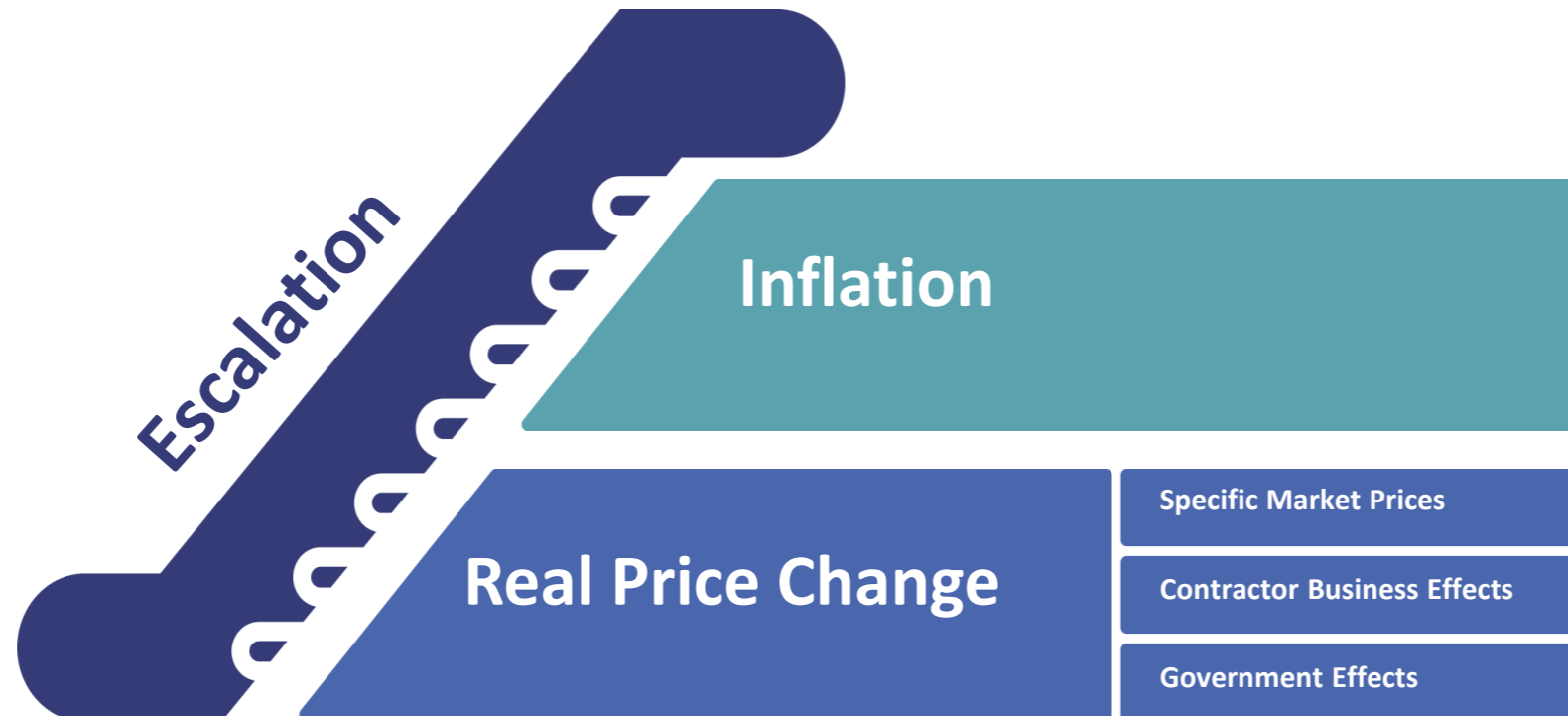
ACEIT 8.2 is designed and developed to...



Our goal: lead analysts through terminology changes so they can focus on selecting indices to correctly normalize inputs and inform estimates

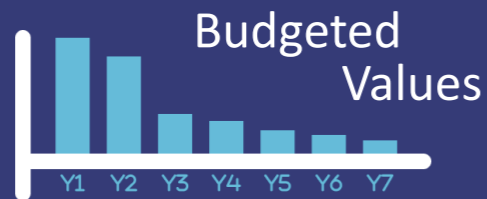
Price Change: Not Just Inflation

- **Inflation:** economy-wide price change
- **Real Price Change:** any price change a commodity experiences not explained by inflation;
 - Includes specific market price changes, contractor business effects, government effects
- **Escalation:** overall price change to specific commodity; includes **Inflation** and **Real Price Change**



Focus on Obligations vs Expenditures

Obligations



Obligations - recorded prior to disbursement of funds from US Treasury
Include adjustment for timing of expected expenditure
(outlay profile)

