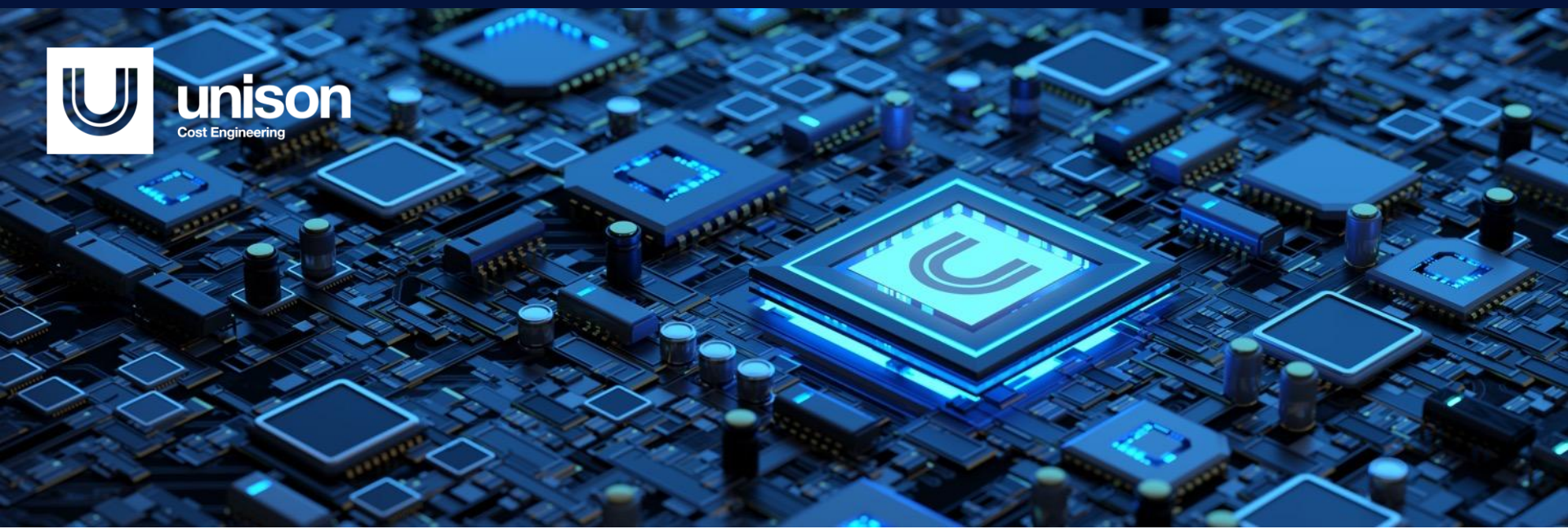
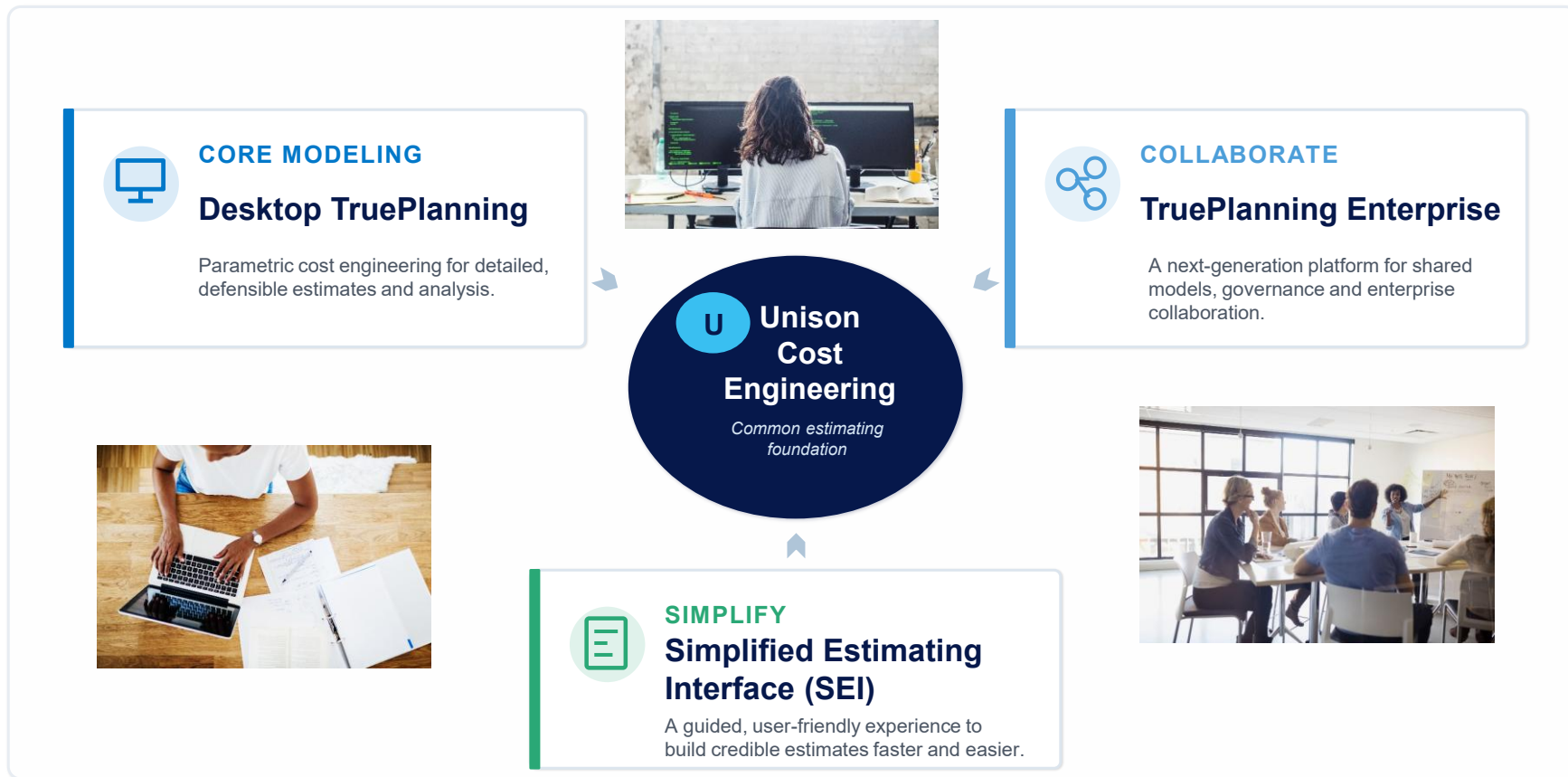




