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# **TRANSFORMING YOUR FOOD MANUFACTURING FACILITY INTO AN EFFICIENCY POWERHOUSE**

***OPTIMISING FOOD MANUFACTURING  
PRODUCTION EFFICIENCY***

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# 1 INTRODUCTION

In the competitive Australian food and beverage manufacturing industry, an efficient factory layout is more than just a nice-to-have – it's a cornerstone of productivity, safety, and compliance.

A well-designed food factory floor plan can streamline your operations and boost capacity, all while adhering to Australia's strict food safety regulations. In fact, the Food Standards Code emphasizes that premises should be designed to facilitate proper flow of activities and easy cleaning to minimize contamination risks.

Conversely, a poor layout can lead to bottlenecks, cross-contamination hazards, and frustrated teams.

Many operations managers in cities like Melbourne and Sydney know the pain of outgrowing a cramped, awkward facility or dealing with the fallout from a contractor's flawed design.

The goal of this article is to guide you through transforming your food factory layout into an efficiency powerhouse. We'll cover why layout matters, the benefits of optimisation, how to assess your current setup, key design principles, step-by-step transformation, and answer common FAQs.

By the end, you'll have a clear roadmap to solve capacity issues, meet scaling pressures, and create a reliable, high-performing production environment.





# 2 WHY AN EFFICIENT LAYOUT MATTERS

An efficient factory layout is the backbone of any successful food manufacturing operation. It's not just about fitting equipment into a building – it's about designing a workflow that solves problems and improves reliability across your production process.

Here are the key reasons an optimised layout matters:

## Higher Throughput and Capacity

In a well-laid-out facility, raw materials smoothly flow from receiving to processing to packaging without backtracking or delays.

This linear flow maximises output per shift. Inefficient layouts, on the other hand, force workers to take long trips or wait for access to equipment, wasting precious time. Every extra meter a worker walks or every unnecessary lift adds up to lost productivity. Over time, these inefficiencies constrain your capacity and make it difficult to scale up production to meet demand.

## Worker Safety and Morale

An orderly layout makes the workplace safer and more pleasant. Clear pathways reduce the risk of collisions or trips, and ergonomic workstations help prevent strain injuries. When staff aren't drained by navigating cluttered spaces, they can focus on their jobs.

Poor layouts cause frustration through backtracking for ingredients or dealing with congestion lowers morale.

In contrast, a well-designed layout with logical flow and ergonomics improves job satisfaction. Work feels smoother and less physically taxing, which boosts productivity and helps retain staff – an especially important factor in an industry facing skilled labor shortages.

## Food Safety and Compliance

In food manufacturing, safety is paramount. A thoughtful layout reduces the risk of cross-contamination by separating raw and cooked product areas, and by structuring a one-way product flow.

Australian regulations require facilities to be designed so they prevent contamination – for example, having a single direction for food flow from receiving through to dispatch.

*If your layout forces raw ingredients and finished goods to cross paths, you could be courting food safety incidents and breaching standards set by Food Standards Australia New Zealand (FSANZ).*

*Efficient layouts also make it easier to clean and sanitize equipment and floors, helping you meet hygiene regulations with less effort.*



# 3 BENEFITS OF AN OPTIMISED LAYOUT

Transforming your food factory's layout can deliver a wide range of tangible benefits. When every workstation, aisle, and piece of equipment is strategically placed, your entire operation runs smoother.

The major benefits of an optimised layout:

## **Increased Productivity**

An optimised layout significantly boosts productivity by streamlining workflows. By arranging equipment in sequence and reducing unnecessary travel, you enable faster process cycles. For example, you might position prep tables closer to mixers, or place packaging equipment right next to the end of the processing line. These changes cut down on the time workers spend walking back and forth. The result is more output in the same amount of time. Real-world cases illustrate this well – when one Sydney food equipment manufacturer redesigned its plant using Lean principles, it saw productivity increases between 15% and 40% due to better flow and work cell design. Lead times were cut in half and work-in-progress inventory dropped dramatically as well.

Even if your facility isn't doing a complete Lean transformation, you can still expect noticeable gains. Simply eliminating bottlenecks and reordering work areas logically can allow your team to produce significantly more each shift. In an industry where meeting customer demand on time is critical, such productivity improvements are a game-changer.

You'll be able to take on larger orders or additional product lines without overwhelming your team, thanks to an efficient layout that maximises their effective working time.

## **Cost Savings**

Improving your factory layout can drive significant cost savings. One key area is labor efficiency; when workstations and processes are logically arranged, staff spend less time walking or waiting and more time on productive tasks. This boosts output without increasing headcount, reducing labor cost per unit.

