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GREENFIELD VS. BROWNFIELD INDUSTRIAL SETUP

An Executive Comparison Framework

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THE DECISION THAT SHAPES EVERYTHING

One decision. Long-term impact.

Choosing between greenfield and brownfield defines your cost, timeline, risk, and long-term performance.

WHAT THE DATA SHOWS:

- Projects without a clear site strategy are **2.3× more** likely to exceed costs by **20%**+ (KPMG)
- **68% of stalled industrial projects in India** are due to site-related issues (ICRA)
- Changing sites mid-project can cost **₹8–22 crore** and delay timelines by **14–20 months**
- **42% of brownfield projects** faced unexpected remediation costs (CII)

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DEFINING THE TWO PATHS

Greenfield is developed on unused land, where everything is designed from scratch to fit the process, without legacy constraints or liabilities.

Typical profile

- Higher upfront CapEx
- 18–36 month approval cycle
- Full layout flexibility
- Complete structural control
- Ideal for pharma, chemicals, defence, semiconductors, high-precision sectors

Greenfield Investment Snapshot

- ₹4.2 lakh crore average annual investment (2020–2024)
- 74% concentrated in Gujarat, Maharashtra, Tamil Nadu, and Telangana (DPIIT)

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DEFINING THE TWO PATHS

Redevelopment of an existing industrial/commercial site, retaining and adapting viable assets, with design constrained by the current structure.

Typical profile

- Lower upfront CapEx
- 9–18 month approvals (clean sites)
- Fixed column grid
- Limited floor-to-ceiling flexibility
- Inherits environmental and regulatory history

Brownfield Land Availability (India)

- 1.4 lakh hectares available for redevelopment
- Spread across 17 states (Ministry of Commerce, 2023)

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STRATEGY, SITE & FIT

CHOOSE GREENFIELD WHEN:

- Process needs specific layout, height, or precision
- Long-term operations (15+ years) justify higher CapEx
- Eligible for PLI, SEZ, or state incentives
- Handling hazardous or regulated manufacturing
- Future expansion is planned

CHOOSE BROWNFIELD WHEN:

- Faster start (12–18 months quicker) is critical
- Lower initial CapEx is required
- Existing site offers logistics or labour advantage
- ESG goals favour reuse over new construction

REALITY CHECK:

61% of brownfield projects chosen for speed faced 8.4 months delay due to site issues (Deloitte India)

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REAL-WORLD APPLICATION: BROWNFIELD EXPANSION

Project: CG Power and Industrial Solutions, Malanpur
Executed by: BBAPL
Project Type: Brownfield Expansion

Integrated Facility Expansion

Expansion within an operational manufacturing facility through the addition of critical industrial sheds, including Winding, DT Winding, Loco, and Utility/IPTS infrastructure.

Constraint-Led Execution

Designed and delivered within existing plant constraints, balancing structural integration, functional efficiency, and uninterrupted operations.

What this demonstrates:

Practical execution of brownfield strategy, optimizing existing assets while enabling capacity expansion with controlled cost and timeline.

