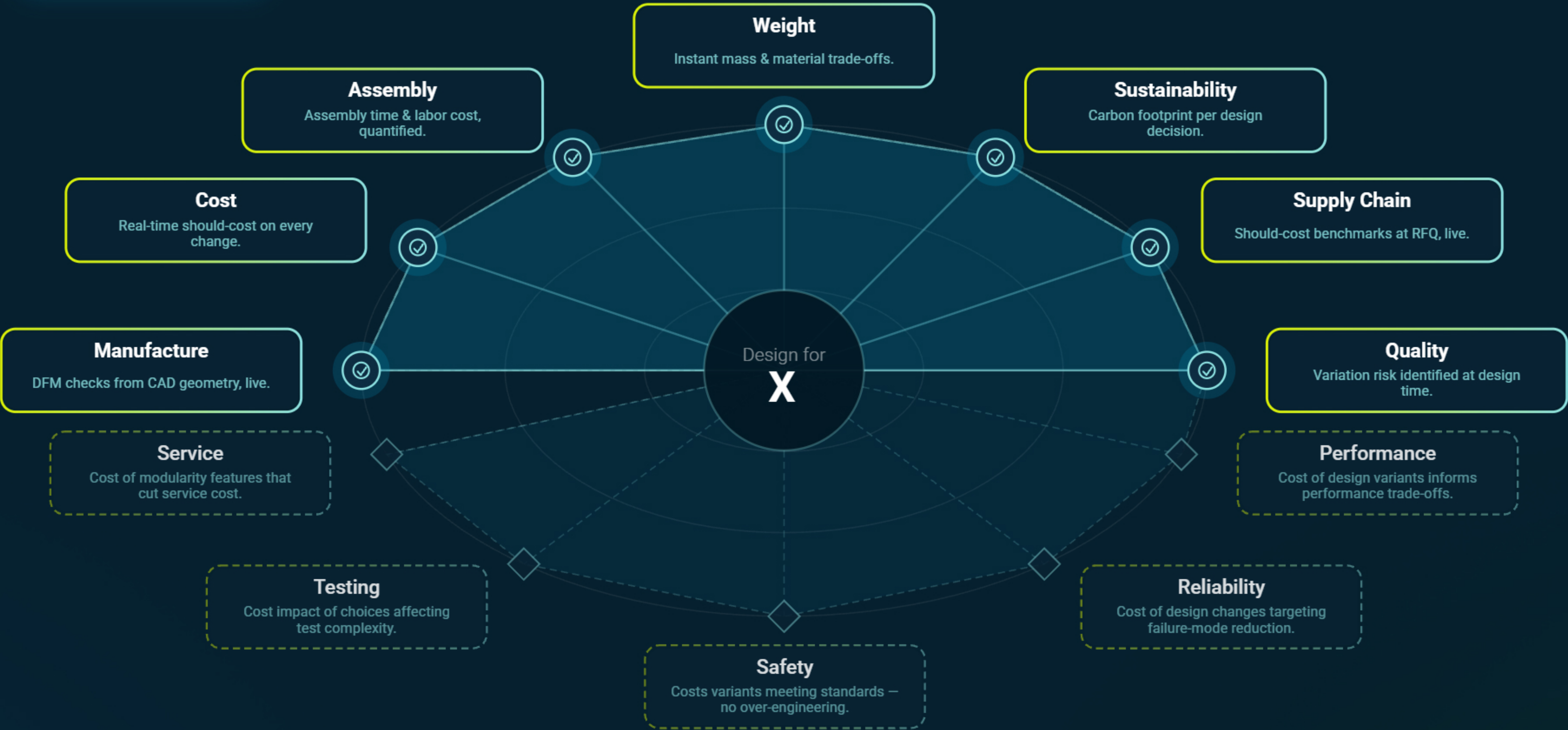


✔ Direct aPriori intelligence

◆ aPriori quantifies design variant costs to support trade-off decisions



DISCIPLINE REFERENCE

DESIGN FOR ✔ Manufacture Parts that can't be made efficiently erode margin before the product ships — DFM issues found at first article cost 10–100× more to fix than at design time. ✔ Automated DFM analysis runs directly from CAD geometry at every check-in, flagging process violations, tolerance issues, and high-cost features before they reach the shop floor.	DESIGN FOR ✔ Cost Without a live cost signal, engineers optimize for function while procurement absorbs the margin hit — the two never meet until the RFQ is too late to change. ✔ aPriori builds a bottom-up should-cost model from geometry, material, process, and labor rates — updating on every design change so engineers and procurement share one cost truth.	DESIGN FOR ✔ Assembly Complex assemblies inflate labor cost, introduce variation, and slow production ramp — most of that complexity is locked in by the time manufacturing sees the design. ✔ Assembly time and labor cost are quantified automatically against DFA principles — fewer fasteners, standard interfaces, one-direction build — surfacing the cost of every structural choice.
DESIGN FOR ✔ Weight Lightweight designs reduce material cost, fuel consumption, and carbon impact — but without trade-off data, engineers over-engineer for safety margin rather than risk reduction. ✔ Every geometry or material change instantly updates mass, cost, and embodied-carbon estimates, so lightweighting decisions are grounded in consequence — not just gram counts.	DESIGN FOR ✔ Sustainability Carbon impact is determined at design — by the materials selected, the processes required, and the supply chain geography — but most teams never see it until an audit. ✔ aPriori connects material, process, and supply-chain geography into a live CO₂ signal per design decision, enabling engineers to hit net-zero targets before commitments are locked.	DESIGN FOR ✔ Supply Chain Designs built around single-source or hard-to-source components create procurement risk that only surfaces at RFQ — when redesign is expensive and lead times are fixed. ✔ aPriori flags preferred-supplier parts, standard catalog components, and high-risk geometries during design, and provides should-cost benchmarks at RFQ so procurement negotiates from fact.