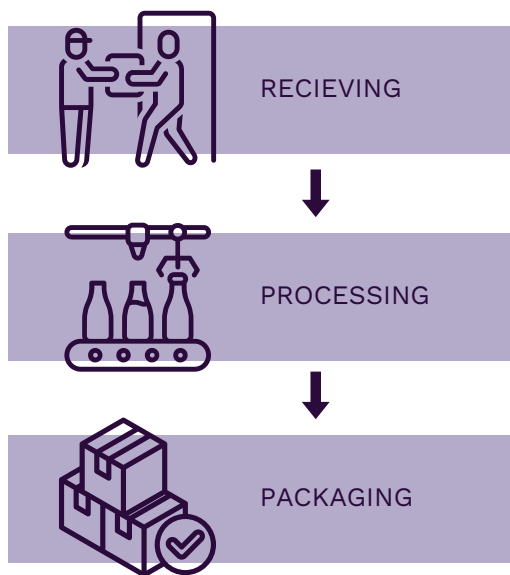
A smoother workflow also reduces waste and rework. Shorter distances and better organization lower the risk of product damage or mislabeling. You'll save on ingredients, packaging, and energy, especially if refrigeration lines or conveyors are shortened.

An optimised layout maximises space usage, potentially avoiding costly expansions. Fitting in a new line without building a new facility can save millions. Studies suggest layout redesigns can cut production costs by up to 40% through improved efficiency and reduced waste.

In short, smart layout planning lowers operating costs—and those savings can be reinvested into growth, upgrades, or your bottom line.

### Enhanced Food Safety

Another major benefit of an optimised layout is improved food safety and quality control. A well-designed factory separates high-risk activities (like raw meat processing) from low-risk ones (like packing), reducing cross-contamination. Raw ingredient zones should be isolated from ready-to-eat areas, with dedicated equipment and even separate uniforms where possible.



Implementing proper zoning and a one-way product flow - from receiving to storage, preparation, packaging, and dispatch - helps prevent overlap between “dirty” and “clean” processes.

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This layout also makes sanitation easier, with handwashing stations at entry points and cleaning supplies stored near use areas. Regulators like FSANZ favor facilities that show clear separation of risk zones and smooth workflows. The result: fewer contamination incidents, reduced recall risk, and greater customer confidence in your food safety standards.

### Improved Worker Satisfaction

An often-overlooked benefit of an optimised factory layout is higher worker satisfaction and morale. In a cluttered, inefficient workspace, staff often deal with long walking distances, obstacles, and workflow bottlenecks—leading to fatigue, stress, and even injuries. This kind of environment can make daily tasks frustrating and physically demanding.

In contrast, a thoughtfully designed layout reduces physical strain with shorter, direct paths, clear aisles, and ergonomic workstations. Tools and materials are where they’re needed, and break areas are easy to access. These small changes create a more comfortable and efficient environment where employees feel supported.

Involving staff in the redesign process can further boost morale. When their feedback is implemented and results in noticeable improvements, it builds a sense of ownership and pride. Happier, more empowered workers are not only safer and more engaged—they’re also more productive and less likely to leave, reducing turnover costs and strengthening your team.

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With these benefits in mind, it’s clear that improving your factory layout can pay off across the board. The next step is to honestly evaluate where your current layout stands, so you know what to improve. Let’s discuss how to assess your existing setup for efficiency and compliance.