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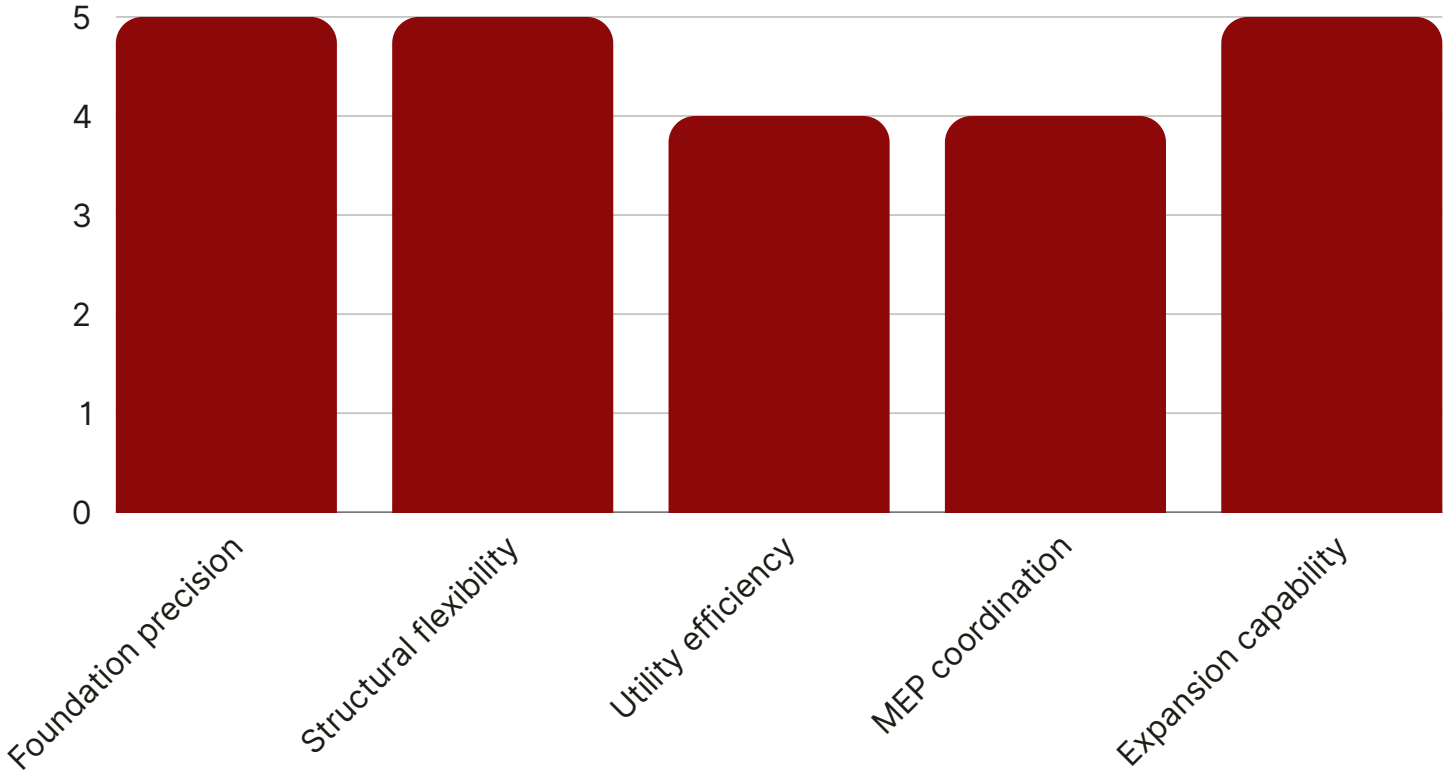
ENGINEERING & STRUCTURAL REALITIES (GREENFIELD)

G***reenfield projects*** offer complete control over design; every parameter, from foundation to structure, is aligned to your process needs. This eliminates compromises and ensures optimal performance from day one.



System Integration

All utilities and MEP systems are designed as one coordinated network, avoiding legacy conflicts and improving efficiency and long-term maintainability.

Scalability Built-In

Expansion is planned at the start, not added later. Future capacity, whether in utilities, structure, or layout, is reserved in the master plan, reducing disruption and cost during scale-up.

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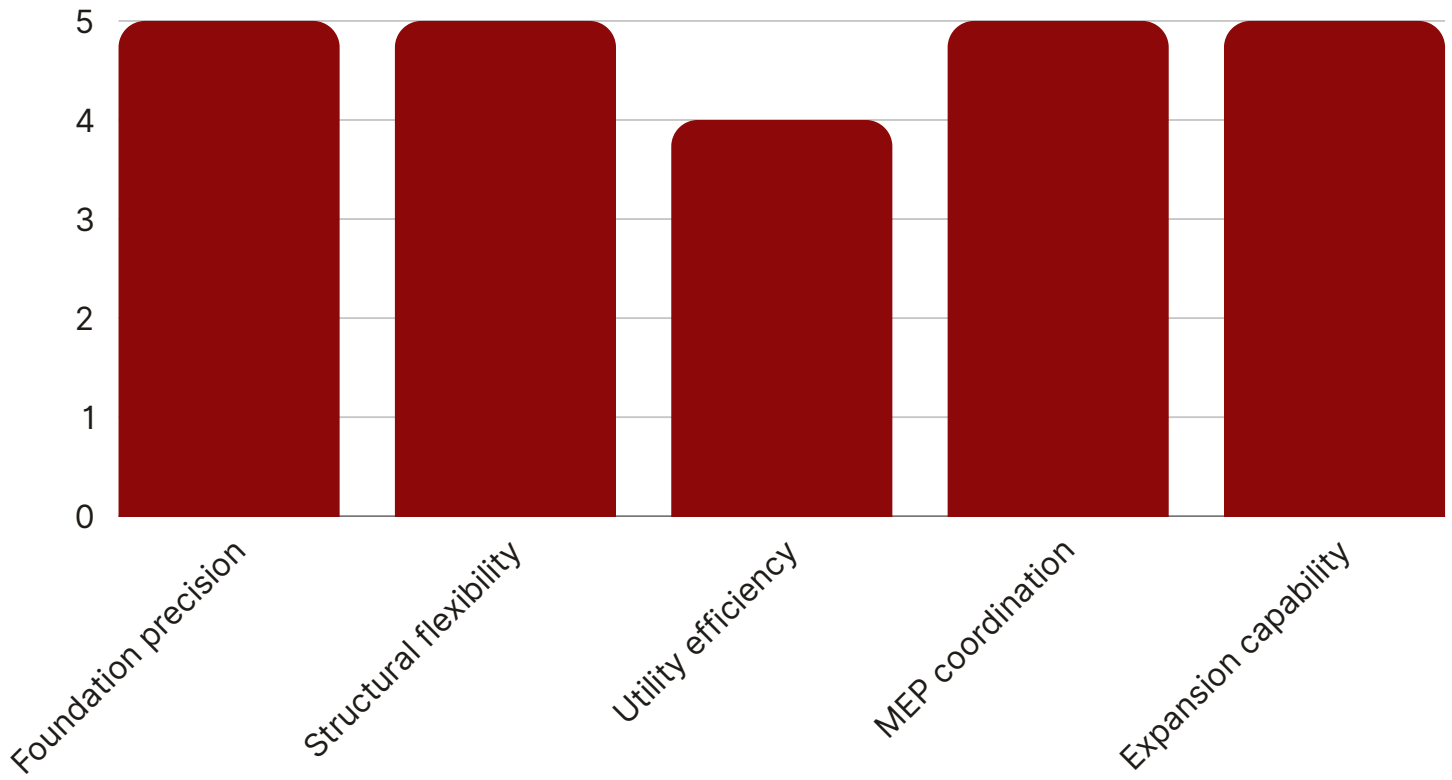
ENGINEERING & STRUCTURAL REALITIES (BROWNFIELD)