Expenditures



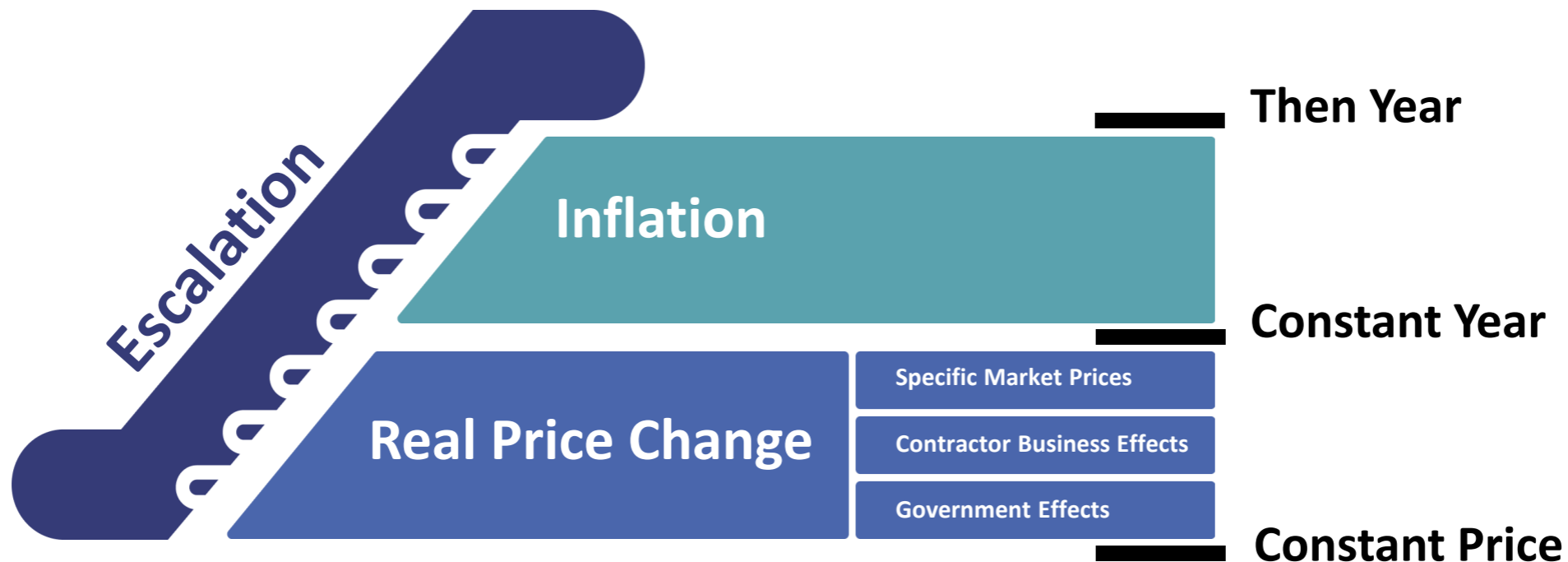
Expenditures - dollars at the time they leave US Treasury to pay a bill
No time delay means no need to adjust for future changes in value (no outlay profile)

Important distinction when selecting indices:

- **Weighted indices** incorporate outlay profiles; appropriate for Obligations
- **Raw indices** do not incorporate outlay profiles; appropriate for Expenditures

New Cost Types for Improved Clarity

- **Constant Price (CP\$):** Impacts of escalation not included (no inflation or real price change)
 - Expressed relative to a single normalization year
- **Constant Year (CY\$):** Impacts of real price change included, but not inflation
 - Often called “real dollars” outside DoD



