

I'm not a robot



to begin your first Lean Six Sigma project? Looking for examples for inspiration to get you started? Here are some project storyboards from different industries and from home. Remember, Lean Six Sigma can help you with more than just work! Financial. Reducing Underwriting Resubmits by Over 20% Governments Manufacturing Nonprofit Lean Six Sigma Helps Feed People In Need 45% Faster Technology Over the past 2 years, over 2,000 learners (2,197 to be exact) have come to DCM to learn more about lean and get certified. Read (and watch) their reviews to see how our courses have helped them achieve their career goals. Inhouse Tailored Training for Your Team We provide training programs that are developed by industry, for industry. Our range of programs can be delivered in a way that suits the needs of your business to offer your employees learning that is accessible and flexible. We add value to your business by providing specialised, flexible and scalable training that meets your training needs. As your workforce grows and evolves, our globally certified and industry-validated learning solutions can assess, train and qualify your employees. For more information on how we can help please visit the in-house training page. Membership, Stay Connected, Stay Relevant. Completing a program is a point-in-time exercise that delivers huge value, but there is an ongoing need to maintain the relevancy of your skills in an ever-evolving professional landscape. This is where the latest industry trends and insights come in. Our industry experts provide ongoing training and continuous professional development, and an exclusive, relevant content library designed to keep your employees up to date. 1. Identifying the problem. The first step in any Lean Six Sigma project is to identify the problem. This is often the most challenging part of the project, as it requires a deep understanding of the current state of the business. The problem should be identified at a senior level to address strategic requirements, or a Bottom-Up approach, where employees identify local issues that need attention. Top-Down Approach The Top-Down Approach is usually assigned to a practitioner after the project charter has been drafted by the sponsor. Senior leadership identifies key strategic goals, such as reducing costs, improving customer satisfaction, or increasing efficiency. These strategic projects are then cascaded down through the organisation to ensure alignment with the company's overall strategy. Steps in the Top-Down Approach: Strategic Goals and Objectives: Senior leaders identify key strategic goals and performance metrics to address areas requiring improvement. Priority Areas: Specific processes or departments that significantly impact the organisation's performance are prioritised. Project Selection: Projects are selected based on their potential impact on achieving strategic goals. Implementation: These expectations are cascaded down the organisation, ensuring all defined projects are aligned with the company's strategy. Involvement of Lean Six Sigma Belts: Master Black Belts: Lead the identification process, working closely with senior leadership to align projects with strategic objectives. Black Belts: Assist in the selection and scoping of projects, providing expertise in feasibility and resource allocation. Green Belts and Yellow Belts: Execute projects identified through the Top-Down approach, focusing on achieving the specific targets set by leadership. Bottom-Up Approach The Bottom-Up approach empowers employees at all levels to identify improvement opportunities. It is often used for smaller-scale projects that can be managed by a single team. Steps in the Bottom-Up Approach: Identification: Employees at various levels identify areas for improvement. Approval: Projects are reviewed and approved by management. Implementation: The project is executed, with regular communication and reporting. Feedback: The results of the project are reviewed, and lessons learned are shared. Cross-functional teams, often facilitated by Green Belts or Yellow Belts, are formed to evaluate and prioritise these ideas. Pilot Projects: Small-scale projects are piloted to test the feasibility and impact of the proposed improvement. Scaling Up: Successful pilot projects are scaled up and implemented across the organisation. Involvement of Lean Six Sigma Belts: Yellow Belts: Lead small, everyday improvement activities within their local work areas, suggesting and testing ideas that can lead to quick wins. Green Belts: Facilitate improvement teams, guiding the evaluation and implementation of ideas generated by employees. Black Belts: Support larger-scale projects that arise from Bottom-Up initiatives, providing advanced problem-solving skills. Master Black Belts: Mentor and coach other belts, ensuring Bottom-Up projects are effectively managed and aligned with strategic priorities. Hybrid Approach: Strategic Alignment: Senior leadership sets strategic priorities and communicates these to all employees. Employee Engagement: Employees are encouraged to identify and suggest improvement ideas that align with the strategic priorities. Collaboration: Cross-functional teams work together to evaluate and implement projects, with oversight from Master Black Belts or Black Belts to ensure coherence with organisational goals. Involvement of Lean Six Sigma Belts: All Belt Levels: Actively participate in identifying, evaluating, and implementing projects. This collaborative effort ensures both strategic objectives and grassroots innovations are addressed. Identifying Potential Projects To identify potential Lean Six Sigma projects, consider the following questions: What are the recurring problems currently confronting your business? What prevents you from achieving your organisational and financial goals? What areas of the business are not performing as well as they should? What are the biggest pain points for your customers? What are the biggest opportunities for improvement? What are the biggest risks to your business? What are the biggest opportunities for innovation? What are the biggest opportunities for growth? What are the biggest opportunities for differentiation? What are the biggest opportunities for competitive advantage? What are the biggest opportunities for sustainability? What are the biggest opportunities for social responsibility? What are the biggest opportunities for environmental stewardship? What are the biggest opportunities for customer satisfaction? What are the biggest opportunities for employee engagement? What are the biggest opportunities for leadership development? What are the biggest opportunities for talent management? What are the biggest opportunities for organisational culture? What are the biggest opportunities for change management? What are the biggest opportunities for project management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance management? What are the biggest opportunities for environmental management? What are the biggest opportunities for social management? What are the biggest opportunities for governance management? What are the biggest opportunities for risk management? What are the biggest opportunities for quality management? What are the biggest opportunities for process management? What are the biggest opportunities for information management? What are the biggest opportunities for technology management? What are the biggest opportunities for legal management? What are the biggest opportunities for financial management? What are the biggest opportunities for human resources management? What are the biggest opportunities for marketing management? What are the biggest opportunities for sales management? What are the biggest opportunities for operations management? What are the biggest opportunities for logistics management? What are the biggest opportunities for procurement management? What are the biggest opportunities for facilities management? What are the biggest opportunities for information technology management? What are the biggest opportunities for security management? What are the biggest opportunities for compliance