All design decisions depend on what already exists. Structural audits define feasibility, and limitations in slabs, columns, and height directly impact layout and equipment planning.



Hidden Conditions

Site condition is not fully visible upfront. Hazardous materials, aging utilities, and structural weaknesses often surface during execution, affecting cost and timelines.

Retrofit Complexity

Upgrades involve demolition, reinforcement, and adaptation within constraints. Every modification, structural or utilitydds uncertainty, making timelines and budgets harder to lock early.

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COMPLIANCE & REGULATORY LANDSCAPE

Greenfield: Approval Sequence

Approval	Issuing Authority	Typical Duration
Environmental Impact Assessment	MoEF & CC / SEIAA	6–18 months
Consent to Establish	State Pollution Control Board	2–4 months
Factory plan sanction	Directorate of Industrial Safety & Health	1–3 months
Building permit	Industrial authority / ULB	2–4 months
HT power connection	DISCOM	3–12 months
Consent to Operate	State Pollution Control Board	2–3 months post-construction

*T**otal pre-construction approval window**: 18–36 months For Category A industries (large-scale chemicals, heavy manufacturing), MoEF clearance alone averages 14.2 months nationally. (Centre for Science and Environment)*

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COMPLIANCE & REGULATORY LANDSCAPE

Brownfield: Approval Sequence

Approval	Issuing Authority	Typical Duration
Environmental site audit and remediation NOC	SPCB / MoEF where applicable	2–8 months
Change of use or rezoning	Local planning authority	2–6 months
Revised factory plan sanction	DISH	1–2 months
NOC amendment for modified operations	SPCB	1–3 months
Utility modification approvals	DISCOM / water board	1–4 months

34% of brownfield industrial acquisitions in India required unplanned environmental remediation. Average remediation cost: ₹1.8 crore. Average schedule impact: 11 months. (FICCI Environment Committee)