BASE YEAR dollars ARE **OUT**

Constant Price & Constant Year dollars are **IN**

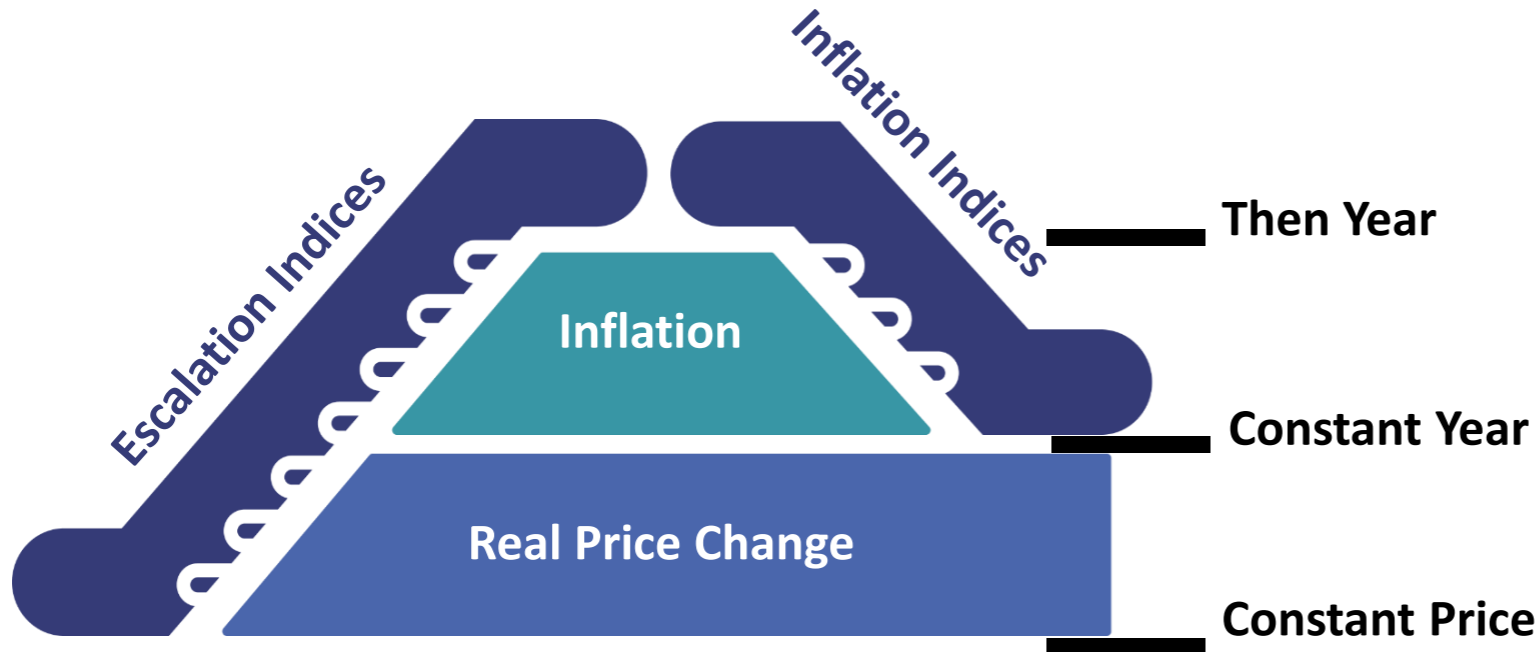


By replacing Base Year dollars (BY\$) with CP\$ or CY\$ cost estimators can more easily:

- ✓ Understand if costs include impacts of real price change or not
- ✓ Identify type of index used to produce each value

Escalation and Inflation Index Types

- DoD seeks to have well defined **escalation** and **inflation** indices
- With these two measurements, all three major cost type categories can be calculated
 - Real Price Change indices not well defined



In ACE:

Escalation defined in **Approp** column

WBS/CES Description	Approp	Deflator Index
Basic Structure (AF)	APR	APR_D

Inflation defined in **Deflator Index** column

WBS/CES Description	Approp	Deflator Index
Basic Structure (AF)	APR	APR_D

New Cost Type Terminology in ACEIT

Constant Price

CP Normalized to remove the effects of escalation and any outlay profile

ACEIT 8.1 term: **Base Year (BY) dollars**

Then Year Obligations

TYO Contain effects of Escalation and outlay profiles

ACEIT 8.1 term: **Then Year (TY) dollars**

Constant Year Obligations

CYO Contain effects of Real Price Change and outlay profiles

ACEIT 8.1 term: **Reportable BY (Results only)**

Then Year Expenditures

TYE Contain effects of Escalation but no outlay profiles

ACEIT 8.1 term: **Same Year (SY) dollars**

Constant Year Expenditures

CYE Contain effects of Real Price change but no outlay profile

ACEIT 8.1 term: **Reportable BY (Results only)**

ACEIT 8.2 adopts OSD CAPE Handbook cost terms



ACEIT 8.2 Details

High Profile Updates to ACE

1. Session Results in Constant Price
2. Renamed “Fiscal Year” Column “Norm. Year”
3. Updated Phasing Methods to new cost types
4. Support for CY\$ inputs with Deflator Index and Trans. Year
5. Review Tags Pane tracks system cost type changes
6. Results in new Cost Types

The screenshot displays the ACE software interface with several callouts highlighting updates:

- 1:** The top status bar shows the session results in Constant Price (CP2024\$K).
- 2:** The 'Norm. Year' column in the spreadsheet is highlighted, indicating the renaming of the 'Fiscal Year' column.
- 3:** The 'Phasing Method' column shows updated values like 'TYO' (Year to Year) for different cost types.
- 4:** The 'Trans. Year' column is highlighted, indicating support for Trans. Year inputs.
- 5:** The 'Review Tags' pane is highlighted, showing a list of tags tracking system cost type changes.
- 6:** The 'Results - Phased Costs' dropdown menu is highlighted, showing the current results view.