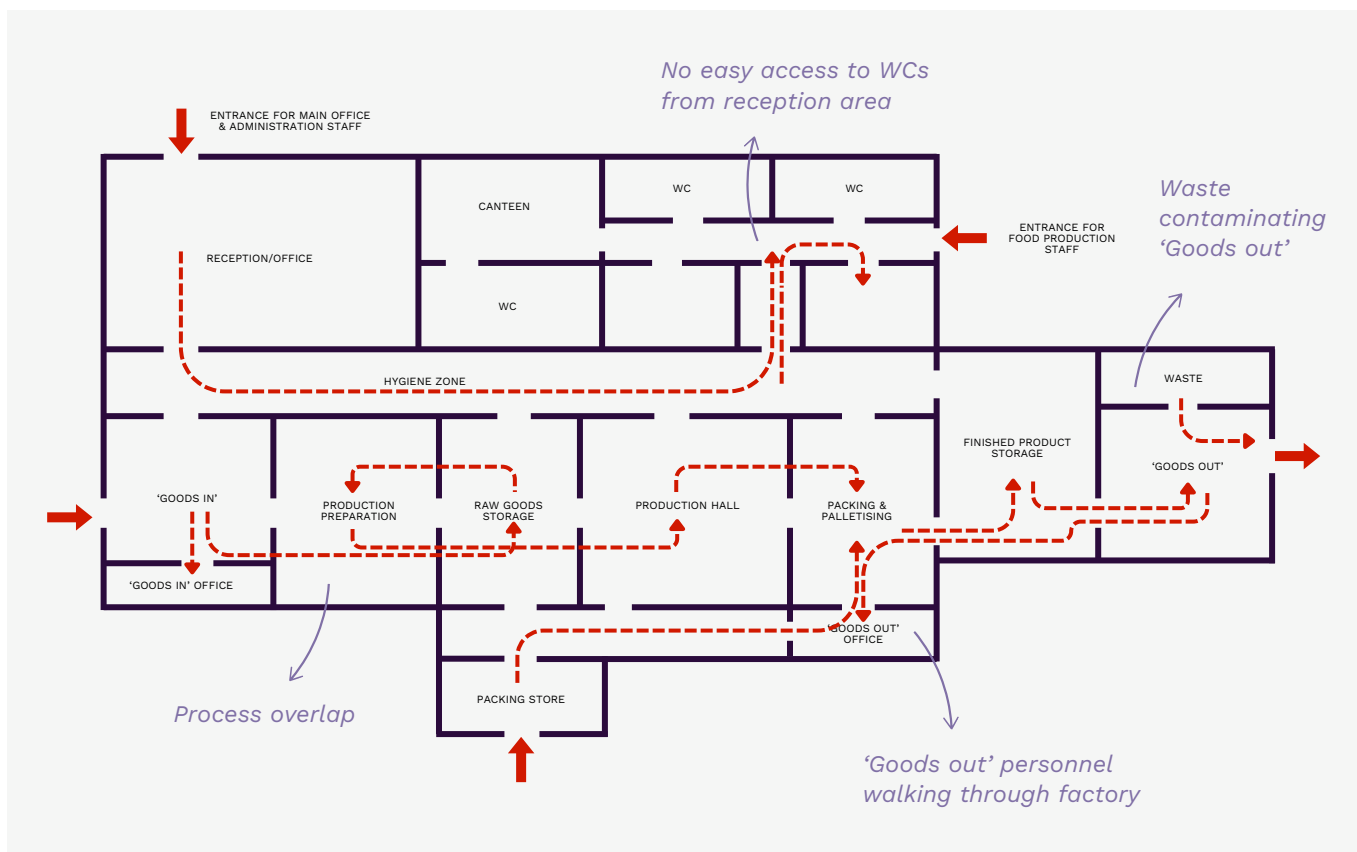
# 4 ASSESSING YOUR CURRENT WORKFLOW

Before you can turn your food factory into an efficiency powerhouse, you need to understand how your current layout is performing. Assessing your existing layout will reveal where the problems and opportunities lie. This involves mapping out how things move, spotting the pain points, and checking for compliance issues.

## Mapping the Flow of Materials and Personnel

Begin by walking through your facility and tracing how materials and people move during production. Use a basic floor plan with arrows or create a detailed “spaghetti diagram” to visualize actual flow paths - from receiving to storage, processing, packaging, and shipping. Include employee movements, like fetching supplies or completing tasks. These maps often reveal tangled, inefficient routes.

Look for red flags: non-linear flow, zigzagging ingredients, or finished goods crossing prep areas. Frequent intersections between people and forklifts are also safety concerns. Mapping the flow helps you spot excessive travel distances and complex paths, creating a clear starting point for layout improvements.





## Identifying Inefficiencies and Bottlenecks

With your flow map, identify layout issues like:

- Long travel distances: e.g., packaging supplies far from packing areas.
- Excessive handling: multiple moves or holding steps.
- Congestion: crowded aisles or queues at shared equipment.
- Unbalanced flow: bottlenecks where one process outpaces another.
- Disorganization: tools or ingredients stored far from where they're used.

Talk to your production team, they'll point out delays and pain points. Combine their feedback with production data to spot dips in output or downtime causes. These insights form your to-do list: relocate storage, widen key aisles, or add workstations. Focus on changes that improve KPIs like throughput, cycle time, or error rates.

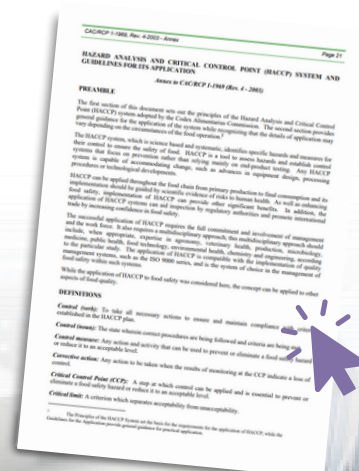
## Compliance with Australian Regulations

As part of your layout assessment, ensure your facility aligns with food safety and workplace standards set by Australian authorities.

Key areas to review include:

- Food Safety Zoning: Your layout must separate raw and ready-to-eat product areas to comply with HACCP and FSANZ guidelines. Shared spaces or equipment between raw and cooked products pose a contamination risk and breach regulations.
- Hygiene Facilities: Handwashing stations, sanitizing dips, and foot baths should be located at transitions into high-risk zones. If staff can't easily clean hands when moving from warehouse to food prep areas, your layout needs adjustment.
- Materials and Surfaces: AS 4674-2004 requires floors, walls, and fittings to be smooth, non-absorbent, and easy to clean. Avoid tight spaces behind equipment that are hard to access for sanitation.
- Safe Work and Building Codes: Layouts must meet WorkSafe and Safe Work Australia rules: clear walkways, unblocked exits, proper ventilation, and adequate space for safe forklift or equipment use. Informal expansions may cause non-compliant bottlenecks, like blocked evacuation routes.
- Local Council Requirements: Layout changes often need council or health authority approval. FSANZ recommends consulting local officials early to avoid issues later.

Document any compliance issues you find. These will guide redesign priorities and help ensure your facility meets national food safety and workplace standards.