Simplified Estimating Interface (SEI) For TruePlanning Cost Estimating and Modelling

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From expert modeling to simplified estimating and enterprise collaboration: all within the same cost engineering ecosystem.

User-friendly solution: Simplified Estimating Interface (SEI)

The screenshot displays the 'Simplified Estimating Interface (SEI)' software. On the left is a dark sidebar with a menu containing: Inputs, Organisation, Project (selected), Software, Hardware, System Integration, and Software Acceptance. The main window has a title bar 'Simplified Estimating Interface' and a toolbar with 'Add', 'Delete', 'Copy', and 'Clear' buttons. Below the toolbar, the 'Project' section shows 'JOBY S4 eVTOL Project'. The 'Project Overview' section contains a table with the following data:

Project Overview	
Project Name	JOBY S4 eVTOL Project
Country	United States
End Customer Complexity	Nominal
Platform/Domain	eVTOL
Development	
Project has Development?	Yes
Organisation in Charge	Joby Dev Org
Start Date	01/01/2009
Overall TRL/SR/URL	6
Development Process	Incremental (w/ Agile)
No. Customer Releases	0
Production	
Project has Production?	Yes
Organisation in Charge	Joby Prod Org
Start Date	01/01/2026
No. Production Units	1000

SEI – Introduction & Objective

Helping non-expert users produce reliable estimates by reusing TruePlanning knowledge

SEI

OBJECTIVE

Make cost estimating accessible

SEI enables non-expert users to create reliable estimates faster, while leveraging knowledge embedded in TruePlanning projects.

TruePlanning expertise becomes reusable, consistent estimating guidance.



WHY SEI?

01

Business-oriented language

Clear wording instead of TruePlanning technical concepts.

02

Less reliance on scarce experts

Non-expert users can work more independently.

03

Faster onboarding

New users become productive with guided workflows.

04

Consistent estimates

Standardized inputs reduce variation and rework.

05

Knowledge reuse

Expert assumptions are preserved and reused.

SEI lowers the barrier to cost estimating while maintaining the value of TruePlanning expertise.

SEI – Proven Concept

A proven approach for opening cost estimation to non-expert users

ORIGIN

Originally developed to expand TruePlanning into new markets, SEI addresses the needs of non-expert users.

USER NEEDS

- ❑ No time to learn TruePlanning concepts and terminology.
- ❑ Limited engineering or domain expertise.
- ❑ Need a familiar, domain-specific interface.
- ❑ Immediate productivity with minimal training.

PROVEN

- ❑ 3 SEIs currently deployed and continuously enhanced.
- ❑ Used in production with Renault Group, Volvo Trucks and French MoD / EMA IT budgeting.

Production deployments

Existing customer usage demonstrates that SEI can scale beyond expert-only TruePlanning workflows.