Row	WBS/CES Description	Approp	Deflator Index	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Norm. Year	Trans. Year	Units
3	*Budget Information									
4	Procurement Budget				\$ 369,926.88					
5	Air Force Aircraft (APF) Budget	APR	APR_D		\$ 247,171.068	TYO	[Cost Throughput]			\$K
6	Army Aircraft (APA) Budget	APW	APW_D		\$ 122,755.815	TYO	[Cost Throughput]			\$K
7	*Estimate									
8	Total				\$ 401,668.173					
9	Procurement			Proc\$	\$ 401,668.173					
10	Air Force Procurement	APR	APR_D		\$ 266,865.768					
11	Manufacturing (Air Force)	APR	APR_D	AF_Mfg\$	\$ 191,613.339					
12	Air Vehicle (AF)	APR	APR_D	AF_AV\$	\$ 156,600.276					
13	Basic Structure (AF)	APR	APR_D		\$ 78,922.262	R				Struc_T1\$
14	Navigation/Guidance	APR	APR_D		\$ 16,032.223	FP	StepVal(TVal(@AFBuyQty), @BBQL,@BBQL,6)*AFBuyQty			

Tags	Location	Content	Reviewed	Comments
BY to CP	Row 65, Phasing Method	CP		
BY to CP	Override: Lower Cost Propulsion, Row 61 (Cost Interpretation)	CP2020\$K		
TY to TYO	Row 5, Phasing Method	TYO		
TY to TYO	Row 6, Phasing Method	TYO		
TY to TYO	Report: TY Phased Service Summary			

Session Results in Constant Price

- Constant Price used to understand historical trends, compare costs, develop CERs
- ACE sessions calculated in CP\$ of user-selected Norm. Year

The screenshot shows the ACE software interface with the 'INPUT SHEET' tab selected. The window title bar indicates the session is '(CP2024\$K) - ACE 8.2.81.0'. A callout box points to this title bar with the text 'CP2024\$K'. The main data table is titled 'Input Sheet - Methodology' and contains the following data:

Row	WBS/CES Description	Approp	Deflator Index	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Norm. Year	Trans. Year	Units
3	*Budget Information									
4	▲ Procurement Budget				\$ 369,926.883					
5	Air Force Aircraft (APF) Budget	APR	APR_D		\$ 247,171.068	TYO	[Cost Throughput]			\$K
6	Army Aircraft (APA) Budget	APW	APW_D		\$ 122,755.815	TYO	[Cost Throughput]			\$K

A callout box also points to the 'Point Estimate' column header in the table.

Renamed Session “Base Year” and “Fiscal Year” Column to “Norm. Year”

- **Base Year** and **Fiscal Year** terms were overloaded in ACEIT
- Session base year renamed Norm. Year
- Renamed to Norm. Year as a descriptor year of normalization

Options

General

Estimate Information

Program Name: UAV Demo

Norm. Year: 2024

Units: Thousands Currency: \$

First Year: 2024 Last Year: 2046

Default Case: Point Estimate

Row	WBS/CES Description	Approp	Deflator Index	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Norm. Year	Trans. Year	Units
56	*Production Inputs									
57	*Cost Inputs									
58	▲ Air Vehicle T1				\$ 1,934.457					
59	Basic Structure T1	APR	APR_D	Struc_T1\$	\$ 1,255.835	C	1200	2022		\$K
60	Navigation/Guidance T1	APR	APR_D		\$ 160.590	C	TVal(@BBQL\$, SFirst)			
61	Propulsion T1	APR	APR_D	PropT1\$	\$ 518.032	C	495	2022		\$K
62	Transportation Unit Cost	APR	APR_D	TransUC\$	\$ 10.706	C	10	2021		\$K

Updated Cost Phasing Methods

Phasing Methods drive how ACE calculates a row's equation or time phased inputs

Time Phased Inputs

Equation/Throughputs

Row	WBS/CES Description	Approp	Deflator Index	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Norm. Year	Trans. Year	Units
64	Block Buy Cost at Quantity	APR	APR_D	BBQL\$	\$ 674.477	CP	[Cost Throughput]	2021		\$K

Row	WBS/CES Description	Approp	Deflator Index	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Norm. Year	Trans. Year	Units
60	Propulsion T1	APR	APR_D	PropT1\$	\$ 493.065	CTYO	495		2022	\$K

Input Form - Methodology | Input Sheet - Methodology | Results - Phased Costs | Overrides - Phased | Charts - Estimate

Title: Block Buy Cost at Quantity Limits

Unique ID: BBQL\$ | CES#: | WBS#: | PE Value: \$ 674.477

CP
 TY obs.
 TY exp.
 CY obs.
 CY exp.