Continuous Improvement: Traditionally, Lean relies on observation and periodic data (e.g., time studies). Now, inexpensive IoT sensors and connectivity allow streaming data from machines and production lines. This means you can detect waste or variability as it happens. For example, IoT devices can monitor machine cycle times, queues, or environmental conditions. Advanced analytics and AI can then analyze this data to highlight inefficiencies or predict issues. As one expert noted, smart factories can now "identify inefficiencies in real-time" using sensor data and analytics. This supercharges Lean's find-and-fix approach - issues that might have taken weeks to surface via manual audits can be spotted instantly via dashboards.

Predictive Maintenance (AI + TPM): Lean's TPM strives for zero breakdowns, and AI is a game-changer here. Using machine learning on equipment sensor data, companies can predict when a machine will likely fail or when it needs maintenance - this is predictive maintenance - instead of fixed schedules, maintenance becomes condition-based. For instance, an AI system might analyze vibration or temperature data from a motor and signal an alert before a breakdown occurs. This aligns perfectly with Lean's goal of eliminating unplanned downtime. In practice, firms combining TPM with AI have seen huge drops in breakdowns and maintenance costs. As Stellantis's Asif Khan highlighted, "predictive maintenance powered by AI ensures minimal downtime" on top of Lean's traditional methods.

Digital Kanban and Automation: Industry 4.0 enables more sophisticated pull systems. Instead of physical Kanban cards, many plants use digital Kanban systems that automatically signal replenishment when inventory runs low (e.g., sensors on bins or RFID tags that trigger orders). Similarly, AGVs (Automated Guided Vehicles) or autonomous mobile robots can handle material transport, delivering parts just-in-time to the line without human intervention. These technologies ensure that Lean principles (like JIT and one-piece flow) operate smoothly, even in very complex or large-scale operations. Automation can also take over highly repetitive tasks - which reduces motion waste and frees up humans for more value-added work. The key is to automate waste-free processes; in other words, first use Lean to streamline, then add automation to amplify efficiency (so you're not automating a wasteful process).

