



Improving Operational Performance Through Employee Engagement

Midal Cables in Mozambique

In today's competitive manufacturing landscape, operational efficiency and employee engagement are critical drivers of success. Midal Cables Mozambique, a subsidiary of Midal Cables B.S.C. (C), is a manufacturer of aluminum rods and conductors located in Maputo, serving markets in Europe and Sub-Saharan Africa. The plant was established in 2014 with the support of an IFC investment. Its development was strategic to strengthening the regional aluminum value chain, increasing power transmission and distribution capabilities across Sub-Saharan Africa, while contributing to job creation for Mozambican nationals.

A few years after the investment, when unexpected challenges arose—including surges in energy prices, market fluctuations, and the COVID-19 pandemic—IFC deepened its engagement to help Midal Mozambique navigate these difficulties. This included supporting efforts to enhance and sustain operational performance, recognizing that such improvements are critical to the company's sustainable profitability.

“Changing the mindset seems difficult, but it can be easily achieved by actively and genuinely engaging the workforce.”

VINAY RANA

GENERAL MANAGER, MIDAL MOZAMBIQUE

Through its Lean & Workforce Productivity advisory service—which focuses on both people and processes—IFC collaborated closely with Midal's management and operational teams to help them adopt new practices that streamline processes, identify and address problems, and engage employees on continuous improvement. As a result, Midal Mozambique significantly increased its productivity and reduced its energy consumption, leading to substantial cost savings. The program positively impacted employees through their greater engagement in problem solving, their increased empowerment, as well as additional performance-related recognition and rewards.

This case study highlights that manufacturers can achieve significant results through Lean management when senior managers champion the process and employees at all levels are encouraged to take ownership of their work and use their initiative to achieve company goals. When focusing on people and processes, a Lean approach supports employees' skills development and professional growth, while driving improvements in key performance indicators, such as efficiency and quality. As Midal's experience demonstrates, investing time and commitment in embedding Lean principles into a company's culture and operations is transformative, driving operational, social, and environmental benefits.



Finished aluminum products in the Midal Mozambique plant.

Context: IFC's Lean Advisory Services at the Intersection of People and Processes

Companies in the manufacturing and processing industries often face challenges in reaching optimal levels of productivity. Inefficient processes lead to production downtime, defects, high staff turnover, absenteeism, and higher costs.

Since 2016, IFC has been piloting a series of productivity enhancement solutions that informed the development of its advisory work on Lean management and workforce productivity. IFC first rolled out productivity pilots as part of the [Better Work Program](#), a partnership with the United Nations International Labour Organization (ILO), that helps garment manufacturers around the world improve working conditions while enhancing their competitiveness.

IFC has also designed and scaled the Gender Equality and Returns (GEAR) Program since 2016 under the Better Work Program, which equips women workers to move up the career ladder by developing their leadership skills and training them in Lean and *kaizen* methods of team and production supervision. To date, GEAR has been implemented in more than 190 factories across five countries training more than 1,300 women workers. On average, 65 to 70 percent of these GEAR participants were promoted to supervisory roles, and productivity increased by approximately 4 to 8 percent.¹

Launched in 2020, IFC's Lean & Workforce Productivity advisory service builds on these experiences to help companies in the manufacturing and processing industries improve their processes and practices across all departments, with a particular focus on production, quality, and human resource units. The approach focuses on creating more value for end customers while optimizing their processes, and engaging employees to raise their efficiency standards and improve the quality of their work.

¹ For more details, see the impact evaluation of the GEAR Program in Bangladesh ([Creating Better Jobs for Women and Boosting Productivity in Bangladesh's Garment Factories](#), IFC and ILO, 2025), and blog posts about GEAR in Sri Lanka ("[Threads of Success: Promoting Career Progression for Sri Lankan Women](#)") and in Vietnam ("[Gearing Up for More Women Leaders in the Garment Sector in Vietnam](#)").

The Lean & Workforce Productivity engagement starts with an assessment that evaluates the company's operations vis-à-vis global good practices on more than 70 drivers of productivity (Figure 1).

IFC's assessment integrates proven Lean and *kaizen* methods – originally developed at Toyota and other leading industrial

corporates – with a strong emphasis on workers' well-being, skills, and people management.

The assessment offers a gender lens to pinpoint how processes and practices can be improved to give equal opportunity to both women and men to thrive in their roles, grow, and stay with the company.