Approp: APR | Deflator Index: APR_D | Norm. Year: 2021 | Units: \$K

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Yearly Input	150	125	100	95	85	75

Input Form - Methodology | Input Sheet - Methodology | Results - Phased Costs | Overrides - Phased | Charts - Estimate

Title: Propulsion T1

Unique ID: PropT1\$ | CES#: | WBS#: | PE Value: \$ 493.065

Periodic
 Constant

Equation/Value: 495

Calculate Constant

Non-cost / CP
 TY obs.
 CY obs.
 CY exp.

Approp: APR | Deflator Index: APR_D | Norm. Year: | Trans. Year: 2022 | Units: \$K

Time Phased Cost Phasing Methods

Yearly/Monthly cost data entered by time period

CP TYO TYE CYO CYE

ACEIT 8.1 terms: *BY, TY, SY*

Equation/Throughput Cost Phasing Methods

ACE uses the term "Constant" for non-Time phased methods

C CTYO CCYO CCYE

ACEIT 8.1 terms: *C and CTY*

Support for CY\$ Inputs

Requires Deflator Index

Rate Types shows Esc or Inf

Supports Time Phased and Equation Inputs

New Trans. Year column

Row	WBS/CES Description	Approp	Approp Type	Deflator Index	Deflator Type	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Norm. Year	Trans. Year	Units
WBS												
2	Ground Station Total Cost	APW	Esc	APW_D	Inf	GST\$	\$ 99.927	CCYO	100		2022	\$K
3	Ground Station Annual Cost	APW	Esc	APW_D	Inf	GSA\$	\$ 97.568	CYE	[Cost Throughput]	2020	2022	\$K

Error Log - 3 total

0 Fatal 3 Warning 0 Information

Error Code	Row #	Severity	Description	Column Name	Case
MTH562	2	Warning	Unused variable 'GST\$'.	Unique ID	
PHZ1226	2	Warning	CCYO phasing method with no Norm. Year input, session Norm. Year will be used.	Equation / Throughput	Point Estimate
MTH562	3	Warning	Unused variable 'GSA\$'.	Unique ID	

Validation helps analysts with ACE definitions: *Missing Norm Year*

References [Error Log](#) Documentation Cases Review Tags Compatibility Analyzer

Results and Reports in All Cost Types

- Clear cost type selection
- Obligations vs. Expenditure options emphasized

MAIN PANE 04 - Enhancing the Production Estimate A.act (Read-Only) - Results (CP2024\$K) - Point Estimate - ACE 8.2.81.0

FILE HOME LAYOUT FUNCTIONS REPORTS RESULTS

Constant Price
Constant Price
Then Year Obligations
Then Year Expenditures
Constant Year Obligations
Constant Year Expenditures

Calculate From 2024 To 2046 Include Prior / To Complete Year Range Select Months Freeze Column

Input Form - Methodology Input Sheet - Methodology Results - Phased Costs Overrides - Phased Charts - Estimate

Row	WBS/CES Description	Total: Point Estimate	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	WBS								
2	*EXAMPLE FILE*								
3	*Budget Information								
4	Procurement Budget	\$ 369,926.883				\$ 17,753.893	\$ 17,350.516	\$ 21,169.945	\$ 24,800.819
5	Air Force Aircraft (APR) Budget	\$ 247,171.068				\$ 13,335.573	\$ 13,035.751	\$ 12,742.670	\$ 12,456.178
6	Army Aircraft (APW) Budget	\$ 122,755.815				\$ 4,418.319	\$ 4,314.765	\$ 8,427.275	\$ 12,344.642
7	*Estimate								
8	Total	\$ 401,668.173				\$ 18,013.440	\$ 19,380.773	\$ 21,550.739	\$ 23,161.395
9	Procurement	\$ 401,668.173				\$ 18,013.440	\$ 19,380.773	\$ 21,550.739	\$ 23,161.395
10	Air Force Procurement	\$ 266,865.768				\$ 13,465.744	\$ 14,820.617	\$ 13,206.994	\$ 11,631.915

Phased Report

Report Name:
Phased Report

Report Title:
CP Phased Costs

Cost Type







General

Constant Price
 Then Year Obligations
 Then Year Expenditures
 Constant Year Obligations
 Constant Year Expenditures