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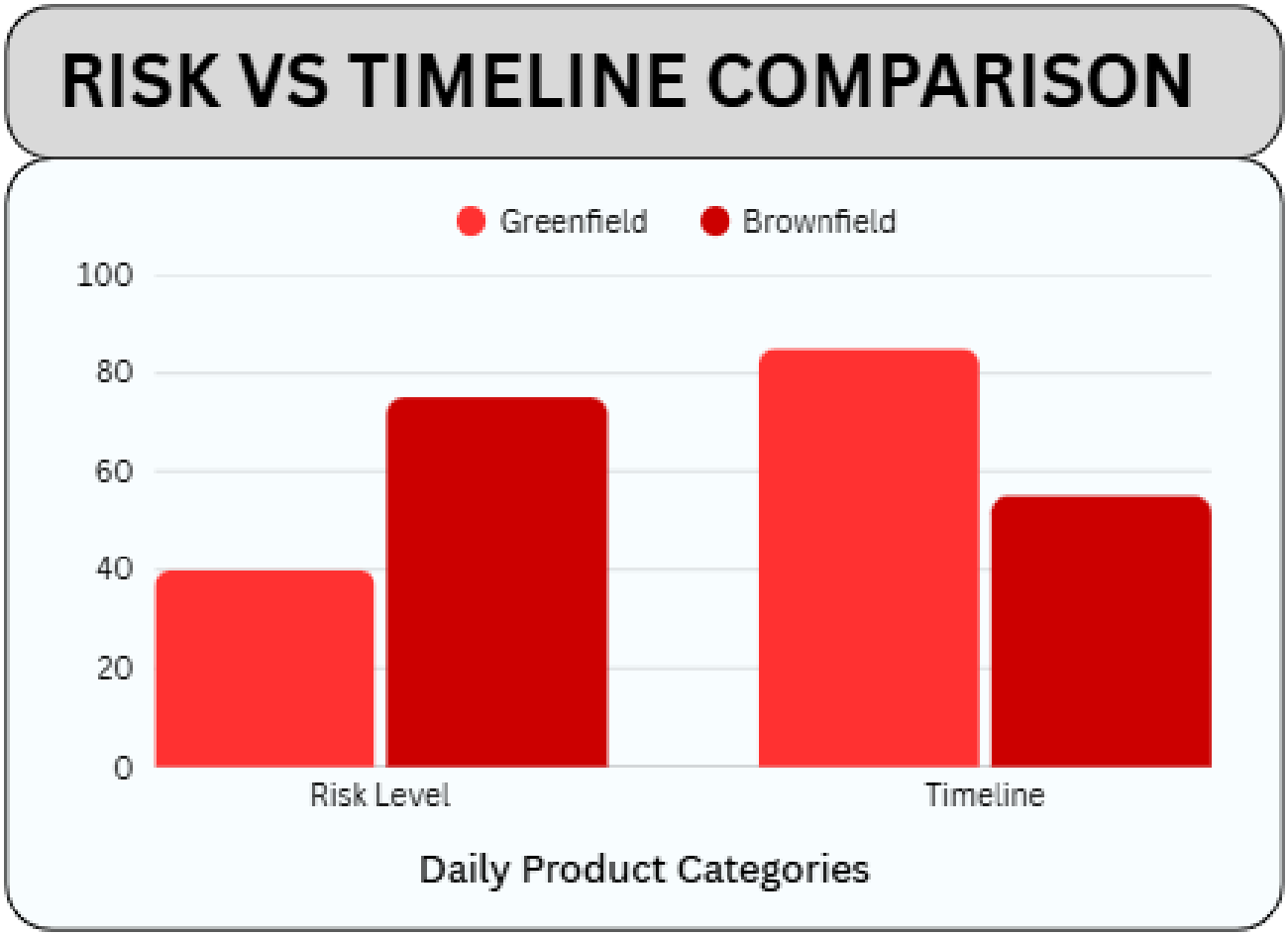
RISK & TIMELINE REALITY CHECK

Outcomes depend on risk and timeline, greenfield offers control, brownfield offers speed, with trade-offs in how risks and timelines play out.



How Risk Actually Shows Up

Greenfield risk is upfront, approvals, capital, and pre-revenue time. Brownfield risk emerges during execution through structural, environmental, and design constraints.

11 / 30

Greenfield Risk Score
Lower risk, higher control

22 / 30

Brownfield Risk Score
Higher risk, execution uncertainty

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TRUE COST COMPARISON

Phase	Greenfield	Brownfield
Land acquisition	₹80–250L	₹40–150L
Site enabling	₹25–60L	₹8–20L
Structure (build/retrofit)	₹180–320L	₹60–150L
Environmental remediation	Nil	₹15–180L
Utilities & MEP	₹90–160L	₹40–120L

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EXECUTIVE DECISION MATRIX

A quick scoring system to determine whether a project aligns with Greenfield or Brownfield development.

EVALUATES 6 FACTORS

Timeline, CapEx, layout, scale, location, and certifications

SCORING METHOD

Each factor is rated from 1 to 5 based on project requirements

DECISION SIGNAL

Low scores (1–2) indicate Brownfield, high scores (4–5) indicate Greenfield

FINAL OUTPUT

Total score interpretation7–14 Brownfield, 28–35 Greenfield, 15–27 requires feasibility study

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10-POINT SITE VERIFICATION CHECKLIST

Complete before signing LOI or land acquisition agreement

1. Title Clarity	Yes / No
2. Zoning Status	Yes / No
3. Environmental History	Yes / No
4. Structural Condition	Yes / No
5. Utility Capacity	Yes / No
6. Water Availability	Yes / No
7. Connectivity	Yes / No
8. Labour Catchment	Yes / No
9. Incentive Eligibility	Yes / No
10. Expansion Potential	Yes / No

Critical Rule:

Any 'No' or 'Unconfirmed' in items 1–5 must be resolved before acquisition proceeds.

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BBAPL: FROM SITE TO COMMISSIONING, WITHOUT THE GUESSWORK

- **Greenfield**: Site, approvals, design, and execution handled end-to-end
- **Brownfield**: Retrofit planning, compliance, and live-site execution support
- **Impact**: Faster approvals (23 → 14 months) and <8% cost overruns
- **Reach**: Active across 6 states with strong regulatory coordination

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