Figure 1. IFC Lean & Workforce Productivity Assessment: Pillars of Intervention

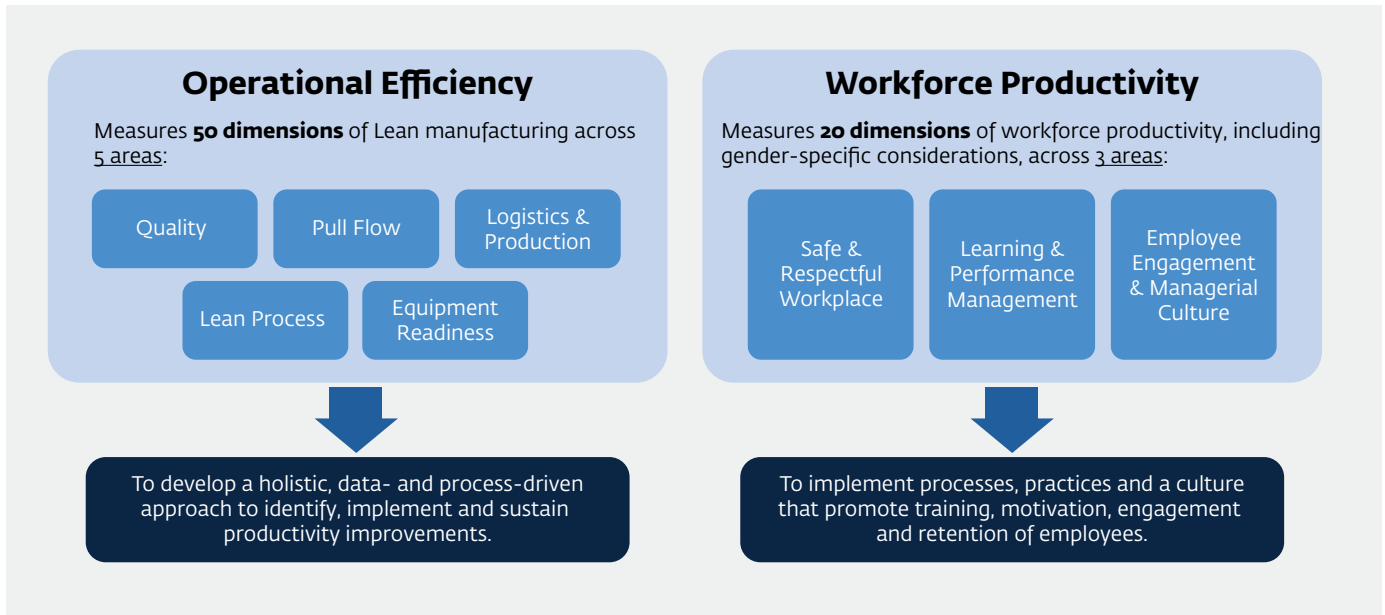
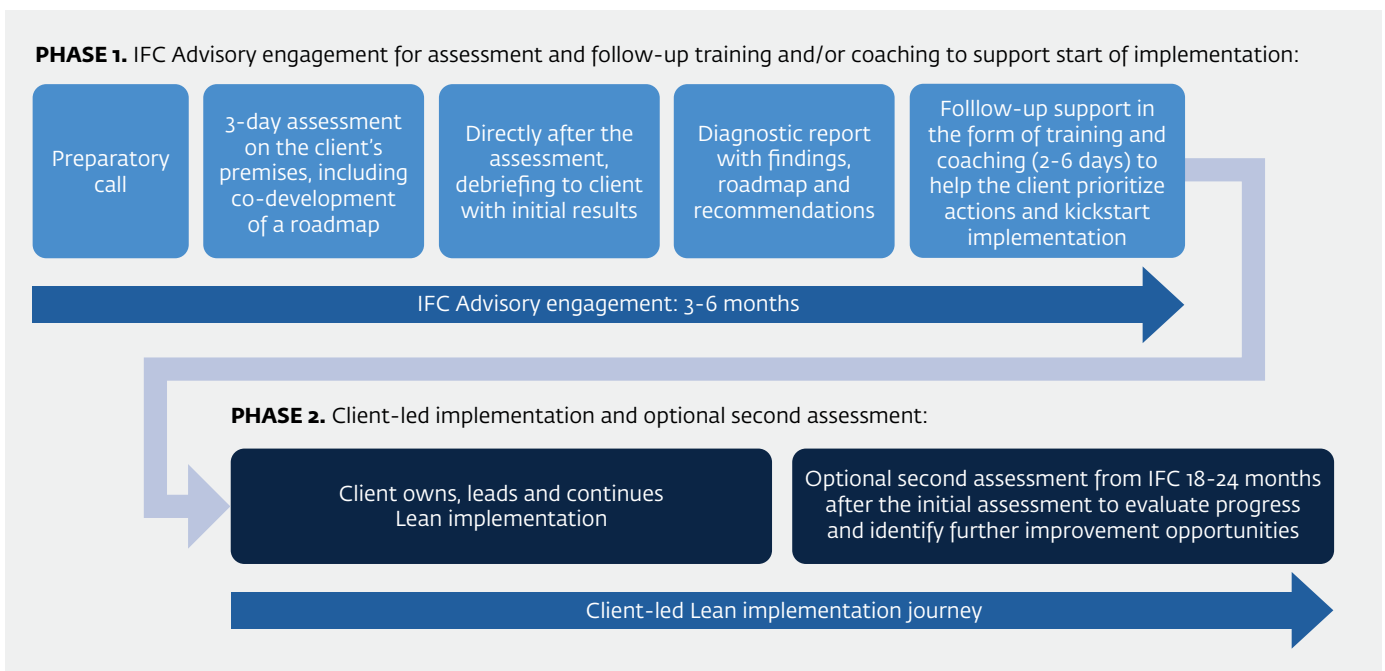