# 5 KEY PRINCIPLES FOR AN EFFICIENT DESIGN

Designing an efficient food factory layout is a complex task, but there are core principles that can guide you to make smart decisions. By keeping these key principles in mind, you can create a facility that is productive, safe, and future-ready.

Here are the pillars of efficient layout design in food manufacturing:

## **Ergonomics: Designing for Worker Comfort and Efficiency**

Ergonomics is about designing the workspace to fit the worker—not the other way around. In factory layouts, this means arranging equipment and workstations to reduce strain, fatigue, and injury risk. Workbenches should be at comfortable heights, and tools or controls should be within easy reach to avoid awkward bending or overreaching.

An efficient layout groups related tasks together while still allowing safe movement. For example, placing ingredient bins at waist height next to mixers minimizes heavy lifting and unnecessary walking. Safe Work Australia recommends applying ergonomic principles to lower physical and mental demands, reduce errors, and prevent injuries.

This might include adding lift tables or hoists for heavy loads and designing workstations to avoid repetitive motions. Consider sight lines too—windows or clear dividers can help supervisors monitor activity and improve communication. Environmental comfort also matters: layouts should include proper ventilation and climate control to maintain safe working conditions.

Involve your team in the design process. Use mockups or simulations to test workstation layout and ensure optimal heights and spacing.

A well-thought-out ergonomic design reduces injury risk, supports productivity, and demonstrates your commitment to worker well-being.

## **Zoning: Segregating High-Risk and Low-Risk Areas**

Hygienic zoning is essential for maintaining food safety. It involves separating areas based on contamination risk, “high-risk” zones (e.g. open food processing, raw meat handling) from “low-risk” zones (e.g. packaging, dry storage, offices). This prevents cross-contamination and ensures each area has appropriate hygiene controls.

Effective zoning uses physical barriers, distance, and airflow management to maintain separation. For example, raw and ready-to-eat areas should be in distinct rooms, with buffer zones like hallways or airlocks in between. Air systems must prevent airflow from raw to cooked areas. Zoning also includes design features like separate entrances and change rooms for high-risk staff, and transitional spaces with sanitizing stations. Australian regulators and HACCP standards expect zoning to be clearly marked on layout plans. Done right, it’s a powerful safeguard against contamination and a core element of food-safe design.

### Linear Flow: Minimising Cross-Contamination

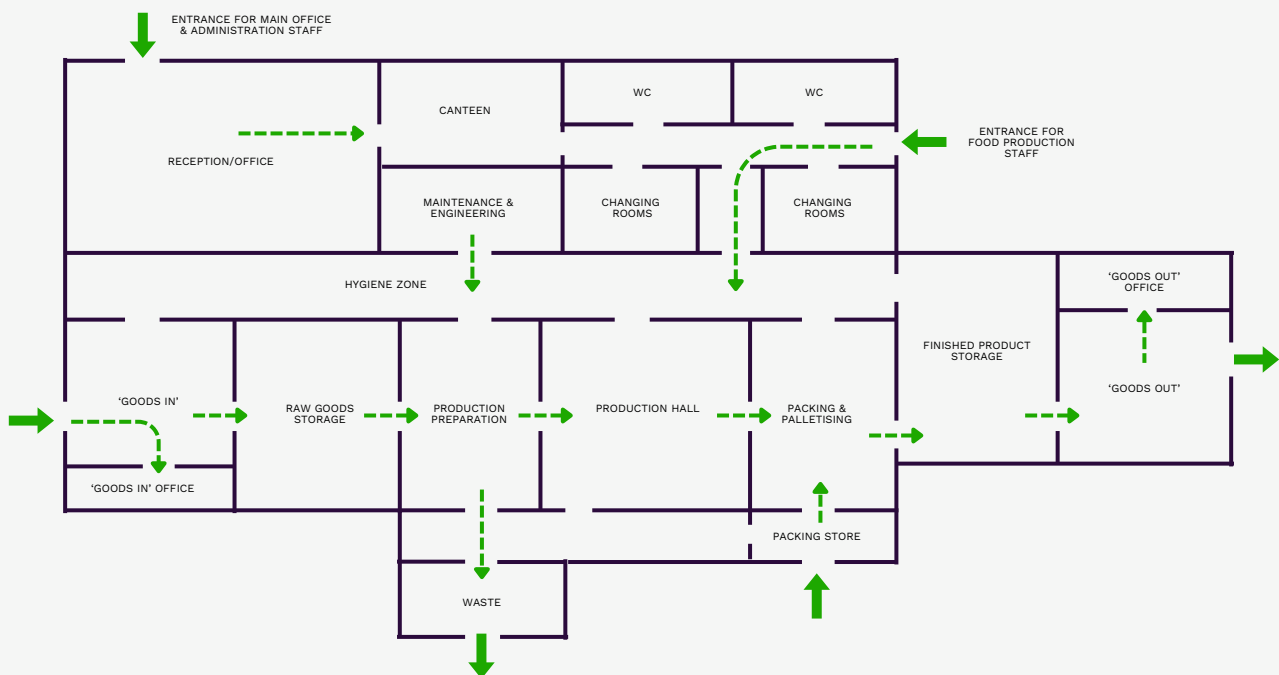
Building on zoning, a linear product flow is key to both food safety and efficiency. The goal is simple: food materials should move in one direction - from receiving to storage, processing, and dispatch - without backtracking or crossing paths.

