



Internal Tool — Beta

C3 Feasibility Accelerator

Capabilities · Beta · May 2026

Internal C3 tool · invite-only

Prepared by

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For feasibility discussion only — not for construction.

1. What this is

The C3 Feasibility Accelerator is an internal C3 Group tool that compresses the early-stage scoping of a capital project from a multi-week alignment exercise into a structured 2-day workshop with a defensible feasibility deliverable at the end.

It is not a chatbot and it is not a self-serve estimator. It is a workflow: a BD lead from C3 runs a structured intake with the client, a senior C3 engineer signs off at each decision point, and the tool assembles the analytical work — mass balance, equipment list, utilities, footprint, cost, schedule, risk — into a Class 5 ($\pm 50\%$) feasibility report carrying C3's brand and C3's engineering judgment.

Every quantitative claim in the deliverable is tagged as **derived** (calculated from intake), **referenced** (from C3's curated corpus or a named standard), or **assumed** (engineering-judgment fallback, logged with an impact-if-wrong statement). The reader always knows what is evidence and what is judgment.

2. The workshop format

A feasibility engagement runs in two facilitated days:

- **Day 1 — Intake and process definition.** The BD lead drives a structured intake covering project description, capacity target, location, delivery model, regulatory regime, and known drivers. The tool classifies the project (industry, archetype, complexity) and loads the appropriate skill set. The senior C3 engineer reviews and signs off on the process definition before any downstream analysis runs.
- **Day 2 — Engineering scaffolding and report.** Equipment list, utility loads, facility footprint, cost estimate, Level 1 schedule, and risk register run in sequence. The senior engineer reviews each output. The risk register concludes with a **go / proceed-with-conditions / pause** recommendation that the BD lead must accept before the report is finalised. The branded Word and PDF deliverable are produced.

There is no full-auto pipeline. A human checkpoint sits at the process-definition stage and at the go/no-go recommendation. The audit trail records every skill run, every input, every output, every reviewer sign-off — so the deliverable is an AI-assisted engineering artifact, not an AI artifact with a C3 logo on it.

3. What it does today

Industries supported

Module	Scope it covers	Scope it does not cover
Pharma	Small-molecule API and oral solid dose, greenfield or brownfield, FDA / EMA / NMPA regulatory paths.	Biologics, mRNA, gene therapy, ATMP — the prompt vocabulary specialises in chemistry, not bioprocessing.

Advanced Manufacturing	Discrete manufacturing for defense, aerospace, medical device, electronics assembly, precision / micro-mechanical.	Automotive paint shop, EV battery cell manufacturing.
Fiber Optic Cable	Telecom and specialty optical fiber plants — preform, fiber draw, stranding, sheathing. BABA / BEAD compliance and ITU-T G.65x conformity are part of the regulatory output.	Cable installation contracting (this is a manufacturing module).
Chemical	Bulk and specialty chemicals, agrochemicals, polymer intermediates. Process-safety output covers HAZOP / LOPA / SIL screening, OSHA PSM, EPA RMP, and runaway-reaction screening.	Refining and petrochemical mega-projects.
Data Center (<i>in flight</i>)	Hyperscale / AI-HPC campuses, wholesale colocation, enterprise edge. Defining engineering unit is MW of critical IT load; grid interconnection drives schedule. The upstream skills (process definition, power + thermal balance) are complete; equipment list, utilities, footprint, and the grid-interconnect-strategy slot are in development.	Anything outside this module — see the "explicitly does NOT do" section.

Cross-cutting capabilities

- **Universal skills** that run on every project regardless of industry: triage and classification, AACE Class 5 cost estimate, Level 1 milestone schedule, risk register with quantified \$ / months / capacity impact, report compiler.
- **Conversational Q&A surface.** A right-side dock on every project view lets the BD lead ask general engineering questions during the workshop (factor lookups, standards references, "what does a typical X look like at this scale") without leaving the project. The Q&A draws on C3's curated corpus, but every answer passes through an anonymisation guard — real client names and corpus identifiers are scrubbed on both input and output paths, so a workshop with one client never reveals that the corpus was calibrated against others.
- **Audit trail.** Every skill run is logged with input, output, model version, timestamp, and reviewer sign-off. The deliverable is reproducible and defensible.

- **C3 brand layer.** The Word and PDF deliverables are rendered through the same brand layer used for C3 proposals, letters, and presentations — same typography, same cover treatment, same disclaimer footer.

4. What it explicitly does NOT do

This section matters more than the previous one. We would rather be honest about limits than oversell.

- **Feasibility class only.** Outputs are AACE Class 5, $\pm 50\%$ accuracy, factor-based, assumption-driven. The tool never produces construction-grade specificity. Every output carries a "for feasibility discussion only — not for construction" disclaimer.
- **Not a substitute for senior engineering judgment.** A senior C3 engineer reviews and signs off on each skill output. The tool does not replace that review — it accelerates it and structures it.
- **No construction documents.** No detailed design, no P&IDs at engineering grade, no equipment specifications, no detailed take-offs, no procurement packages.
- **No regulatory submissions.** The deliverable includes a regulatory strategy section (FDA / EMA / NMPA, OSHA PSM, EPA RMP, FERC LGIA, NFPA 855, ITU-T, BABA / BEAD, as the industry requires) but does not produce filings.
- **No external data integrations.** Cost and schedule reasoning uses C3's internal curated corpus only. There is no RSMeans connection, no live equipment-pricing API, no vendor quote integration in v1.
- **No client self-serve.** The beta is internal and invite-only. The client sits beside the C3 BD lead in the workshop and provides inputs verbally. The deliverable is handed to them at the end.
- **English only.** Bilingual deliverables (English / Simplified Chinese) are on the roadmap but not in v1.
- **Industries not yet supported.** Semiconductor, automotive, food and beverage, biologics, mRNA / gene therapy. If your project does not fit a supported module, the tool will refuse to route the work rather than guess — triage returns a "v1 supports the following modules" message instead of producing a low-confidence deliverable.