Renault Group



VOLVO TRUCKS



French MoD / EMA

IT budgeting department

3 SEIs deployed

Production

Continuously enhanced

SEI is already used by automotive and public-sector customers, not just positioned as a prototype.

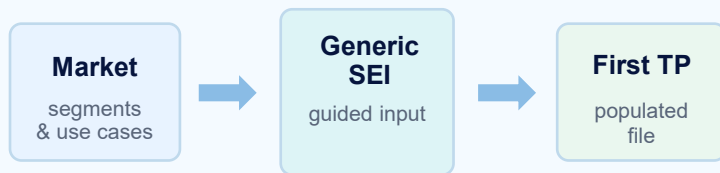
SEI – The Generic SEI

What it is, what it is not, and where it fits in the workflow?

Generic SEI turns expert TruePlanning knowledge into a guided first-estimate experience.

It helps newcomers overcome the “blank page” and create a first populated TP file faster — without replacing TruePlanning.

Position in the cost engineering workflow



Then refine, adjust, and enhance directly in TruePlanning.

1 Generalized approach

Covers software and hardware development / production and can be adapted across Defense, Space, IT, Automotive, and other markets.

2 Not a replacement for TruePlanning

SEI provides a guided path to create the first populated TP file; detailed modeling still happens in TruePlanning.

3 Faster start, lower-value work reduced

Users avoid building from scratch, reduce blank-page friction, and focus expert effort on review and refinement.

Generic SEI is a reusable front-end for rapidly producing a credible first estimate, before expert refinement in the core TruePlanning ecosystem.

SEI – The Generic SEI

A guided interface that captures expert knowledge and accelerates the first TruePlanning file.

Core idea

Not just an interface

SEI captures expert rules and presents them through clear, business-oriented questions.

- Small set of high-level questions
- PBS construction rules embedded
- Mapping to TruePlanning inputs handled in the background

1 Ask

Domain-language questions that a newcomer can answer quickly.

2 Translate

Embedded rules convert answers into TP inputs across cost objects.

3 Populate

A first TP file is generated, avoiding the blank-page problem.

What happens next?

Once the first TP file exists, detailed modification and refinement continue in TruePlanning itself — with future support from TPE AI-based expertise.

The screenshot shows a web-based form titled "Simplified Estimating Interface". On the left is a sidebar with a menu containing "Inputs", "Organisation", "Project", "Software", "Hardware", "System Integration", and "Software Acceptance". The main area is titled "Project" and contains a "Project Overview" section. This section has a table with fields for project details. The fields are: Project Name (JOBY S4 w/TOL Project), Country (United States), End Customer Complexity (Normal), Platform/Domain (w/TOL), Development (Project has Development? Yes), Organisation in Charge (Joby Dev Org), Start Date (01/01/2009), Overall TRU/URL (6), Development Process (Incremental (w/ Agile)), No. Customer Releases (0), Production (Project has Production? Yes), Organisation in Charge (Joby Prod Org), Start Date (01/01/2026), and No. Production Units (1800). Each field has a small icon to its right, likely for editing or deleting the value.

Example: guided questionnaire feeding project inputs

Ultimate objective:

Make this SEI capability part of TPE

From standalone guided interface to reusable enterprise capability

SEI – Overview: Project Tab

Project information is captured once, then translated into guided cost inputs.

Simplified Estimating Interface

Inputs

- Organisation
- Project**
- Software
- Hardware
- System Integration
- Software Acceptance

Project ↑ ↓ Add Delete Copy Clear

Project Overview

Project Name: JOBY S4 eVTOL Project

Country: United States 📄

End Customer Complexity: Nominal 📄

Platform/Domain: eVTOL 📄

Development

Project has Development?: Yes 📄

Organisation in Charge: Joby Dev Org 📄

Start Date: 1/1/2009 📅

Overall TRL/SRL/IRL: 6 📄

Development Process: Incremental (w/ Agile) 📄

No. Customer Releases: 0

Production

Project has Production?: Yes 📄

Organisation in Charge: Joby Prod Org 📄

Start Date: 1/1/2026 📅

No. Production Units: 1,000

1 Platform / domain guidance

Tables & Calculators help users selecting the right inputs:

Project Platform and Domain			
☐	2.5	Manned Space	Manned Space
☐	2	Space Launchers	Manned Space
☐	2	Satellites	Unmanned Space
☐	1.8	Fighter	Aircraft & UAV
☐	1.7	Commercial	
☐	1.7	ev/DOL	
☐	1.7	Helicopter	Aircraft & UAV
☐	1.8	Reconnaissance & Observation UAV	
☐	1.8	Unmanned Combat Aerial Vehicle	Missile
☐	1.4	Loitering Munition UAV	
☐	1.8	Air to Air to Ground	Missile
☐	1.4	Ground to Air to Ground	
☐	1.4	War Ship	War Ship
☐	1.6	Submarine	
☐	1.6	Unmanned Maritime Vehicle	Maritime
☐	1.4	Torpedoes	
☐	1.4	Armoured Vehicle	Land Vehicle
☐	1.4	Tank	
☐	1	Cell	Ground Military
☐	1.2	C2	
☐	1.2	Ground Station	Automotive
☐	1	Automotive	

2 Organization guidance

Default values and controlled choices reduce ambiguity for non-expert users.