Figure 2. Overview of the Advisory Engagement Process and Timeline



Based on IFC's assessment, strengths and improvement areas are identified, and a tailored roadmap is co-developed with the client. Training and coaching then guide the client on a Lean implementation journey (Figure 2).

Thus far, IFC's Lean & Workforce Productivity advisory has been delivered to seven companies across north, west, and southern Africa: three garment manufacturers, a mattress manufacturer, an automobile component manufacturer, an industrial printing firm, and Midal Cables – a cable manufacturer.

IFC's Engagement with Midal Cables in Mozambique

IFC Investment in Midal

In 2013, IFC funded a new industrial facility in Maputo to manufacture aluminum rods, wires, and conductors through a \$35 million [investment](#) in Midal Mozambique. IFC also syndicated an additional \$12 million from the OPEC Fund for International Development to finance the new plant.

Midal produces essential components for power infrastructure. The new plant is next to an aluminum smelting company called Mozal, which was an IFC investment. Mozal is Midal's primary supplier of raw materials, strengthening the value chain in the region.

IFC recognized the strategic importance of its support to Mozal and Midal to increase power transmission and distribution capabilities throughout Sub-Saharan Africa,



Midal Mozambique plant, located in the Bebeluane Industrial Zone in Maputo, next to Mozal (in the background), which is Midal's primary supplier of raw materials.

while creating jobs for Mozambican nationals. IFC's long history in Mozambique and knowledge of the country made it a trusted partner for Midal.

"Throughout the process, Midal was proactive in working with us," said IFC's Chief Special Operations Officer Jean Laprevotte, adding: "The company also engaged in some interesting projects. It built a solar plant to produce energy for their own use."

A few years after the investment, Midal Mozambique ran up against unexpected challenges that hindered the plant's profitability. These included difficulties finding skilled staff, power shortages that disrupted production, slower-than-expected market growth in Sub-Saharan Africa's power sector, the COVID-19 pandemic, and surges in energy and aluminum prices.

In response, IFC together with the OPEC Fund for International Development restructured the financing to allow more time for Midal Mozambique to adapt to these challenges.

"The plant needed more time to become profitable in a sustainable manner," said IFC Investment Officer William Kizito. Recognizing that operational improvements would be critical for Midal Mozambique's success, IFC and Midal management began the Lean & Workforce Productivity journey.

IFC Advisory Support to Midal

IFC's Lean & Workforce Productivity assessment was conducted in February 2023 by a senior Lean expert from a global consultancy that specializes in operational and relational excellence, which was hired by IFC to work on this with its advisory team. The assessment identified several strengths, and areas for improvement. It estimated that addressing machine downtime and quality issues could make substantial savings. The roadmap prioritized actions that would yield early results, and laid out other improvements that would help the plant obtain and sustain results over time.

Over four months, a workshop for Midal's management and coaching sessions spelled out the new practices and explored ways to embed them in daily operations. The implementation included a set of new operating standards, a visual management system to monitor KPIs, and daily

Lean meetings. Most employees became more directly engaged in quality improvement, waste reduction, cutting costs, and designing practical solutions to systematically solve problems at an early stage.

“With Lean you understand your manufacturing better, because you have the critical KPIs defined,” maintained Midal Quality Manager Célia Naueia Kaira, “You know where you are, where you are going, what you need to adjust, and what you need to change.”

Midal Mozambique General Manager Vinay Rana, who is Six Sigma Green Belt certified, demonstrated personal commitment to the program. “Changing the mindset seems difficult, but it can be easily achieved by actively and genuinely engaging the workforce,” he said.



Midal Mozambique General Manager Vinay Rana.

Results and Impact

Results were visible within weeks. As General Manager Rana explained, “we managed to straight away increase our productivity by 25 percent without any additional resources.” The added productivity allowed Midal to consistently meet its monthly production deadlines ahead of schedule, freeing up two extra days each month for machine maintenance.