5. The deliverable shape

A finished workshop produces a multi-section feasibility report in Word and PDF, plus an executive-summary deck, plus a transmittal letter. The report contains:

1. **Executive summary** — scope, headline cost band, schedule headline, go / proceed-with-conditions / pause recommendation, key findings.
2. **Project definition** — process narrative or facility narrative, block flow or IT-load profile, hazard profile, archetype and complexity classification.
3. **Capacity, mass balance, or power + thermal balance** — depending on the industry. Pharma and chemical produce mass balance; advanced manufacturing produces throughput and takt; fiber produces km/yr per product line; data center produces grid import → UPS → IT load → cooling load → waste heat.
4. **Equipment list** — tagged process equipment or MEP equipment, with size, material of construction (where relevant), budget allowance, and long-lead-item flagging.

5. **Utility loads** — steam, cooling water, chilled water, electrical, gases, exhaust, fire-protection water, comms — whatever the industry needs.
6. **Facility footprint** — block layout, gross area, area by classification (cleanroom grades for pharma; data-hall + MEP yards + generator yard for data center; tank farm + flare area for chemical), adjacency and flow narrative.
7. **Cost estimate (Class 5)** — CAPEX by major bucket with $\pm 50\%$ band and per-bucket assumption references.
8. **Level 1 schedule** — FEL phases, design, procurement, construction, commissioning, qualification (if pharma), in-service. Long-lead items flagged; critical path identified.
9. **Process safety and regulatory posture** — content depends on industry. Pharma carries FDA/EMA/NMPA roadmap; chemical carries HAZOP / LOPA / SIL / PSM / RMP; data center carries grid interconnection strategy, FERC LGIA timeline, behind-the-meter generation feasibility, EPA NSPS air permits, NFPA 855 BESS.
10. **Risk register and go / no-go recommendation** — top risks scored by likelihood $\times$ impact with quantified \$ / months / capacity impact, and the conditions a senior engineer must accept to proceed.
11. **Next-phase work plan** — what FEL-2 looks like, what the client must decide before then, what the open items are.

Every quantitative claim is tagged: **derived**, **referenced**, or **assumed**. Assumed items appear in the assumptions log with an [impact_if_wrong](#) statement. The reader can audit any number on any page.

The deliverable carries C3's brand identity. Typography, colour, cover treatment, and disclaimer footer match the rest of C3's client-facing output.

6. Where this is going

In rough priority order, the next industries on the build list:

1. **Biologics and vaccines** — extends the pharma module with bio-aware prompt vocabulary; corpus baseline already exists.
2. **Semiconductor** — cleanroom, ASML, gas distribution, ultrapure water; corpus baseline exists, schedule and long-lead references pending.
3. **mRNA and gene therapy** — extends biologics.
4. **Automotive** — body-in-white, paint shop, EV battery cell.
5. **Food and beverage** — sanitary design, CIP, FDA / USDA regulatory posture.

Cross-cutting workstreams on the roadmap:

- **Per-user authentication** replacing the current placeholder gate.
- **Client-facing self-serve mode** behind a guest link with rate limiting.
- **Bilingual deliverables** (English and Simplified Chinese) via the existing translation skill.

- **External cost-database integration** (RSMMeans, equipment pricing) — explicitly deferred from v1 because the curated corpus carries more engineering judgment than a raw price feed.

This document will be updated as modules ship. The version below is the current state.

7. How to get started

You have been invited because we want your feedback. Here is what to do:

1. **Sign in.** You will receive a magic-link email from a C3 domain. Click the link; you will be logged in. The link expires after a short window.

Prepare a project. Before you start a workshop, have these inputs ready:

- One-paragraph project description (what is being built, why).
 - Capacity target (kg/yr, units/yr, km/yr, MW, MT/yr — whatever fits).
 - Location (country, state or province, urban / suburban / rural).
 - Delivery model (greenfield, brownfield expansion, fit-out, debottleneck).
 - Regulatory regime if known (FDA, EMA, NMPA, BABA / BEAD, OSHA PSM, FERC interconnection queue, etc.).
 - Required in-service date if known.
 - Any attached documents — a one-page concept, a process sketch, prior feasibility notes — are useful but not required.
3. **Run the workshop.** Start a new project, complete the intake, walk through each skill checkpoint with a senior C3 engineer in the room, accept or revise the go/no-go recommendation, download the deliverable.
 4. **Ask questions during the workshop.** The right-side AI dock is open on every project view. Use it for the kind of question you would otherwise ask a colleague across the room — factor lookups, standards references, "what does a typical X look like at this scale". It draws on C3's curated corpus.
 5. **Give us feedback.** Every page has a footer link — "Report an issue or send feedback". Use it. Things that confuse you, outputs that look wrong, places where the tool felt slower than thinking it through yourself, defaults that should not be defaults — all of it is useful. For anything urgent, email jimmy.sessions@c3-eng.com directly.

The beta is the moment to push the tool hard. The deliverable carries C3's brand and a "for feasibility discussion only" disclaimer; nothing you produce here is committed to a client without a senior engineer's review and your own judgment on top.

C3 Group — Century 3. For feasibility discussion only — not for construction.