Enhanced Visualization and Training: Augmented Reality (AR) and other visualization tools help with Lean training and standard work adherence. For example, an AR display can guide operators through assembly steps with visual cues (reducing defects and training time). Digital work instructions on tablets can replace paper charts and be updated in real-time when a process changes, ensuring everyone follows the latest standard. These tools support Lean's emphasis on standardized work and quick response to change.

Decision Support and Strategy: At a higher level, AI and digital twins (virtual simulations of the factory) allow for scenario planning. Managers can simulate how a line would perform with different lot sizes or layouts (supporting Lean experiments virtually). Some factories have digital Lean coaches - software that analyzes processes and suggests kaizens. While human insight is still vital, these tools provide data-driven guidance that aligns with Lean goals. It's worth noting that technology is not a magic bullet. In fact, studies show many early Industry 4.0 projects failed to deliver value - only 14% of companies rated their smart factory initiatives successful as of 2019. Often this is because they adopted tech without a Lean mindset, ending up "digitizing waste". The consensus now is that Lean should guide digital transformation: get processes right, then apply technology to enhance them. When done together, the results can be impressive. For instance, manufacturers with mature Lean practices tend to implement more Industry 4.0 tech successfully, and those technologies in turn reinforce Lean (e.g., automating routine tasks so people can focus on kaizen). This symbiosis is sometimes called Lean 4.0.

Companies that integrate Lean and digital report higher productivity gains than doing either alone. In summary, Lean + Industry 4.0 = Smart Lean Manufacturing. Use Lean principles to decide what processes need improvement, and use Industry 4.0 tools to accelerate and sustain those improvements. Whether it's AI-driven quality control, robotics on the line, or real-time production analytics, the guiding question remains: "Does this technology help us eliminate waste and create value?" If yes, it likely fits well in a Lean enterprise. After implementing Lean changes, it's vital to measure results and ensure the effort is paying off. Lean success isn't just a feeling - it should show up in your key performance indicators (KPIs). Here's how to measure and communicate the impact of Lean:

Key Lean KPIs to Track: Lean affects multiple aspects of operations, so a range of KPIs should improve. Common ones include:

- Lead Time: The total time from order to delivery (or from start of production to finish). Lean's impact on lead time can be huge - as noted earlier, companies often cut lead times by 50-70% through waste elimination. Shorter lead times mean customers get products faster, and you're more responsive to market changes.
- Cycle Time: The time to complete one unit or cycle of a process. Reducing cycle times at bottlenecks is a direct focus of Lean (e.g., via SMED for quick changeovers). Track this on critical equipment or processes.
- On-Time Delivery or OTIF: The percentage of orders delivered on time (and in full). This is a customer-facing metric that Lean should improve thanks to better flow and scheduling.
- Inventory Turns: How many times inventory is cycled through per year. Lean aims to increase inventory turns by reducing excess stock through JIT. For example, if you go from 4 turns/year to 8 turns/year, that's a significant cash flow and space utilization improvement. (It's not uncommon for Lean implementations to cut inventory levels by 30-50% while maintaining output.)
- First Pass Yield (FPY): The percentage of product that goes through a process without rework or defects. FPY (or overall defect rate) measures quality. Lean's emphasis on root cause problem solving and quality at the source should raise FPY. An 80% average defect reduction has been reported when Lean methods are applied thoroughly.
- Overall Equipment Effectiveness (OEE): A composite metric (Availability x Performance x Quality) for equipment productivity. If you started with an OEE of 60% on a critical line and Lean/TPM brings it to 85%, that is a massive gain in capacity.
- Productivity (Labour or Machine): Output per worker or per machine hour. Lean improvements often result in more output with the same resources - e.g., a 35% increase in labor productivity in the first year is achievable by eliminating wasted motions and wait time.
- Cost per Unit: The total cost to produce one unit. As Lean cuts waste, the cost per unit should drop (through reduced overtime, scrap, inventory carrying cost, etc.). Many companies see 20-30% cost reduction after Lean.
- Safety Incidents: Lean workplaces tend to be safer (due to 5S, visual controls, and error-proofing). Track OSHA recordables or incident rate - improvements here are a critical (often overlooked) benefit of Lean.
- Employee Engagement: Harder to quantify, but you can use surveys or suggestion rates as a proxy. A vibrant Lean culture often correlates with higher employee morale and engagement (e.g., increase in implemented suggestions per employee per year).