While a perfectly straight line may not be feasible, your layout should follow the process order: ingredients in → preparation → cooking → cooling → packing → finished goods out. This minimizes the risk of raw and cooked products coming into contact and reduces workflow confusion.

FSANZ supports this one-way flow to prevent cross-contamination.

For example, in a bakery, raw ingredients enter on one side, get processed centrally, and exit the other side as packaged goods. If your current setup forces finished product to pass raw zones, that's a redesign priority. Use separate corridors or one-way routes, especially for waste removal, to maintain hygiene.

Linear flow also improves training and oversight by creating a clear, intuitive process. When planning your layout, draw a single arrow from start to finish and keep it from doubling back. Straight-line design saves time, reduces risk, and keeps operations smooth and compliant.





### **Automation: Integrating Technology for Efficiency**

Modern food factories increasingly depend on automation for efficiency, and your layout should support it. Automation can include anything from conveyors and robotic arms to sensor-based mixing or sorting systems. When planning your layout, identify tasks that can be automated and allocate space, power, and access for the necessary equipment. For example, conveyor lines require straight, unobstructed paths, and robotic palletisers need fenced-off zones and maintenance access. Automated guided vehicles (AGVs) also need marked routes and turning space, reducing the need for manual material handling.

Automation improves speed, consistency, and operating hours. One Australian food processor reported a 25% boost in efficiency after implementing automated systems. To maximize benefits, position utilities, sensors, and control panels strategically, and allow room for flexible configurations. Many facilities now favor modular lines over a single, fixed system to adapt quickly to product changes.

A well-designed layout that blends automation and human labor improves safety, product quality, and output. Ensure staff are trained to work with these systems and that maintenance is easily accessible. Thoughtful integration of automation can dramatically elevate your facility's performance.

### **Sustainability: Energy-Efficient Design**

Efficiency and sustainability go hand in hand—and your factory layout can play a major role in reducing energy use and environmental impact, while also cutting costs.

- ▶ **Smart Space Use:** A compact, well-utilized layout means less area to heat, cool, and light—reducing energy waste.
- ▶ **HVAC Zoning:** Group areas with similar climate needs (e.g. ovens vs. freezers) and use insulated walls or air curtains to prevent energy loss and reduce system strain.
- ▶ **Energy-Efficient Flow:** Streamline product paths to reduce energy use—shorter pipe runs, central boiler placement, and less forklift travel all lower consumption.
- ▶ **Natural Light & Ventilation:** Incorporate skylights and windows where possible to reduce artificial lighting. Proper ventilation helps manage heat and humidity without overcooling.
- ▶ **Waste Management:** Design layouts that support efficient waste sorting and recycling with accessible collection points and central disposal areas.
- ▶ **Future-Proofing:** Leave room for upgrades like solar panels, rainwater tanks, or energy-efficient systems. Plan control panel placement and pipe runs for easy retrofits.

In Australia, where energy costs are high and sustainability is a growing focus, these layout strategies can lead to significant savings and may qualify you for green grants or incentives.

Designing for sustainability doesn't mean sacrificing productivity—it means smarter placement and future-ready thinking. Integrate sustainability into your layout, and you'll build a more resilient, cost-effective, and environmentally responsible facility.



# 6 STEPS TO TRANSFORM A FOOD FACTORY LAYOUT

Turning an inefficient factory layout into a high-efficiency powerhouse is a major project but breaking it into clear steps makes it manageable. Below is a step-by-step roadmap to transform your food factory layout, from initial planning through to ongoing improvement. Each step focuses on problem-solving and ensuring the new design is reliable and effective for the long run.

## **Planning and Design**

The transformation begins with thorough planning and smart design work. This phase is where you incorporate all the principles and insights you've gathered into a workable plan.

### ***Engaging Stakeholders***

Engage a cross-functional team of stakeholders, including operations managers, production supervisors, food safety/QA officers, maintenance personnel, and even line workers or team leaders who know the day-to-day challenges. Each group will provide valuable input: for instance, maintenance can advise on access needed around machines, and QA can highlight necessary hygiene zones.

Don't forget to also involve external experts as needed – this could be a factory layout consultant or an industrial engineer, and certainly you should liaise with your local council's health/building officer early if regulations demand approvals for changes. Getting everyone's buy-in at the planning stage prevents costly changes later and ensures the final design addresses real concerns (like the common frustration of “the person who designed this never had to work here!”). Work with this team to set clear objectives for the new layout (e.g., increase output by 20%, accommodate a new product line, achieve a unidirectional flow, etc.).

### ***Utilizing Layout Design Software***

Once you've set your goals and gathered input, use layout design software to explore and refine your factory layout. Tools like AutoCAD, SolidWorks, or specialized factory planning software let you create accurate, scaled floor plans and place equipment, walls, and workstations digitally.

