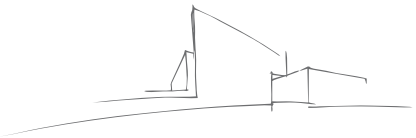

STREAMLINING FOR SUCCESS ...

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LEAN FACTORY BUILDING (LFB) ARCHITECTURE

WHAT IT IS ?

Lean Factory Building Architecture is an approach to industrial facility design where the production process drives the building design, not the other way around.
In lean factory architecture, the factory is designed from the inside out—starting with optimized product flow, balanced processes, and waste elimination (transportation, motion, waiting, excess inventory). Once the ideal shop-floor layout is defined, the building structure, column grid, spans, utilities, and material movement paths are designed to support this flow.

The result is a factory that:

- Minimizes internal movement and handling
- Enables smooth, continuous production flow
- Reduces work-in-process and lead time
- Improves productivity, quality, and safety
- Remains flexible and scalable for future growth

In essence, lean factory building architecture (LFB) aligns operational efficiency with architectural design, ensuring the building enhances performance rather than constraining it.

WHY TO DESIGN WITH LFB ARCHITECT?

Designing a factory building through a lean factory building architect is critical because early architectural decisions have a direct and long-term impact on operational performance. Elements such as column spacing, building orientation, floor levels, loading bays, utility routing, and circulation paths are difficult and costly to change once constructed. If these are designed without a deep understanding of manufacturing flow, inefficiencies become permanently embedded into the facility.

A lean factory building architect ensures that the building supports current operations while remaining adaptable to future changes. By aligning structure, services, and spatial planning with production requirements, the factory gains flexibility for volume variation, product mix changes, automation, and expansion—without major structural rework.

Most importantly, this approach prevents hidden costs over the factory's lifecycle. A well-designed lean facility reduces energy usage, material handling effort, congestion, and rework, leading to lower operating costs, faster response times, and sustained competitiveness. In short, lean-led architectural design safeguards both operational excellence and long-term return on investment.

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PIONEERS OF LFB ARCHITECTURE

A Division of Solutions KMS Effective Workspace Architects

OptiSpace specializes in the strategic integration of Lean Manufacturing principles with industrial building architecture to create high-performance factory environments.
We design manufacturing facilities that maximize efficiency, productivity, and sustainability by embedding lean thinking directly into architectural planning. This unique, process-first approach positions us as pioneers in blending operational excellence with industrial architecture.

How We Are Different

Unlike conventional factory designers who begin with the building, OptiSpace starts with shop-floor operations.
Before any architectural design is initiated, we focus on improving operational performance by systematically eliminating Lean 'mudas' (waste) from the production process.

Our lean-driven approach ensures:

- Minimal or near-zero transportation between processes
- Reduced operator motion through optimized workstation design
- Lowest possible work-in-progress (WIP) through balanced process flow
- Minimal material waiting time across operations

By creating seamless and balanced shop-floor operations, we deliver measurable business impact—higher productivity, reduced inventory levels, improved quality, and lower overall manufacturing costs.

Once the production system is optimized, we translate these lean workflows into a purpose-built factory architecture.
The resulting building is designed to support and enhance operations, rather than restrict them. This inside-out methodology ensures facilities that are efficient, scalable, future-ready, and sustainable.

STEP-WISE APPROACH

Phase 1: Engagement & Understanding

- Pulse Check Visit to understand overall requirements and current state (complimentary)
- Submission of Techno-Commercial Proposal and receipt of Purchase Order

Phase 2: Lean Diagnosis & Opportunity Identification

- Detailed study of product, process, and operational data
- Shop-floor observations to identify improvement opportunities
- Ideation, training, and live demonstrations for proposed improvements
- Preparation of current-state 2D CAD layout of the existing factory
- Spaghetti diagram analysis to assess internal material and manpower movement
- Structured discussions with management and core teams to understand expectations, constraints, and key pain points

Phase 3: Lean Layout Development

- Design of proposed shop-floor layout (2D CAD) aligned with lean flow principles
- Review discussions, refinements, and final layout sign-off