Organisation Overview		
Organisation Name	Joby Dev Org	
Maturity of Processes	High	📄
Teams Experience	Average	📄
Teams Locations	Single Location	📄
Teams Communication	Good Communication	📄

■ Provide as much guidance as possible

SEI – Overview: Hardware Tab

Guided hardware inputs: select a building block, then apply controlled complexity values.

Simplified Estimating Interface

Hardware

Building Block Overview

Building Block Name	Avionics
Component or OTS	Hardware Component
Operating Criticality	1.7
Quantity per next Higher Level	1

Structure Description

Type of Structure	Avionics
Complexity	6.41
Weight	34
TRL	5
Design Status	New Design

Electronics Description

Type of Electronics	Avionics
Complexity	8.23
Weight	15
TRL	5
Design Status	New Design

Development

Organisation in Charge	Avionics Org
No. Internal Prototypes	2

Production

Organisation in Charge	Avionics Org
------------------------	--------------

Hardware tab interface

1 Select the hardware block

The user chooses from a predefined hardware list, avoiding a blank-page start and keeping the model structure consistent.

- Electric Propulsion System
- Thermal Management
- Battery Package & BMS
- Electrical Distribution System
- Flight Control System
- Avionics**
- Navigation
- Communications

2 Set complexity once

The user can choose the Complexity level or enter his own value.

Complexity

☐	Low	6.29
☒	Average	6.41
☐	High	6.53

Manual Input:

SEI gives non-expert users guided hardware estimating choices while retaining expert rules in the background.

SEI – Overview: Software Tab

Guided software inputs: select a building block, then apply controlled complexity values.

Simplified Estimating Interface

Inputs

Organisation

Project

Software

Hardware

System Integration

Software Acceptance

Software

AddDeleteCopyClear

FCS SW

Avionics SW

Navigation SW

Communications SW

Energy Mngt SW

Vehicle Mngt SW

Building Block Overview

Building Block Name

Code or OTS

Organisation In Charge

Avionics SW

Software Component

Avionics SW Org

Building Block Description

Operating Criticality

Type of Building Block

Complexity

Language

Development Process

No. Customer Releases

Automatic Testing %

TRL of Computing Unit

Ease of Use

1.7

Avionics

6.2

C

Incremental (w/ Agile)

4

0

6

Medium

Building Block Sizing

Size Unit

Total Size

Reuse with Modification %

Reuse without Modification %

No. Tables to Configure

Source Lines of Code (SLOC)

2,000,000

40

30

0

Software tab interface

1 Choose a software building block

The user selects from a controlled software list such as FCS, Avionics, Navigation, Communications...

FCS

Avionics

Navigation

Communications

Energy Management

Vehicle Management System

2 Capture software complexity

The user can choose the Complexity level or enter his own value.

Complexity

Level of Real-Time

Level of Algorithms

Manual Input:

Very High

Very High

SEI simplifies software estimation by translating expert TruePlanning inputs into guided, business-facing choices.

SEI – Overview: IVVQ

Integration, Verification, Validation & Qualification

1 System Integration

Simplified Estimating Interface

Inputs

Organisation

Project

Software

Hardware

System Integration

Software Acceptance

System Integration

↑

↓

Add

Delete

Copy

Clear

System Integration Overview

System Integration Name	I&V
Organisation in Charge	Joby I&V Org
Overall TRL/SRL/IRL	6
Development Process	Incremental (w/ Agile)
No. Software Customer Releases	1
Automatic Testing %	50
No. Hardware Prototypes to be Delivered	8

IVVQ Flow

2 IVVQ views, one consistent approach: capture structured inputs, reuse embedded expertise, and accelerate project setup.

Purpose

Guide users through IVVQ setup while hiding unnecessary TruePlanning complexity.