Many programs support 3D modeling or virtual walk-throughs to catch issues like narrow clearances or poor visibility. You can also run simulations to calculate travel distances or identify bottlenecks in process flow—helping you choose the most efficient design. Use digital spaghetti diagrams and workflow modeling to compare layout options.

Pay close attention to critical details: allow space around machines for cleaning and maintenance, and ensure emergency exits and aisle widths meet regulatory standards. It's much easier to fix problems in software than after construction.

Once a final design is agreed upon, review it formally for compliance—ideally with a food safety auditor or facilities engineer. With a well-vetted digital plan, you're ready to move confidently into execution.

## **Selecting Equipment and Machinery**

In many layout transformations, choosing new equipment or repositioning existing machinery goes hand in hand with the design. The machines and tools you use need to fit the space and support the efficiency goals.

### ***Right-Sizing and Compatibility***

As part of your layout redesign, assess whether your current equipment matches your production needs. Are some machines oversized and wasting space, or undersized and causing bottlenecks? This is your chance to upgrade.

For example, replacing several small batch mixers with one large automated unit can save space and boost efficiency. Alternatively, smaller flexible machines may suit operations with multiple product lines.

Ensure any new equipment fits your layout, including vertical clearance, and can be brought in through existing access points. Plan utility connections in advance (power, water, air), especially if machines are moving. Engage equipment suppliers early as they can provide CAD files and advise on installation specs to streamline integration into your layout.

### ***Hygienic and Efficient Equipment Design***

In a food factory, equipment should be easy to clean and maintain. Prioritize hygienic design - such as CIP (clean-in-place) systems or mobile units that allow for easy floor and wall cleaning. Choose food-grade materials, especially stainless steel for open product zones, and ensure tools align with your zoning rules (e.g., avoid wooden pallets in high-care areas).

Energy efficiency also matters; newer models often consume less power or water, supporting sustainability goals. Consider a cost-benefit analysis for replacing outdated gear to reduce long-term utility costs and waste.

If your new layout includes automation (like conveyors or QC camera systems), start sourcing now. And check equipment compatibility and align speeds and capacities across machines to avoid creating new bottlenecks. Thoughtful selection ensures cleanliness, compliance, and consistent throughput.

By carefully selecting and situating equipment, you align your physical tools with the optimised flow of your new layout. Once the gear is decided and ordered (if new), you can move to the build-out phase.





## Construction and Implementation

This is where plans turn into reality. Construction and implementation involve the physical changes to your facility: building or removing walls, moving machinery, installing utilities, and so on. It's a critical phase that requires good project management to minimize disruption.

### Scheduling and Phasing

One of the biggest challenges is how to implement the new layout while maintaining production (if you need to stay operational). Plan a phased approach if possible. For example, you might divide the factory into sections and revamp one area at a time, or schedule major construction during a planned shutdown or slow season. Communicate the plan to all stakeholders so everyone knows what areas will be offline and when. If you are constructing a brand-new facility to move into (greenfield project), then the implementation is more straightforward in the empty space – but you still need to align the build with equipment delivery and commissioning schedules.

### Transitioning Equipment

If you're moving machinery around, coordinate with maintenance teams and possibly the equipment manufacturers for safe de-installation, move, and re-installation. Follow lockout/tagout procedures and any calibration needs after moving. It can be useful to do trial fitting – mark outlines on the floor and do a walkthrough with the team before bolting things down, just to double-check the ergonomics and access in reality. Expect some surprises; for instance, you might find a minor pipe interference that requires on-the-spot adjustment. Build a little buffer into your timeline for these adjustments.

### Working with Contractors

Choose contractors or builders experienced in food facility construction. They will be familiar with the hygiene requirements, like sloping floors for drainage, proper finishes, and avoiding dust contamination during construction. It's wise to have your food safety team involved to monitor construction hygiene (you don't want construction debris contaminating remaining production). During this phase, closely supervise that the layout dimensions are executed correctly – sometimes small deviations in wall placement or drain locations can cause headaches later. Regular site meetings with the project manager will help catch issues early. Keep an eye on details such as placement of trenching for new plumbing or wiring for relocated machines. Also ensure any new walls, doors, or air handling units built for zoning are as specified (e.g., airlocks, ventilation systems separating high-risk zones).

*Implementing the layout is usually the most intense step, but careful planning and experienced execution will lead to a successful build. After construction, you're not done – the new layout must be tested and tuned.*

## Testing and Commissioning

With the new layout in place and equipment installed, it's time to test and commission everything. Think of this as the “trial run” phase to ensure the factory is working as intended and all systems are go.

### *Dry Runs and System Testing*

Before you start actual food production, do dry runs of the process. This might involve running equipment with test materials (like water through pipes, or empty packaging on conveyors) to confirm that the flow works. Check each machine in its new location – is it powering up correctly, and are all sensors/controls functioning after the move? Test safety systems like emergency stops on conveyors, interlocks on gates around machines, and fire alarms if layouts changed walls or rooms. It's important to verify environmental controls too: are temperatures holding steady in refrigerated zones? Is the air pressure differential correct between high-risk and low-risk areas (often high-risk is kept at positive pressure to push air outwards)? These factors can be measured and adjusted now.