Project-Wise Execution

Greenfield Projects

- Preparation of architectural drawings – plans, elevations, sections, etc.
- Design reviews, amendments, and final sign-off of factory architecture
- Delivery of drawings for statutory / sanction approvals
- Development of 3D walkthrough / visualization
- Preparation of structural drawings
- Preparation of MEP (Mechanical, Electrical & Plumbing) drawings
- Office and administrative area interior design
- Construction supervision and design coordination

Brownfield Projects

(Also applicable to Greenfield, where required)

- Design of worktables, assembly stations, and workstations
- Calculations and design of materials stores, FG, RFD stores
- Finalization of material handling systems – trolleys, conveyors, cranes, lifts, etc.
- Support during equipment procurement
- On-floor demonstration of improved methods and procedures
- Project closure and handover

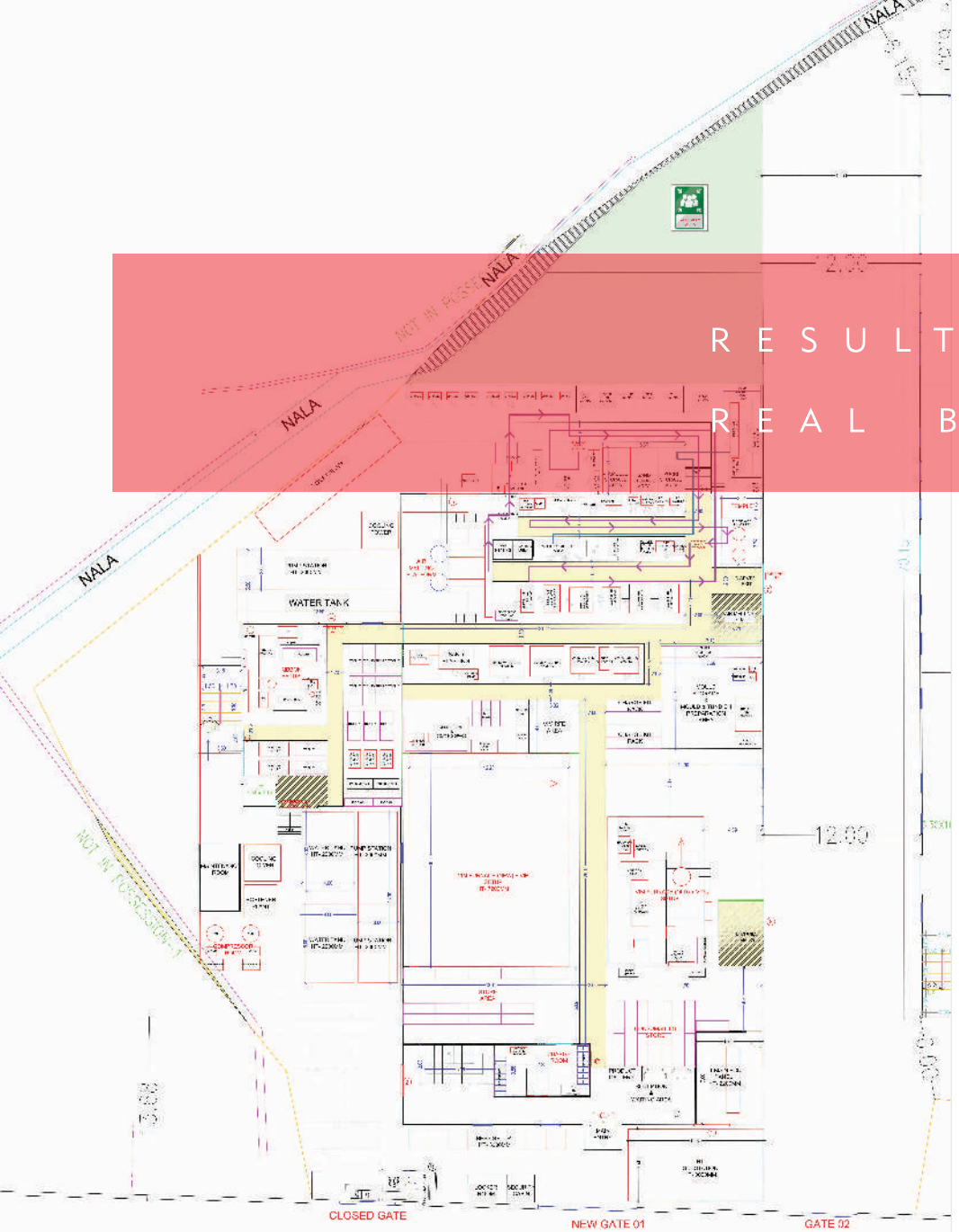
WHAT SETS US APART

- Architects specialised for Industrial Buildings
- Highly effective workplace layout drawing, based on the Lean Manufacturing Concepts
- Material handling effectiveness
- Lean Manufacturing techniques suggestions and training to team
- Visual Factory embedded design
- Visual Count-free Stores design
- Complete Architectural building drawings – Plan, Elevation, Sanction drawings, Structural design, MEP, office interior design and development, landscaping design and deployment – all under one shelter
- Vastu Shastra based building design
- Factory Act and other rules and regulations complied building
- 6S concepts embedded in the building design itself
- Every part detailed drawings of building – from security gate to washroom
- BCP – Building Construction Plan for civil contractors with architect inspection levels
- Materials selection guidance
- Factory shifting assistance (after completion of construction)

After Commissioning

- Visual Factory deployment guidance
- Production Planning, Supply chain system guidance
- Data collection and analysis assistance

OPTISPACE'S PARTNERS IN PROGRESS



RESULTS THAT MAKE REAL BUSINESS SENSE

USTRIAL PROJECT AT MIRA ROAD,
MUMBAI

SOLUTION
Optispace

DYNAMIC & INSPIRING LEADERSHIP

Minish Umrani

Director