2 Software Acceptance

Simplified Estimating Interface

Inputs

Organisation

Project

Software

Hardware

System Integration

Software Acceptance

Software Acceptance

↑

↓

Add

Delete

Copy

Clear

Acceptance Overview

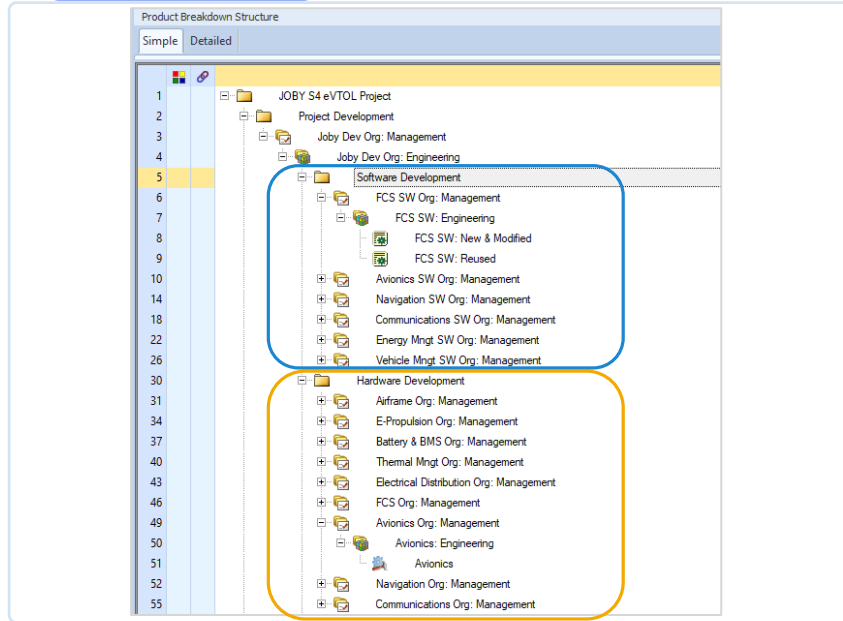
Acceptance Name	Acceptance 1
Organisation in Charge	Joby Dev Org
Total Test Cases (TC)	0
Reuse with Modification %	0
Reuse without Modification %	0
No. Acceptance Loops	0
Automatic Testing %	0

SEI supports IVVQ activities without requiring users to navigate the full TruePlanning interface.

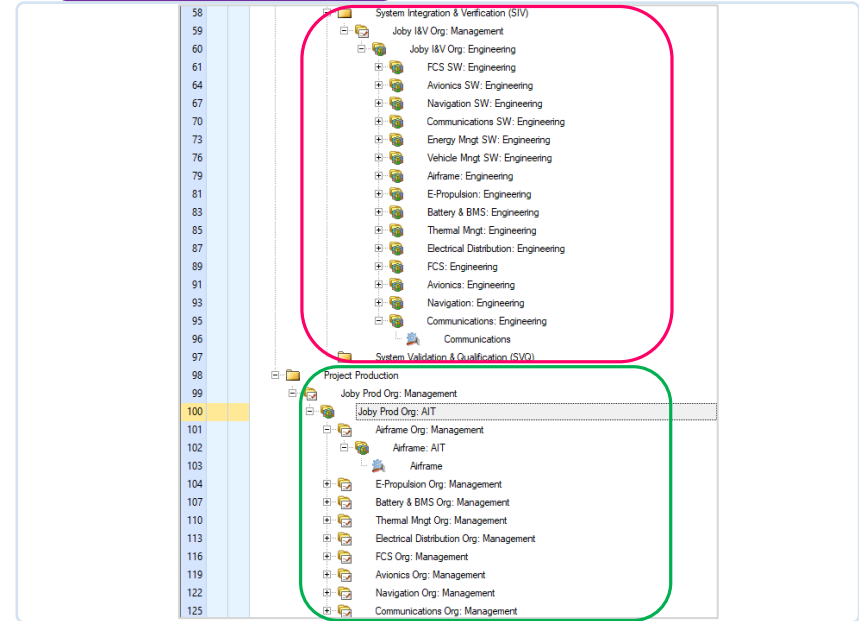
SEI – Overview: Results (PBS)

SEI generates a populated Product Breakdown Structure in TruePlanning, separating the estimate into clear lifecycle branches.

Development PBS



IVVQ & Production PBS



SW
Software dev

HW
Hardware dev

IVVQ
Integration / Verification /
Validation / Qualification

PROD
Production

SEI – Overview: Results (Inputs)

SEI maps guided answers and embedded knowledge into populated TruePlanning input sheets.

