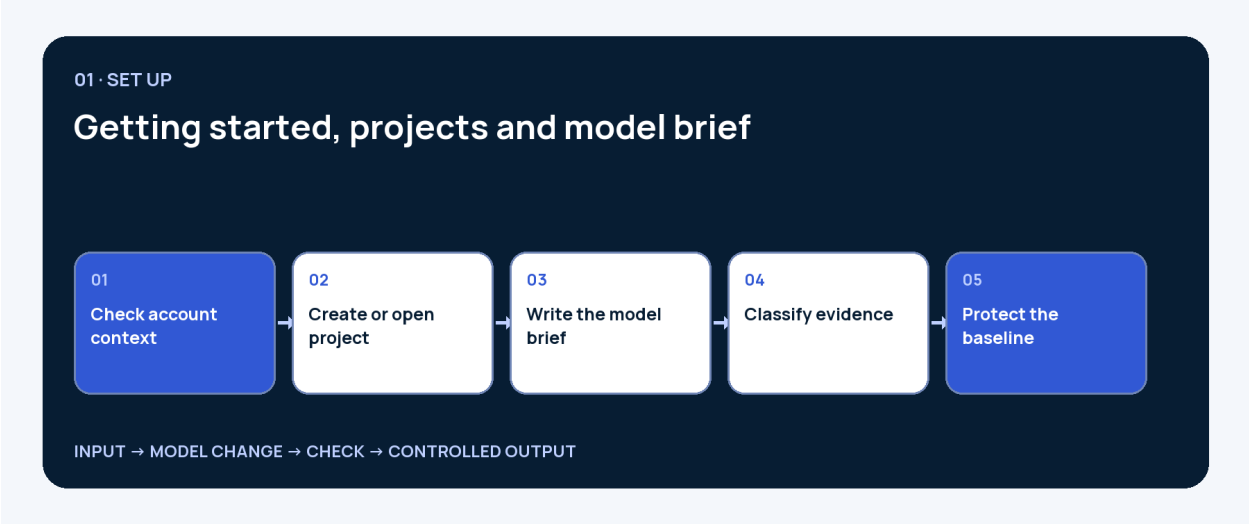
Axion

Getting started, projects and model brief

From personal account to a clearly bounded engineering assignment



EDITION 2.6 · 19 AUGUST 2026 · MODULE MANUAL · 01 · SET UP

Axion · Bioprocess engineering software

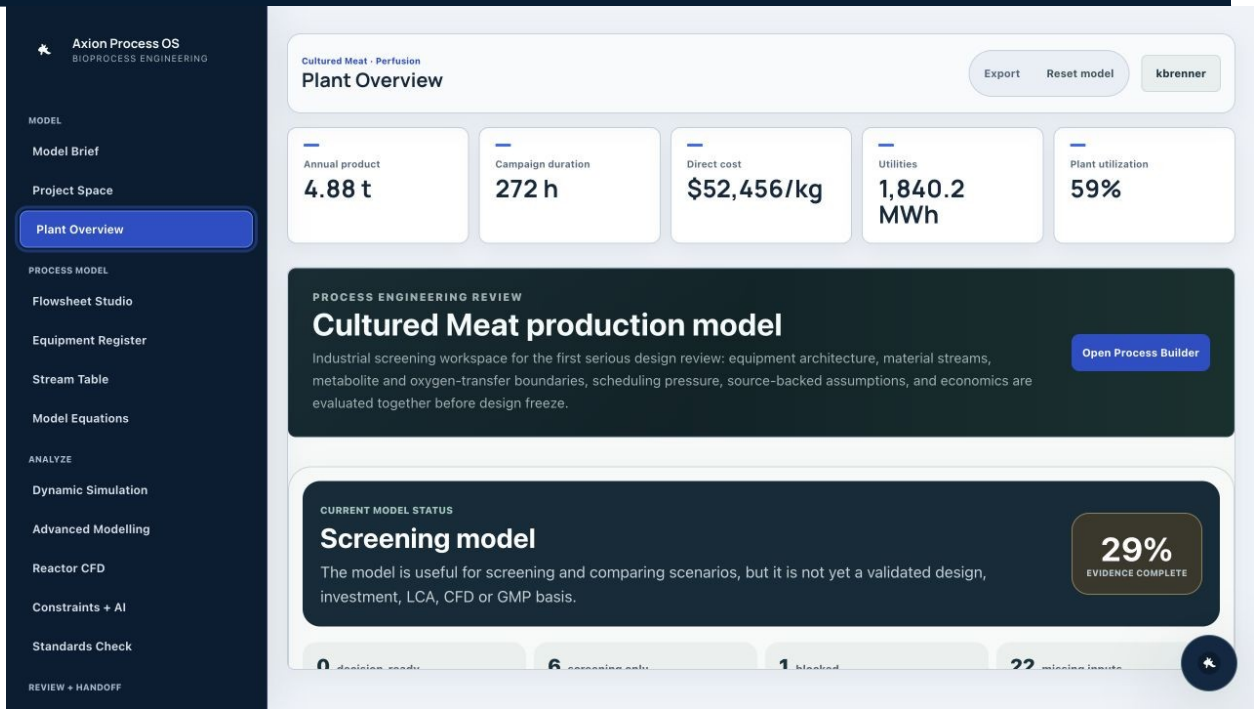
At a glance

Engineering decision	Path in Axion
Which question should the model answer, for which project and with which evidence basis?	Sign in → Set up → Model brief / Projects + versions / Plant overview

Primary users	Permitted maturity
Project lead, Process Development, MSAT, Reviewer, Administrator	Draft or Screening; higher only after documented calibration and review

DECISION RULE

This area defines what Axion is allowed to calculate. A precise model brief prevents technically correct calculations from answering the wrong engineering question.



Relevant Axion workspace for this module manual.

Prepare the model

Input	Why it is required	Ready when
Product and process family	Defines components, unit operations and default assumptions.	Product, organism/cell line and route are unambiguous.
Intended use	Defines the decision and required accuracy.	One question states target, scale and horizon.
System boundary	Prevents double counting and hidden exclusions.	Inlets, outlets, utilities, waste and exclusions are named.
Owner and reviewer	Establishes accountability and independent review.	A person or function is assigned to each role.
Data inventory	Separates measurements, sources, assumptions and gaps.	Unit, period, provenance and confidentiality are recorded.

Preflight check

- Confirm the correct project, branch and controlled version
- Verify units, provenance and permissions
- Save a restore point before a decision-relevant change
- Keep blocking gaps visible

APPLICABILITY LIMIT

A complete model brief does not prove physical correctness. It defines what later evidence must demonstrate.

Workflow

1. Check account context

1. Open profile, organisation, role and plan state.

VISIBLE RESULT

Active user and available capabilities match the assignment.

2. Create or open project

2. Set project name, product, owner and confidentiality.

VISIBLE RESULT

A separate project with a stable ID is active.

3. Write the model brief

3. Enter product, scale, mode, decision, boundary and data state.

VISIBLE RESULT

The brief describes intended use without contradiction.

4. Classify evidence

4. Register available files and mark missing evidence explicitly.