Benchmarking and Targets: It helps to set goals for these KPIs on industry benchmarks or best-in-class. For example, if industry average OEE is 75%, you might target 85% if you're starting at 60%. If competitors average 6 inventory turns/year and you're at 4, aim for 8+ with Lean. Benchmarks give you a tangible goalpost (but be sure they're realistic for your context). You could create a simple before-and-after table of key metrics to highlight improvements. For instance:

Metric	Pre-Lean (2024)	Post-Lean (2025)
Lead Time (days)	30	8
Inventory Turns (avg)	4	10
On-Time Delivery	88%	99%
First Pass Yield	92%	99%

Best in class Inventory Turns 386 (industry avg) OEE (Critical line) 60% 85% 80% (world-class) (The above is an example - your results will vary. But notice how Post-Lean metrics surpass benchmarks in this scenario, demonstrating competitive advantage.)

Financial Impact: Beyond process metrics, translate improvements into financial terms for leadership. Calculate the ROI of Lean projects: e.g., reduction in inventory = freed up \$X working capital; defect reduction = \$Y cost savings; productivity gain = avoided hiring or added capacity worth \$Z. Earlier we mentioned an IndustryWeek study where proper Lean programs averaged 200% ROI in under 18 months. You can replicate this analysis internally by summing up all the cost savings and revenue improvements and comparing to the investment (training, consulting, etc.). Often, Lean efforts pay back very quickly - many companies see payback in a year or less for their initial Lean initiatives.

Visual Management of Metrics: A Lean practice is making performance visible. Use dashboards or scorecards that are shared widely (on the shop floor and in management meetings). For example, a daily cell board might track production vs. target and any downtimes (often using simple red/green markers). At higher level, monthly Lean progress reports can show trends of key metrics. The transparency keeps everyone aligned and accountable. Also, consider engaging an external auditor or joining a Lean benchmarking group (like an industry consortium) to get external validation of your progress. Finally, remember to celebrate success! When you hit that lead time reduction goal or safety milestone, communicate it. Share a "before and after" case study internally (or even externally at conferences if appropriate). This not only rewards the team's effort but also reinforces the value of Lean to the whole organization. In one Accenture/Manufacturing Institute survey, over 90% of manufacturers said Lean was critical to their future success - so showcasing your wins helps ensure ongoing support for Lean as a strategic initiative.

To see Lean in action, let's shine a spotlight on a real-world success: the Stellantis engine plant turnaround. Stellantis (formed by the merger of Fiat Chrysler and PSA) operates many powertrain factories. One particular North American engine plant was struggling a few years ago - it had quality issues, frequent breakdowns, and was the worst-performing plant in the network. In 2020, a new continuous improvement lead (Dr. S. Asif Khan) was tasked with implementing Lean manufacturing to rescue the plant. The transformation that followed offers valuable lessons. Here's a brief timeline of what happened:

- 2020 - Assessment & Leadership Buy-In: The new plant manager and CI lead conducted a full assessment. They mapped the value stream for engine assembly and found excess WIP, long changeover times (8 hours), and high defect rates on a critical line. Leadership openly acknowledged the problems and committed to a Lean overhaul, communicating to all employees that "we're in this together" to fix the plant.
- 2021 - Laying the Foundation: The plant launched a comprehensive 5S program on the production floor and in the maintenance shop. Over 50 tonnes of obsolete inventory and junk were "Sorted" out. Team leads were trained in 5S audits (with a friendly competition between departments for best 5S scores). They also formed cross-functional Kaizen teams. One Kaizen event focused on the changeover process for machining centers, applying SMED techniques - this cut changeover time from 8 hours to 2 hours, significantly increasing available capacity. Maintenance crews, guided by Lean's TPM principles, instituted daily machine checklists and eliminated a chronic source of breakdown (coolant system issues) by addressing root causes.
- 2022 - Implementing Pull & Standard Work: Building on early wins, the plant moved to a Kanban system for internal material flow. They set up visual kanban boards and electronic signals to manage parts feeding to assembly, replacing an inefficient push system. This reduced average in-line inventory by 40%, freeing space and cash. Assembly processes were analyzed and re-balanced to create smoother flow - the line configuration changed from large hatch stations to smaller U-shaped cells, each capable of one-piece flow. The team also documented Standard Work for key tasks (with help from operators), which reduced variation between shifts. By the end of 2022, the plant's on-time delivery improved dramatically and defect rates had dropped by about 30%. The workforce, initially skeptical, started to see the positive changes and morale improved with each achievement.
- 2023 - Continuous Improvement Culture: The plant didn't stop at initial improvements. They established a daily gemba walk where managers and engineers go to the line, review performance metrics (displayed on new digital boards), and discuss any issues with operators. This daily rhythm kept focus on problems and quick fixes. They also introduced a suggestion program - over the year, employees submitted 250 improvement ideas, of which ~70% were implemented (ranging from ergonomic fixes to cycle time tweaks). TPM efforts paid off with unplanned downtime reduced by 50% versus 2020. All key performance indicators trended in the right direction for three years in a row. By late 2023, the plant that was once the laggard had exceeded its production targets and was winning internal awards. In terms of numbers, management reported: productivity (engines per worker) was up ~25%, defect scrap rate down from 5% to 1%, and order lead time cut from 10 days to 4 days. Equally important, the plant's culture had transformed - employees at all levels were engaged in finding ways to improve. "Strong leadership and team buy-in are essential to making Lean work."

- Dr. Asif Khan, Stellantis CI Lead

The Stellantis case highlights a few takeaways: consistent leadership support, worker involvement, and persistence were crucial. The changes didn't happen overnight - but with each success, the momentum grew. Also, they combined various Lean tools (5S, SMED, Kanban, TPM, Standard Work, Kaizen) in a coordinated way, rather than one-off efforts. This aligns with Lean best practice: apply a system of tools toward a common vision. Finally, the use of visual management and daily accountability ensured that improvements sustained over time. Today, the Stellantis engine plant continues to refine its processes, exploring Industry 4.0 enhancements like predictive analytics on equipment - truly becoming a model of Lean in the modern age.

Lean manufacturing is not just a set of tools - it's a mindset and continuous journey toward operational excellence. By focusing on what truly adds value and relentlessly cutting away everything else, organizations can achieve dramatic improvements in quality, speed, and cost. We've seen why Lean remains vital in 2025: it's helping companies achieve 200%+ ROI, adapt quickly with Industry 4.0 tech, and even meet sustainability goals by eliminating waste. From the 5 principles to the toolbox techniques like 5S and Kanban, Lean provides a proven framework that 70% of plants worldwide have embraced in some form. For your organization, the path to Lean may seem challenging, but the payoff is well worth it. Start small, learn by doing, and cultivate that continuous improvement culture. As you remove waste, you'll not only boost your bottom line - you'll engage your team in creating a better workplace, and deliver more value to your customers.

Next Steps: Ready to kick-start your Lean journey? Here are two concrete actions:

- Request a Free Lean Assessment: Our experts can visit your facility for a free Lean audit. We will identify major wastes and opportunities, and provide you a roadmap with practical recommendations (no obligation). It's a great way to spot quick wins and build a case for Lean in your organization.
- Download the Lean Starter Toolkit: Grab our free Lean Manufacturing template pack, which includes a 5S implementation checklist, a Value Stream Mapping template, a Kaizen event charter, and a ROI calculation worksheet. These templates will save you time and guide you through the initial steps - consider it a jump-start to your Lean program.

Lean manufacturing is a journey of learning and improving. As you take your next steps - whether it's organizing that first 5S area or scheduling a kaizen blitz - remember to keep it simple, involve your people, and focus on the customer. In the spirit of Lean, "small improvements, every day" will lead to big results. Here's to cutting waste and boosting your ROI through Lean!