Hardware component inputs

Key parameters populated from the SEI knowledge database

Avionics					
Cost:		\$15,619,163	0.38% Labor Requirement:		
Project Cost:		\$4,095,757,515	Project Labor Requirement:		
Phase Set:		A <Inherited>	Worksheet Set:		
		Value	Units	Spread	Notes
1	Start Date				
2	Quantity Per Next Higher Level	1.00			
3	Additional Units				
4	Number of Additional Production Units	0.00			
5	Number of Additional Prototypes	0.00			
6	Technical Description				
7	Equipment Type	None			
8	Operating Specification	1.700			
9	Weight of Structure	34.0000	kg		
10	Weight of Electronics	15.0000	kg		
11	Manufacturing Complexity for Structure	6.410000			
12	Percent of New Structure	100.00%	%		
13	Percent of Design Repeat for Structure	0.00%	%		
14	Manufacturing Complexity for Electronics	8.230000			
15	Percent of New Electronics	100.00%	%		
16	Percent of Design Repeat for Electronics	0.00%	%		
17	Engineering Complexity for Structure	1.200000			
18	Engineering Complexity for Electronics	1.200000			
19	External Integration Complexity for Structure	3.00			
20	External Integration Complexity for Electronics	3.00			

HW Component

Examples: Operating Specification, Weight, TRL & Engineering Complexity.

Software component inputs

Generated TP inputs remain reviewable and adjustable

Avionics SW: New Modified					
Cost:		\$87,259,935	2.13% Labor Requirement:		
Project Cost:		\$4,095,757,515	Project Labor Requirement:		
Phase Set:		A <Inherited>	Worksheet Set:		
		Value	Units	Spread	Notes
1	Start Date				
2	Application Details				
3	Application Type	None			
4	Functional Complexity	6.20			
5	Operating Specification	1.700			
6	Organizational Productivity	0.911			
7	Development Team Assessment	3.00			
8	Contract Service Options				
9	Development Service Options	In-House			
10	Maintenance Service Options	In-House			
11	Software Size				
12	Size Units	Source Lines of			
13	New Size	600,000			
14	New Size Non-executable	0.00%	%		
15	Adapted Size	800,000			
16	Adapted Size Non-executable	0.00%	%		
17	Percent of Design Adapted	20.00%	%		
18	Percent of Code Adapted	20.00%	%		
19	Percent of Test Adapted	50.00%	%		
20	Design Repeat	54.00%	%		
21	Reused Size	0			
22	Reuse Factor	0.55			
23	Hardware Software Integration Factor	0.00			
24	Deleted Size	0			
25	Removal Complexity	Remove function...			
26	Auto Generated Size	0			
27	Auto Gen Size Non-executable	0.00%	%		
28	Auto Translated Size	0			
29	Auto Trans Size Non-executable	0.00%	%		
30	Auto Translation Tool Efficiency	Normal - 80%			
31	Project Details				
32	Language	C			
33	Language Object Oriented	No			
34	Year of Technology	0			
35	Project Constants	0.00			
36	Estimate to Complete	100.00%	%		
37	Design for Reuse	Normal reuse/low impact reuse			
38	Design Tools	Complete Integration			
39	Code Tools	Complete Integration			
40	Test Tools	Complete Integration			
41	Module SW Development	1.00			
42	Internal Integration Complexity	3.00			
43	External Integration Complexity	3.00			
44	Development Process Details				
45	Development Process	Waterfall			
46	Planning Code	Increments			
47	Process Formality	Tailored Process			
48	Number of Spikes or Increments	4.00			
49	Software Requirements Stability	Fairly Well Specified			
50	Customer Involvement	Some			
51	Sequential Phasing	Some Overlap			
52	Level of Review Expected	Some			

SW Component

Examples: Size, Design Repeat, Development Process & Tools.

1

Guided SEI questions

Business-oriented answers captured from users.

2

Embedded knowledge base

Rules map answers to relevant TP parameters.

3

Populated TP inputs

Resulting inputs are ready for review in TP.

SEI – Overview: Results

Results

JOBY S4 eVTOL Project

Cost:

\$4,160,559,859

100.00% Labor Requirement:

23,077,237.47 hours

Project Cost:

\$4,160,559,859

Project Labor Requirement:

23,077,237.47 hours

Phase Set:

A

Worksheet Set:

A

Costs - JOBY S4 eVTOL Project - [System Folder] Currency in USD (\$) (in April, 2026)	Total	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
1 Project Initiation and Planning for Development	37,844,627	15,950,464	13,190,795	5,371,966	2,649,133	491,181	191,088	0					
2 Project Management and Control for Development	172,673,676	73,712,941	60,716,049	24,018,282	11,380,330	2,054,522	791,552	0					
3 Quality Assurance Management for Development	111,393,892	46,969,028	38,842,558	15,799,121	7,783,843	1,439,816	559,526	0					
4 Configuration Management for Development	109,910,578	46,340,444	38,324,537	15,590,075	7,682,238	1,421,050	552,234	0					
5 Documentation for Development	103,772,610	43,407,934	36,243,662	14,915,971	7,344,924	1,353,998	506,121	0					
6 Project Initiation and Planning for Production	17,655,509	0						3,202,164	6,271,796	5,482,238	2,374,231	324,475	606
7 Project Management and Control for Production	161,821,425	0						29,716,383	58,137,561	50,171,401	21,009,236	2,773,030	13,815
8 Quality Assurance Management for Production	45,209,098	0						8,167,037	16,003,661	14,034,899	6,154,944	847,057	1,500
9 Configuration Management for Production	40,250,666	0						7,271,295	14,248,416	12,495,583	5,479,883	754,154	1,335
10 Documentation for Production	59,035,654	0						10,859,197	21,241,697	18,306,249	7,620,582	1,002,810	5,120
11 Requirements Definition and Analysis	132,083,862	53,733,863	44,272,064	22,847,634	9,821,569	1,408,733		0					
12 System Design	68,154,461	27,724,646	22,843,825	11,790,200	5,068,728	727,062		0					
13 Development Engineering	154,924,655	92,922,224	52,321,995	9,228,093	452,342			0					
14 Development Manufacturing	94,210,307	30,344,798	55,176,894	8,180,510	508,105			0					
15 Development Tooling and Test	10,969,216	3,659,698	5,692,522	1,539,145	77,851			0					
16 Production Engineering	4,940,405	0	0	0	0			1,100,873	1,979,222	1,427,526	373,083	59,700	
17 Production Manufacturing	2,103,069,088	0	0	0	0			386,990,696	759,645,684	645,221,425	269,431,497	40,996,459	783,327
18 Production Tooling and Test	200,292,702	0	0	0	0			47,424,695	56,672,527	55,423,383	33,153,149	7,472,138	146,809
19 Software Integration and Test	252,444,481	73,378,620	78,709,181	66,482,169	32,902,780	971,731		0					
20 Hardware Software Integration and Test	18,773,926	18,773,926						0					
21 Contractor Operational Test Support	129,507,752	6,674,799	28,007,062	33,038,653	27,011,010	23,481,047	11,295,181	0					
22 Software Requirements Analysis	21,741,819	21,741,819											
23 Software Design	46,685,340	33,772,691	12,912,649										
24 Code and Unit Test	31,236,538	9,820,502	21,172,420	243,616									
25 Software Qualification Test	31,957,569	0	8,823,878	10,461,979	12,671,713								
26 Total	4,160,559,859	598,928,397	517,250,092	239,507,414	125,354,567	33,349,140	13,895,700	494,732,340	934,200,564	802,562,705	345,596,605	54,229,823	952,511

1 This initial Generic SEI mock-up provides a foundation for discussion and future development.

3 The SEI will progressively expand to additional domains and platforms, creating an adaptable solution for all target market segments.

2 The next focus will be to improve how expert knowledge is captured and presented to users.

4 AI capabilities represents a key direction for future evolution.

TP Enterprise

NAME	CATEGORY	TYPE	ESTIMATED COST	CREATED	MODIFIED	MODIFIED BY
F-35 Engine	Unmanned	P	\$0	September 6, 2026		
Organization 1.Mary Parker:Hardware	Artillery	P	\$5,108,184	September 6, 2026		
Organization 1.Mary Parker:Prototype	Commercial Contracts	P	\$180,047,936	September 6, 2026		
Organization 1.Aircraft in 881C Template S1.A	Aircraft	T	\$8,904,761,375	September 6, 2026		
Organization 1.Battle Fighting Vehicle in 881C	Surface Vehicle	T	\$13,697,738,400	September 6, 2026		

New Project

Project Overview

PROJECT NAME: [Empty]

CUSTOMER TYPE: [Select]

PLATFORM / DOMAIN: [Select]

COUNTRY: [United States - \$ USD] | DEFAULT ESCALATION: [United States Escalation Table (2025)] | DEFAULT PAY YEAR: [2025]

SCHEDULE START DATE: [08/08/2026] | SCHEDULE END DATE: [08/08/2027]

DESCRIPTION: [Empty]

When you click Next - System & Scope, TP will search your project history and the ML STD-987 templates for a close match, then propose a starting structure - naming, template, or from scratch. A clear platform, customer type and description give the best match.

Next - System & Scope

TP AI Assistant

ASSISTANT: PICK up a recent draft below, or fill in the blanks to start a new one.

WORK UP: WORK UP YOUR LIBRARY

F-35 Engine
Sep 02 to 25
10000000, 10000000, 10000000

A powerful and credible cost engine — but difficult to scale beyond expert users:

Current friction points

Expert dependency

Heavy reliance on a small group of TruePlanning specialists.

Knowledge loss

Tacit knowledge is not fully captured, standardized or reusable.

Manual setup

PBS creation and parameter entry remain time-consuming.