VISIBLE RESULT

Every critical input is a source, assumption or open gap.

5. Protect the baseline

5. Save the baseline and create a branch for changes.

VISIBLE RESULT

A restorable start point with a change note exists.

Review the result

Review criterion	Pass condition	If it fails
Scope and structure	The documented criterion is satisfied and supported by traceable evidence.	Correct the model or keep the output Not decision-ready.
Units and balances	The documented criterion is satisfied and supported by traceable evidence.	Correct the model or keep the output Not decision-ready.
Evidence and uncertainty	The documented criterion is satisfied and supported by traceable evidence.	Correct the model or keep the output Not decision-ready.
Reproducibility	The documented criterion is satisfied and supported by traceable evidence.	Correct the model or keep the output Not decision-ready.
Review state	The documented criterion is satisfied and supported by traceable evidence.	Correct the model or keep the output Not decision-ready.

DECISION RULE

A complete model brief does not prove physical correctness. It defines what later evidence must demonstrate.

Troubleshooting

Observation	Likely cause	Correction
The result looks plausible but cannot be explained	Inputs, units, model version or evidence are missing.	Open the relevant register, restore traceability and rerun.
A change affects unexpected outputs	Dependencies or imported mappings were not reviewed.	Inspect the change plan and before/after diff; undo if required.
The module appears complete but readiness is low	Required industrial evidence is still missing.	Assign the visible gaps and keep maturity at Screening or Not decision-ready.

Handover and next steps

Artifact	Recipient	Must contain
Module result package	Engineering reviewer	Inputs, calculations, results, units, intervals, maturity
Readiness register	Model owner	Gap, required work, owner, due date, intended use
Controlled version	Project team	Branch, version, change note, reviewer and restore point

Completion check

- The active project, branch, version and intended use are visible.
- All inputs have units, provenance, review state and uncertainty where relevant.
- Blocking model, physical, numerical and evidence gaps are closed or assigned.
- The result maturity matches the available evidence.
- A controlled output package opens correctly and includes limitations.

Open Axion Book technical onboarding