An entrepreneur known for his bold and unconventional thinking,
Minish believes in the adage:
'The extraordinary begins where the ordinary ends.'

Armed with a Lean Black Belt from Crane University, USA,
along with a Six Sigma Black Belt, Minish is an experienced
Change Management Consultant and a Certified Trainer in Six Sigma.

Through a synthesis of lean manufacturing and building architecture,
Minish has been instrumental in transforming
250+ diverse enterprises across India over the last 20 years.

A visionary gifted with innovative design thinking,
Minish brings to the table a rich repertoire of
techno-commercial skills and leadership abilities.

Minish's is acknowledged for his thought leadership in industry
and government circles. He is empanelled as a Registered Expert
with the National Productivity Council (NPC), Govt. of India and
also serves as Member of the Mahratta Chamber of Commerce,
Industry & Agriculture (MCCIA), Pune He has been honoured
with the 'Udyog Mitra Award' by the Manufacturing Association of Satara.

SOLUTIONS LEGACY

Since last 20 years, we, Solutions Kaizen Management Systems, have successfully undertaken numerous improvement projects, enhancing both the top and bottom lines for over 250 businesses across India. Varied Industrial segments served for, are over 75. We use the world-wide known techniques viz. Lean Manufacturing, Six Sigma, Theory of Constraint.

Our expertise includes designing Green as well as Brown field factory layouts. And off-course addressing challenges in productivity, Production Planning, inventory management, Visual Count-free stores, quality control, process optimization, Visual Workplace, etc.

Burckhardt Compression
InstaSine
EMERSON
MASS-TECH
TOP GEAR
ACPL
METPLAST
KINECO GLOBAL RAIL
Accrete
PRESSINGS
Reliance
PALEKAR
NPB
KINECO
AXIS
KALIKA STEEL
IDEAL GAS SPRINGS PVT. LTD.
GUKSS INDUSTRIES
ML
Derby
VIDYA
geolife.webp
IFT
NHP
SUTTATTI

SOLUTIONS
Optispace

The Team

- Lean Manufacturing Consultants
- Registered Architects, Materials and equipment Consultants

Associates

- Structural Consultants
- MEP Consultants
- Interior Decorators
- Electrical Consultants
- Furniture Manufacturers
- Fabricators
- Fire Safety System vendor

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