IndustryWeek, 2024. Lean Manufacturing ROI: How 200% Gains Are Achieved in Less Than 18 Months. [online] Available at: [Accessed 18 May 2025].

Womack, J.P. and Jones, D.T., 2003. Lean Thinking: Banish Waste and Create Wealth in Your Corporation. Revised and Updated ed. London: Simon & Schuster.

Manufacturing net, 2023. Lean's Limits: Why 35% of Companies Still Struggle to Scale. [online] Available at: [Accessed 18 May 2025].

Liker, J.K., 2004. The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer. New York: McGraw-Hill.

Taylor & Francis Online, 2024. The Integration of Lean and Industry 4.0: Survey of German Manufacturers. [online] Available at: [Accessed 18 May 2025].

LeanDNA, 2025. Synchronizing the Supply Chain: Why Less Than 20% Achieve Full Integration. [online] Available at: [Accessed 18 May 2025].

Automotive Manufacturing Solutions, 2023. Stellantis Revives Engine Plant With Lean. [online] Available at: [Accessed 18 May 2025].

MIT Sloan Management Review, 1988. Triumph of the Lean Production System. [online] Available at: [Accessed 18 May 2025].

Womack, J.P., Jones, D.T. and Roos, D., 1990. The Machine That Changed the World. New York: Free Press.

ResearchGate, 2022. Case Studies in Lean Transformation: Leadership and Cultural Pitfalls. [online] Available at: [Accessed 18 May 2025].

International Journal of Lean Six Sigma, 2023. Lean 4.0: Aligning Process Improvement with Smart Manufacturing. [online] Available at: [Accessed 18 May 2025].

Accenture and The Manufacturing Institute, 2023. Reimagining Lean in a Resilient World: From Just-In-Time to Just-In-Case. [online] Available at: [Accessed 18 May 2025].

Labor Notes, 2023. The Limits of Just-In-Time and the Rise of Just-In-Case Logistics. [online] Available at: [Accessed 18 May 2025].

Lean Enterprise Institute, 2024. Lean Lexicon: A Graphical Glossary for Lean Thinkers. 6th ed. Cambridge, MA: Lean Enterprise Institute.

Khan, S.A., 2023. Plant Turnaround Strategy: Leadership, TPM and Continuous Improvement in Engine Manufacturing. Presented at the North American Manufacturing Excellence Summit (NAMES). [Presentation] Available at: [Accessed 18 May 2025].

Thanks for your feedback! Audio conversion provided by OpenAI

Ask for a definition of Lean management from three different people and you will likely get three different answers. Experts tells us that lean organizations have better systems and experience improved profitability. Customer satisfaction, of course, is considered the central focus in the lean approach and the idea is to remove any activities that the customer will not be willing to pay for (i.e. does not add value to the customer). Some commonly stated goals of Lean are improving quality, increasing efficiency by eliminating "waste" and decreasing costs. However, beyond these goals, which most everyone would agree on, the strategic elements of Lean can be quite complex, and comprise multiple elements. Four different notions of lean have been identified: Lean management as a fixed state or goal (being lean). Lean management as a continuous improvement process (becoming lean). Lean management as a set of working methods (doing lean/toolbox lean). Lean management as a philosophy for application (lean thinking). The key is to have a plan and get started. The path to lean will not be straight and it never ends. Do not let the pursuit of perfection get in the way of being "better" today. However, the biggest mistake that some people make is looking at Lean as only a set of tools or something that you do and then are done with - a bit like a project. Instead, the real gains come when it becomes a way of managing and is part of the fabric of your company. Here are a few ideas on how you can successfully implement Lean management: In order to make a strategic Lean approach work, process operators have to work in process related teams, rather than their current functional ones. Teams need to become truly self-directed, allowing problems to pick the people required to solve them from within the teams rather than management picking the problems and assigning them to people to solve. This means starting with the tools but quickly realizing that Lean requires a change in thinking and managing. Most lean implementation failures are not due to failure to grasp the tools and techniques but a failure of change management. This avoids conflict and delivers a management group that can facilitate change with the teams working for them and so remove waste efficiently. In practice, this means learn by doing first and training second. Unfortunately, you cannot PowerPoint your way to Lean. The Toyota Way - often held up as the epitome of Lean - is about learning by doing. In the early stages of lean transformation there should be at least 80% doing and 20% training and informing. The Toyota approach to training, for instance, is to put people in difficult situations and let them solve their way out of the problems. The Oliver Wight Approach, on the other hand, is to run an action-based learning event to both educate the team in Lean and its application to a process. This is achieved by facilitating the team in creating value stream maps of the current process prior to goal setting and the team creating a new Lean process, along with an implementation plan and budget. One of the key lean tools is that of "Value Stream Mapping". This tool when used correctly enables us to create a map of both value and waste in a given process. This map can then be used to understand the waste and its causes before moving on to remove it so that value flows without interruption of waste