RISK
Case
Configuration Info

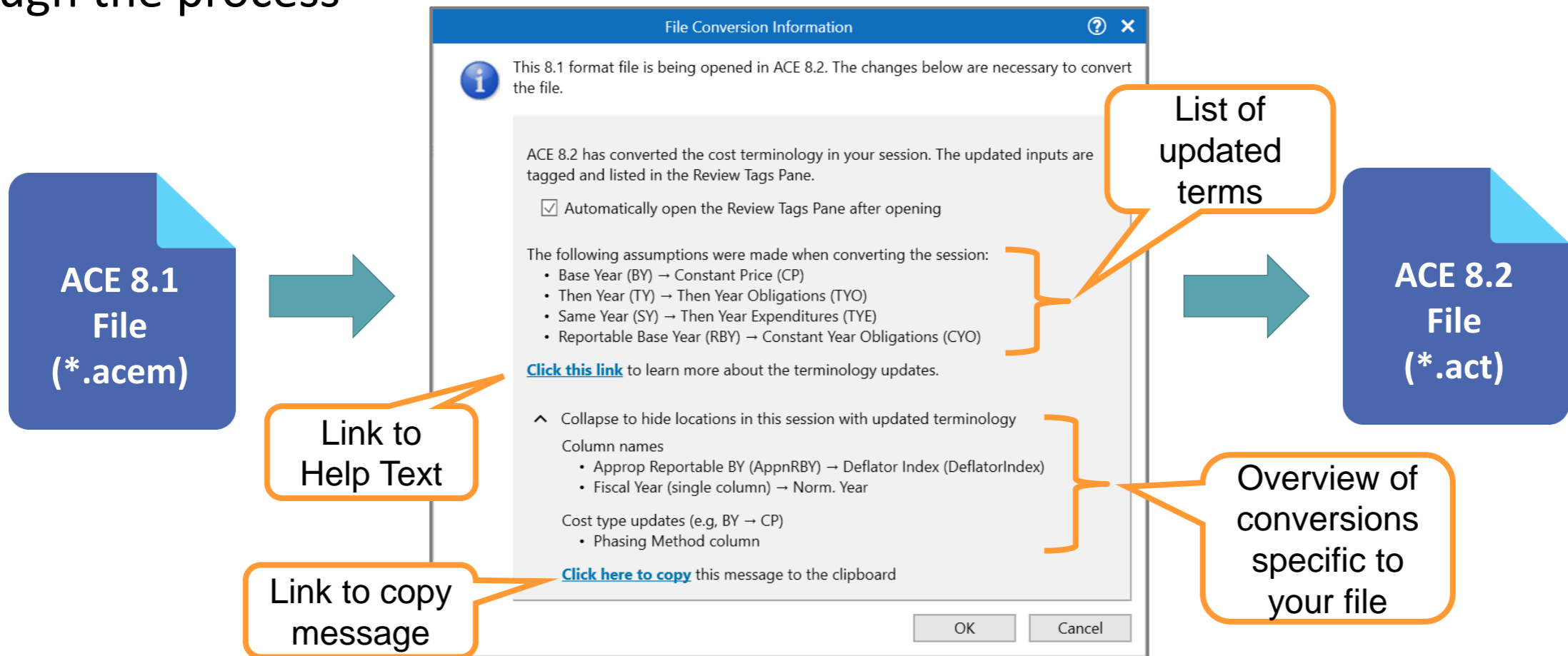
OK Cancel

Cost Types Updated Across the ACEIT Suite

 ACE	 CO\$TAT	 POST	 INFLATION	 JACS	 LIBRARIAN
<ul style="list-style-type: none"> <u>Updated Cost Types</u> <ul style="list-style-type: none"> Phasing Methods Data Tables Cost overrides Sunk costs Summary Sections Results/Reports /Charts <u>New Columns</u> <ul style="list-style-type: none"> Norm. Year Deflator Index Approp/ Deflator Type Trans. Year <u>New Cost Types</u> <ul style="list-style-type: none"> CY Obs CY Exp <u>Other</u> <ul style="list-style-type: none"> New Inf/Esc Functions Updated Plug-ins System Tags Backwards Compatibility Inf/Esc index labels New .ACT file extension Updated error logging Outlay Reporting What-If Analysis for Inf/Esc indices 	<ul style="list-style-type: none"> Norm. Year 	<ul style="list-style-type: none"> Updated Cost Types <ul style="list-style-type: none"> Results Reports Charts Norm. Year 	<ul style="list-style-type: none"> Updated Cost Types Updated Function Updated Wizard 	<ul style="list-style-type: none"> Updated Cost Types Norm. Year 	<ul style="list-style-type: none"> Inf / Esc index labels Increased code / term length Negative codes
Help text updated throughout the suite					

Process of Transitioning Files

When opening an existing session in ACE 8.2 there is messaging to help the user through the process



Analyst Responsibility after Conversion



DoD Analyst

ACE 8.2 automatically converts terminology

Analyst must *review* and *update* as desired

The screenshot displays the ACE 8.2 software interface. At the top, there are tabs for 'Input Form - Methodology', 'Input Sheet - Methodology', 'Results - Phased Costs', 'Overrides - Phased', and 'Charts - Estimate'. Below the tabs is a data table with columns: Row, WBS/CES Description, Approp, Deflator Index, Unique ID, Point Estimate, Phasing Method, Equation / Throughput, Norm. Year, Trans. Year, and Units. Row 65 is highlighted with a blue background and a 'CP' tag. Below the table is a 'Review Tags' pane with a 'Show Tagged Cells' toggle, a 'Type' dropdown set to 'System Tags', and a 'State' dropdown set to 'Unreviewed'. The 'Review Tags' table has columns: Tags, Location, Content, Reviewed, and Comments. Three callouts point to specific elements: 'Show Reviewed, Unreviewed, or All tags' points to the 'State' dropdown; 'Review tags' points to the 'Review Tags' table; and 'Delete tags' points to the 'Reviewed' column header.