Output variability

Different users can produce different results and reduce confidence.



Why this matters

TruePlanning remains the trusted engine.

The challenge is making its expertise accessible, repeatable, and faster to use.

Transition to SEI / TPE Capture expert knowledge once, guide non-experts through it, and standardize the estimating workflow.

TruePlanning in the Future

Same credible cost engine — easier to access, standardize and reuse

From expert-driven modeling to a guided, reusable estimation workflow

1 Guided experience

Simpler screens and business-oriented language accelerate onboarding.

2 Standardized inputs

Shared definitions reduce variability and improve comparison across estimates.

3 Knowledge reuse

Expert rules and assumptions are captured once and reused consistently.

4 AI + Analytics

Automation, PBS assistance and analytics support better decisions.

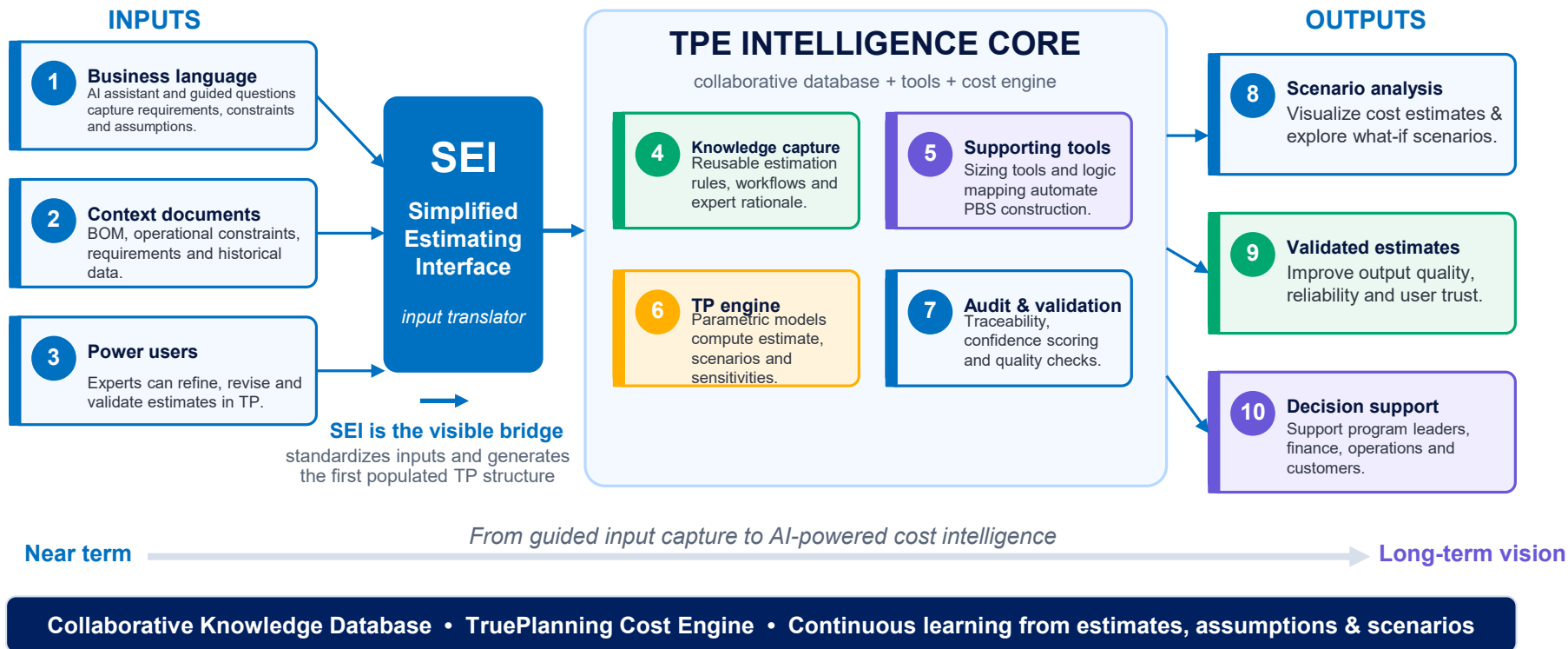


A modern user experience on top of the same analytical foundation

Future objective: Make TruePlanning accessible beyond expert cost engineers — without compromising credibility, quality or traceability.

TPE Architecture & Long-Term Vision

One integrated vision: SEI translates business inputs into reusable TP knowledge, then TPE enables collaborative analysis and validated outputs.



An abstract graphic consisting of several overlapping, flowing, blue wave-like shapes. The waves are rendered with a gradient from dark blue to a lighter, vibrant cyan, giving them a three-dimensional, liquid appearance. They are set against a dark blue background.

Thank you for your attention