### *Staff Training and Trial Production*

Even the best layout won't run itself – your staff may need training or orientation to the new setup. Host training sessions to familiarize everyone with new routes (e.g., “this is the new corridor to deliver raw materials to Line 1”) and new equipment. Emphasize any new safety protocols due to layout changes, like different evacuation routes or new PPE requirements when entering certain zones. Then conduct supervised trial production runs. Start with a small batch or a single day of production as a pilot. Observe closely: how are materials flowing? Are there still any unexpected mini-bottlenecks? Perhaps a table needs to be repositioned, or a signage added to direct forklift traffic differently. Get feedback from operators and supervisors – maybe the new arrangement of a workstation could use a tweak now that they've used it. It's much easier to refine these details in the testing phase before you ramp up to full production.

### *Compliance Check (Commissioning Approval)*

Before commissioning, conduct a final compliance audit. Invite your quality assurance team or a food safety auditor to inspect the new layout. They'll verify separation of high- and low-risk zones, accessibility of handwash stations, and overall food safety compliance. If structural changes were made, local council or building inspectors may also need to sign off. It's best to catch issues now—like missing sinks or ventilation gaps—before full operations begin. Commissioning is only complete when your facility meets all safety, quality, and regulatory standards.

## Continuous Improvement

An efficient layout today might need adjustments tomorrow as your business and external conditions evolve. Embrace a mindset of continuous improvement to keep your factory layout at peak performance.

### Monitor Key Performance Indicators

Now that the new layout is in operation, track metrics to quantify the improvements and also to catch any drift. Relevant KPIs could be throughput (units per hour), cycle time per batch, changeover time between products, waste levels, number of accidents or near-misses, and overall equipment effectiveness (OEE). Compare these against your old baseline to see the gains. If something isn't meeting expectations – say, you anticipated 20% faster packing but only see 10% – investigate why. Continuous monitoring will also alert you to new bottlenecks that may arise as production shifts.

### Kaizen and 5S Practices

Adopting Lean manufacturing philosophies such as Kaizen (continuous improvement) and 5S (Sort, Set in order, Shine, Standardize, Sustain) can help maintain an efficient layout. Now that the big changes are done, use 5S to keep each area organized – everything should have its place, and any out-of-place item is a sign of a process issue. Regularly conduct Kaizen events focusing on layout/flow if you can. For instance, you might do a quarterly “waste walk” through the factory to spot any creeping inefficiencies or clutter building up and then address them.

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***By following these steps you can confidently transform your food factory layout. While it's a major undertaking, the result is a well-organized, compliant facility built to perform under pressure and adapt to future needs.***

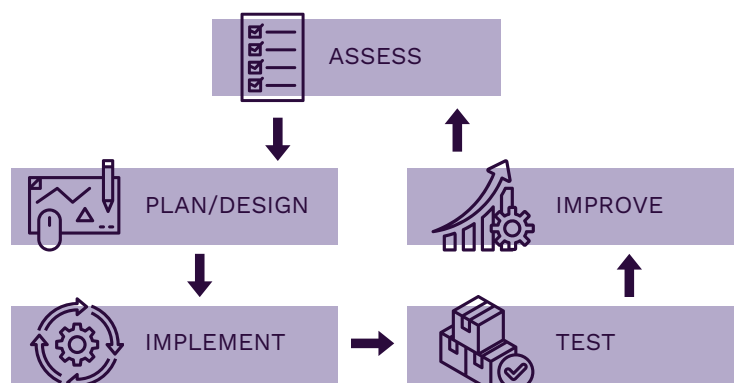
### Gather Employee Feedback

Your workers will discover the day-to-day realities of the new layout. Set up a channel for feedback, whether it's periodic meetings, a suggestion box, or a quick survey after the first month. They might identify minor tweaks that could further enhance efficiency or safety (for example, “if we move this bench 1 meter closer, we'd save a lot of steps” or “the new walkway gets wet, could we add a non-slip mat?”). Show that you're responsive to their suggestions; even small changes can make a big difference over time.

### Plan for Future Changes

Business needs evolve—new products, higher volumes, or updated regulations may require layout changes. Instead of waiting for problems, revisit your layout regularly and plan ahead. Build in flexibility from the start, such as space for future equipment or modular setups.

When changes arise, follow the same steps: assess, redesign, and implement gradually. This ongoing approach keeps your facility efficient and ready to adapt—preventing setbacks and preserving high performance over time.





# 7 FAQs

## **WHAT ARE THE FIRST STEPS TO TAKE WHEN IMPROVING OUR FACTORY LAYOUT?**

Begin with a thorough assessment of your current layout. Map out the flow of materials and people, and identify major pain points or bottlenecks in your process. Gather input from employees on what issues they face. It's also wise to review food safety and building compliance at this stage.

With this information, form a project team (including key stakeholders and possibly an external consultant) to start brainstorming design improvements.