Row	WBS/CES Description	Approp	Deflator Index	Unique ID	Point Estimate	Phasing Method	Equation / Throughput	Norm. Year	Trans. Year	Units
63	*Block Buy Unit Cost Prices for N									
64	Block Buy Quantity Limits			BBQL		I	[Input Throughput]			
65	Block Buy Cost at Quantity Limits	APR	APR_D	BBQL\$	\$ 674.477	CP	[Cost Throughput]	2021		\$K
66	GS S		D	GSPay\$	\$ 69.564	C	68000	2023		\$
67	Grou		D	GSHWUC\$			75	2021		\$K
68	Grou		D	GSTVUC\$			65	2021		\$K

Tags	Location	Content	Reviewed	Comments
BY to CP	Row 65, Phasing Method	CP		
BY to CP	Override: Lower Cost Propulsion, Row 61 (Cost Interpre	CP2020\$K		
Updated Interpretation	Row 66, Phasing Method	C		[System Note: Constant cost interpreted as CP (previously BY)]

- Review Tags Pane lists every change made to the session
- Main Pane shows cells with conversions visibly tagged

New Features Added to Support Inf/Esc

- New Global Case Overrides

- Override an Index throughout the session - includes data tables and functions
- Visible on Overrides – Custom Text Columns
 - Appear blue, but not bold, to distinguish between global and row-based index overrides

Global Overrides for Change Approp

Enter the following to apply a global override to the entire session:

- **Apply override to:** Type of value you want to apply an override to, either Approp or Deflator Index
- **Existing value:** Choose an existing value to override
- **Override with:** Choose what to override the existing value with

Overrides affect anywhere the value exists, including rows and off-sheet items like data tables.

	Apply override to	Existing value	Override with
1	Approp	APR	NOINF
2	Approp	APW	NOINF
3	Approp	MPR	NOINF
4	Approp	MPW	NOINF
5	Approp	OMR	NOINF
6	Approp	OMW	NOINF
7	Approp	RDTER	NOINF
8	Approp	RDTEW	NOINF

Global Overrides

Case Name	Compare	Time Last Calculated	Description	Overrides	Individual Row Overrides	Overrides on Total	Overrides on RI\$K	Overrides on Custom	Global Overrides
Propulsion, Ground Station, and O&S Mods	<input type="checkbox"/>		Overrides to NREC complexity factor and Propulsion un	Yes	9	✓			
More Detailed Uncertainty	<input type="checkbox"/>		Changed uncertainty to put low and high percent of PE	Yes	4		✓		
Change Approp	<input type="checkbox"/>		Changes All Approps to No Inflation as a Global Overric	Yes	0				✓

What if I'm not a DoD Analyst?



Can I still use ACEIT?

DHS Analyst

Yes! Everyone can continue to use ACEIT. Remember:
BY → CP
TY → TYO
SY → TYE



What does my session review process look like?

NASA Analyst

After opening files in ACE 8.2, review System Tags in Review Tags Pane.



Do I have to label rates for Inflation and Escalation?

Industry Analyst

Not at all. New rate labels are optional.



Can I update my rates later?

Australian Analyst

Of course. If your org later decides to better distinguish inflation vs. escalation, update your rates and start using the new CY cost types.

The Software is Updated...What's Next?

Inflation/Escalation Index Properties

Inflation/Escalation Index Details

Code: 7000 Revision Date: 18-Mar-2024 Use Current

Term: APW Revision Time: 00:00:00

Phase Code: FSED Norm. Year: 2024

Inf/Esc Label: Escalation (Esc)


Description: Aircraft Procurement - Whiskey (Esc)

Raw Inputs

Fixed Rate: Raw Factors Annual Change (%)

% From Year: 1980 To Year: 2124

ACEIT 8.2 allows orgs to **label indices** as *Inflation, Escalation, or Other*

- Add labels in the **LIBRARIAN** 
- View labels in ACE columns and reports
- Create new indices for inflation or escalation in Librarian Custom Tables
- Utilize new cost types