DESIGN FOR ✔ Quality Tight tolerances on features the process can't hold reliably create scrap, rework, and inspection cost — yet tolerance decisions are made with no visibility of process capability. ✔ aPriori links geometric tolerances to process capability data at design time, identifying where the design is pushing process limits before tooling is cut and scrap rates become structural.	DESIGN FOR ◆ Performance Function, strength, stiffness, and dynamic response must meet specification — but performance targets and cost targets are rarely evaluated together, leading to over-designed, over-cost products. ◆ aPriori quantifies the cost of design variants across performance trade-offs — so engineers can see exactly what a performance improvement costs and make an informed decision rather than defaulting to the safest spec.	DESIGN FOR ◆ Reliability High reliability requires materials and geometries that resist failure modes over a service life — but the cost of reliability improvements is rarely visible until procurement pushes back. ◆ aPriori compares the cost of design changes targeting failure-mode reduction, helping engineering and commercial teams agree on the right reliability investment relative to its cost and warranty risk.
DESIGN FOR ◆ Safety Products must protect users and meet regulatory standards — but safety margins are often set conservatively because engineers lack data on the cost of the margin they are adding. ◆ aPriori costs design variants that meet safety standards, making the cost of each safety decision explicit — so teams can meet compliance requirements without systematically over-engineering every feature.	DESIGN FOR ◆ Testing Testability is designed in — features that make faults detectable and isolatable reduce test time and field-support cost, but are rarely evaluated for their own cost-benefit. ◆ aPriori identifies the cost impact of design choices that affect test complexity, enabling teams to balance testability investment against its downstream return in reduced test cycle time and warranty cost.	DESIGN FOR ◆ Service Products that are hard to service cost more to support in the field — but modularity, access, and standard tooling requirements add design complexity whose cost is rarely evaluated upfront. ◆ aPriori evaluates the cost of modularity and access features that reduce field-service time and cost, giving engineering teams the data to make serviceability investments that are commercially justified.