**PRD-23 — Supplier Linkage & Variant-by-Supplier**

**Intent**  
Model supplier-specific variants within a product family and roll supplier risk (from Partner Store) into kit/alternate decisions.

**Preconditions**

* Partner Store risk badges enabled; supplier entity linked.
* Product supports multiple **SupplierVariant** records keyed by supplier.

**Flow (happy path)**

1. **Link Supplier Variant**: for a product, create a **SupplierVariant** with supplier-specific attributes (spec tolerance, lead time, site, certificate set).
2. **Risk Overlay**: pull supplier risk & internal lists; compute **Supplier Risk Badge** on the variant (e.g., “Preferred”, “Watch”, “Restricted”).
3. **Kits/Alternates**: when building a kit (PRD-05), select components by **risk-aware ranking** (preferred suppliers first).
4. **ERP/Procurement Surface**: expose preferred/alternate supplier choices with compliance WHY.
5. **Changes & Impact**: supplier risk change (Partner Store) or certificate failure (PRD-21) triggers re-ranking + alerts.

**Edge cases**

* Same supplier across regions → create site-scoped variants; enforce site screening status.
* Restricted supplier for a critical component → suggest alternates or license path.

**Done when**

* Buyers see ranked supplier options with explicit compliance reasons; kits automatically favor safer suppliers.
* Supplier changes propagate to kits and alerts within SLA.