## **HOW LONG DOES IT TYPICALLY TAKE TO REDESIGN A FOOD FACTORY LAYOUT?**

The timeline can vary widely based on the scope of changes. A minor reconfiguration (like moving a few workstations or adding partitions) might be done in a matter of weeks. A major overhaul or new facility build can take several months to over a year from planning to completion. Generally, you should expect to spend significant time in planning/design (several weeks at minimum), then coordinate equipment changes (lead times for new machinery can be months), followed by a phased construction or installation period. Proper scheduling – often done during a plant shutdown or off-peak season – can shorten the impact on production. Buffer in extra time for testing and any troubleshooting after implementation. In short, small tweaks are quick, but a full layout transformation is a multi-month project, so plan accordingly.

## **HOW MUCH WILL A FACTORY LAYOUT TRANSFORMATION COST?**

The cost depends on the scale of your project. Expenses may include design consulting fees, new equipment or modification of existing equipment, construction costs for any building work (like walls, flooring, ventilation), utility re-routings (plumbing, electrical), and downtime costs if production is halted during changes. As a very rough idea, projects can range from tens of thousands of dollars for modest changes to millions for extensive ones or new builds. It's important to do a cost-benefit analysis: identify how the layout improvements will save money or boost output (productivity gains, waste reduction, etc.) to justify the investment. Many companies find the efficiency gains quickly offset the costs – for example, reducing material travel and handling can significantly cut operational expenses.

Also remember to budget for contingencies (unexpected issues during construction) and for training staff on the new layout. If cost is a concern, consider reaching out for government grants or incentives for manufacturing modernization or safety improvements, which sometimes are available in Australia. Ultimately, while the upfront cost can be substantial, the long-term returns in productivity, compliance avoidance, and capacity can make it very worthwhile.

## WHAT REGULATIONS MUST MY NEW LAYOUT COMPLY WITH IN AUSTRALIA?

Your redesigned layout must meet several regulatory requirements. The Food Standards Code (Chapter 3) mandates that food handling areas be cleanable and designed to prevent contamination. Standard 3.2.3 specifically addresses layout considerations like raw and ready-to-eat separation, handwashing access, and pest control. Also refer to AS 4674-2004, which outlines best-practice design and fit-out standards. Workplace health and safety laws, overseen by Safe Work Australia and state WorkSafe bodies, require clear emergency exits, safe workflow, and ergonomic design to reduce injury risk ([safeworkaustralia.gov.au](http://safeworkaustralia.gov.au)). The National Construction Code and local building codes apply if you're adding walls or changing structural elements (e.g., ventilation, fire safety).

Additionally, local councils may regulate waste areas or require plan submissions before alterations. It's wise to consult your council's environmental health officer early and consider a review by a certified food safety auditor. Designing with compliance in mind helps ensure smooth approvals and confidence that your facility meets Australia's high standards.

## WHAT COMMON MISTAKES SHOULD I AVOID IN A LAYOUT REDESIGN?

Several common pitfalls can derail a factory layout project. One is failing to involve end-users (employees) early – ignoring their insight can lead to a design that looks good on paper but doesn't work on the floor. Another mistake is neglecting hygienic zoning – be sure to maintain strict separation between high-risk and low-risk areas; combining them or allowing overlap can create contamination risks that regulators won't tolerate. Also, avoid over-complicating the layout with unnecessary twists and turns; simplicity and straight-line flows are usually more efficient.

Some redesigns err by focusing only on current needs and not planning for future growth – you should build in a bit of flexibility (like extra utility connections or space for an extra production line) if you anticipate expansion. Skimping on ergonomics and safety is another mistake; a layout that looks efficient but forces workers into unsafe practices or uncomfortable positions will backfire in the long run. Make sure you provide sufficient aisle widths, guardrails, and consider the human element in all tasks. Lastly, rushing the implementation without proper testing can be problematic. It's a mistake to assume everything will work perfectly on day one; always schedule a commissioning period to iron out kinks. By being mindful of these potential mistakes – and learning from others' lessons – you can execute a smoother, more successful layout transformation.

# 8 CONCLUSION

Transforming your food factory layout into an efficiency powerhouse is a challenging but rewarding endeavour. We've seen that a well-designed layout yields higher productivity, stronger food safety controls, cost reductions, and a better work environment. Achieving this involves a systematic process: assessing your current state, applying key design principles (like proper zoning, linear flow, and ergonomics), and implementing changes step by step – from careful planning and stakeholder engagement, through equipment selection and construction, to thorough testing and continuous improvement.

By following these steps, you can resolve capacity bottlenecks, ease scaling pressures, and avoid the pitfalls of poor past contractor work. Importantly, you'll also be aligning with Australian regulations and best practices at every stage, ensuring your facility is not only efficient but fully compliant and future-proof.

Now is a great time to take a hard look at your factory's layout and identify opportunities for improvement. Even small changes can make a significant difference.

As you consider next steps, remember that you don't have to do it alone – consult with experts, involve your team, and use the wealth of resources available to Australian manufacturers. By prioritizing layout optimisation, you're investing in the long-term success and reliability of your operation. Take the initiative to assess your current setup, envision the efficient facility you want, and start making that vision a reality. Your food factory can become the efficiency powerhouse that drives your business forward for years to come.



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