When developing the current state map, future state map, and action plan for implementation, use a cross-functional group consisting of managers who can anticipate resources and doers who are part of the process being mapped. Value stream mapping should be applied only to specific product families that will be immediately transformed. Use a talented and experienced facilitator who has a deep understanding of lean tools and philosophy but keep training focused on a specific problem. This helps to keep the training relevant to real-world situations and ensures that there are tangible outcomes from training activity. The kaizen might have an objective to reduce setup time from 80 minutes to 60 minutes in four days, for instance. In most organizations, management is organized by process or function. In other words, managers own certain steps in a process but nobody is responsible for the entire value stream. In the second edition of Lean Thinking (2003), the authors recommend a matrix organization where there are still heads of departments but also value stream managers, similar to Toyota's chief engineer system. Someone with real leadership skills and a deep understanding of the product and process must be responsible for the process of creating value for customers and must be accountable to the customer. This will aid in get support through involvement of people at various level by sharing their ideas to built synergy to move positively ahead in the lean journey. If a company looks at Lean transformation as a "nice to do" in spare time or as a voluntary activity, it will simply not happen. It needs to be mandatory and people need to be given the space to think about improvements they can make. A crisis may prompt a lean movement, but may not be enough to turn a company around. Once the crisis has passed it can be all too tempting to go back to business as usual. Company leadership has to stay focused on Lean for the long term - not just to solve one problem. Middle management resistance to change is the number 1 obstacle to implementing lean production, according to a survey conducted by the Lean Enterprise Institute (LEI), a nonprofit management research centre. Over 36 percent of respondents to LEI's annual surveys about lean business system implementation cited middle management as the top obstacle to lean implementation (the other top obstacles lack of implementation know-how [31 percent], and employee resistance [27.7 percent]). This was in contrast to last year's survey, which found backsliding to the old ways of working as the primary obstacle to introducing lean management principles, followed by lack of implementation know-how and middle management resistance. Backsliding dropped to sixth place in this year's survey. Learn more about Lean concepts and tools here. When a company does not yet believe in the lean philosophy heart and soul, it is particularly important to achieve some big wins. Make sure you have dedicated time to identifying those opportunities - they will be important for convincing people that Lean really can make an important difference. Eliminate non-lean metrics that are wreaking havoc with those seriously invested in improving operational excellence. Next measure a variety of value stream metrics from lead time to inventory levels to first-pass quality. Toyota has its way. You need to have your way. When Toyota works with companies to teach TPS, they insist that the companies develop their own system. Someone did something right to get you to this point. Build on that. Build on your company's heritage to identify what you stand for. Lean will cut across functional/departmental boundaries that will eventually lead to a restructuring of responsibility for the major business processes rather than the current functional ownership of a department's activity. The key here is not to take ownership of the plan but to provide conditions in which the team can implement Lean. The aim of this approach is to create a nucleus of people who are trained in the Lean tools and techniques, who have experienced Lean through hands-on application and who can then with some external support move on to help others create lean processes by transferring their knowledge. Ready for more? Click here for another eight ideas Topics: Lean Six Sigma Process Excellence