**Updated software unlocks functionality.
Now it's up to the community to evolve their indices.**



Conclusion

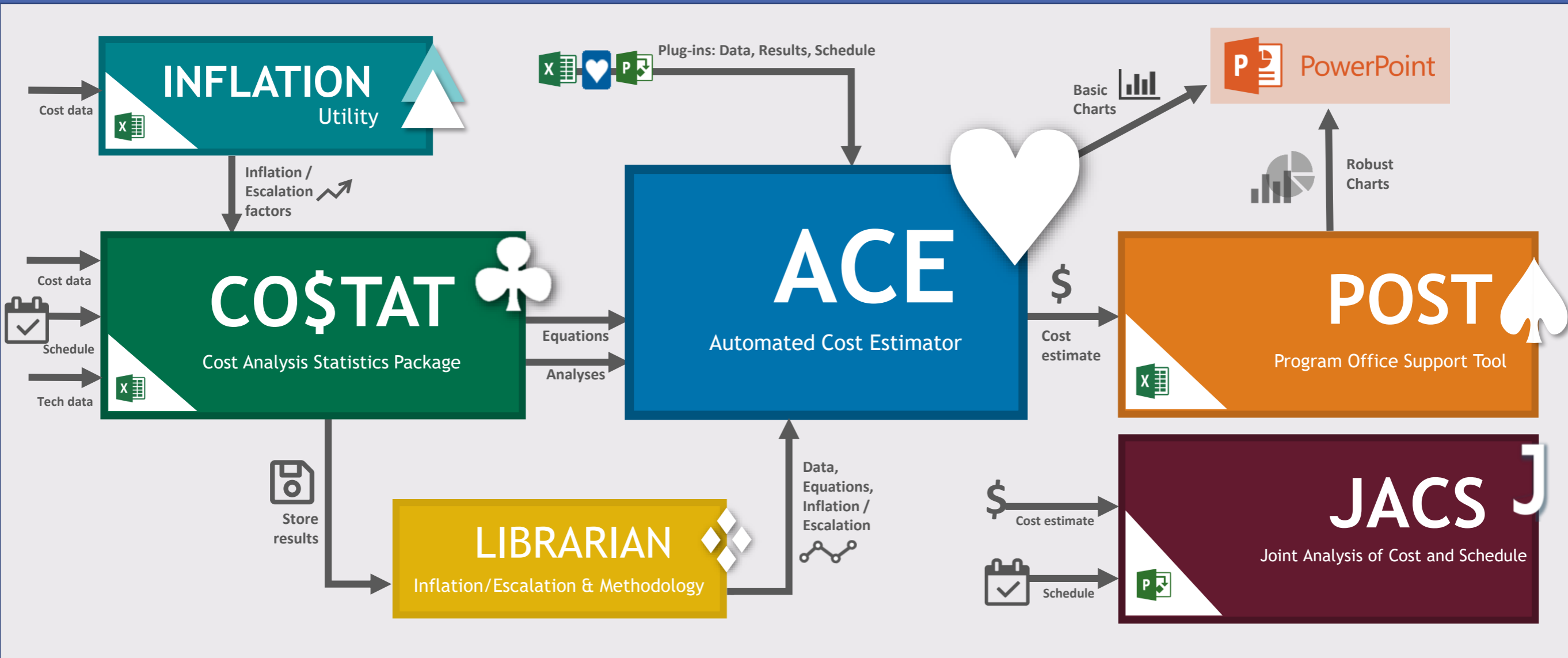
ACEIT is empowering DoD analysts to transition to new escalation framework

Non-DoD analysts have the same great experience, plus access to new capabilities for future use

Backup



ACEIT 8.2 Architecture



ACEIT 8.2 Training

Instructors with real-world experience with ACEIT provide hands-on training.



In-person



Self-paced



Onsite



ACEIT for Model Builders

- Construct an estimate
- Enter methods
- Incorporate Uncertainty
- Generate a CER
- Create What-if Cases
- Open estimate in POST

Introductory Course
4 Days of Instruction



ACEIT for Reviewers

- Review an estimate
- Understand methods
- Understand Uncertainty
- Generate Reports

Introductory Course
2 Days of Instruction



ACEIT for Advanced Model Builders

- Modeling Durations
- Advanced Functions
- Data Table
- Advanced Uncertainty Analysis
- Model Integration

Advanced Course
4 Days of Instruction



ACEIT for CER Developers

- Dataset Organization
- Understand the dataset
- Analyze the dataset
- Validate the analysis
- Document

Independent Course
2 Days of Instruction



ACEIT for Schedulers

- Introduction to Joint Confidence, JACS, and MS Project
- Using JACS to build a JCL
- Analysis Results
- Working with JACS files

Independent Course
2 Days of Instruction

More Information

Visit www.ACEIT.com

Please contact ACEIT Support

Email: aceit_support@tecolote.com