Short-term results provide a steppingstone to long-term change, believes Laurent Boisseuil, the expert consultant who delivered the Lean assessment, training, and coaching. “The intention is to make Lean an integral part of the culture. It takes three-to-five years for a full Lean transformation to happen,” he said.

Midal Mozambique generated impressive results within the first year:



Operational:

- Production increased by 25 percent without additional resources
- Gas consumption reduced by 27 percent
- High-value consumables reduced by 33 percent
- Reduced scrap and waste
- Quality improvements



Social:

- Greater level of employee engagement
- Employee's skills development linked to the implementation of Lean practices – including problem solving, critical thinking, responsibility and accountability, and communication



Environmental:

- Lower emission levels and consumption of resources resulting from improved efficiency

The Lean Journey Continues

Under General Manager Rana's leadership, Midal's management and staff continued working with an external Lean consultant to further develop internal capabilities and advance implementation efforts. In 2024, 17 Midal employees completed Yellow Belt training. “We are aware there are more elements to learn,” said Quality Manager Kaira, “but even with the basic tools we have used so far, we can see great change.”

Key Insights

Empowering People is Key to Value Creation

Lean management typically places business processes at the center of a company's approach to value creation. "At IFC, we have learned from experience that it is equally important to focus on the people – so we designed IFC's Lean & Workforce Productivity assessment to purposefully focus on both processes and people," said IFC Senior Operations Officer Sabine Hertveldt. Lean empowers operational teams to proactively identify and implement improvements, giving them space to make decisions and learn from them.

"This approach is about fostering ownership and providing all employees with the resources they need to thrive, find satisfaction, and grow in their roles at work," said Diane Davoine from IFC's advisory services team, who led the engagement with Midal in Mozambique. Davoine added that through this philosophy, "employees are viewed as partners, trusted to make decisions that raise the value of their work, with each individual contributing valuable skills".

The resulting changes in day-to-day practices can transform everyday working life. "Before Lean a team didn't deal with its issues itself. Instead, one of the principal managers would solve it," said Midal Production Manager Paulino Alamo. But now, rather than asking for help with routine operational snags, "operational teams communicate to us that they have had a problem, have taken care of it, and it is not an issue," Alamo maintained.

Each month, the Midal team with the most impact on daily results receives a small prize. Teams are officially recognized for innovation. As Quality Manager Kaira put it: "When teams on the shop floor come to us with new ideas for improvement, we are achieving what we want. We want the teams to be involved in all the aspects of running this business."

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CÉLIA NAUEIA KAIRA

QUALITY MANAGER, MIDAL MOZAMBIQUE



Alfredo Pagamento (Production Superintendent), Ermelinda Manuel (Team Leader), Paulino Alamo (Production Manager), Célia Naueia Kaira (Quality Manager), and Hergilio Zandamela (Team Leader).

"Operational teams communicate to us that they have had a problem, have taken care of it, and it is not an issue."

PAULINO ALAMO

PRODUCTION MANAGER, MIDAL MOZAMBIQUE

Leadership Engagement is Essential for Lean Success

Midal Mozambique's leaders fully embraced the approach, actively participating in the Lean assessment, training, and coaching. They then stood squarely behind the recommendations for improvement derived from the assessment the Lean expert and IFC's advisory team shared. Their enthusiasm played a pivotal role in driving and sustaining the momentum for change.

"I have seen many projects like this fail in the first six months," said General Manager Rana. "To keep it going, someone needs to take ownership, which all the leaders in Midal Mozambique did together."

As they placed themselves in the driving seat, Midal's leadership evolved its own management style to further embrace bottom-up facilitation. "Lean is about focusing on the customer," noted the Lean expert, "and this happens on the ground — where operators work to transform materials or services to meet customer needs. The role of managers shifts from directing to supporting the team and ensuring they have what they need to perform at their best. Because

operators may lack the broader perspective of managers, it is crucial to assist, encourage, and equip them with the necessary resources.”

Visual Displays Keep Everyone on Target

At Midal Mozambique, results monitoring, and continuous improvement are managed by everyone, using simple yet effective visuals to share information. Whiteboards at workstations display progress toward relevant KPIs like safety, quality, and production. Boards that are physically located close to the production lines show actual output versus targeted daily output, which teams update every three hours. Other boards list current problems, possible causes, resolutions, or action plans for upcoming changes. Senior managers update central visual boards daily that track all KPIs.

When output falls below a target, “the operational team in charge has three hours to solve it independently,” said General Manager Rana. “If the issue persists, then the operations manager gets involved. If it is not resolved within six hours, then it comes to me as general manager, and we involve our company team, who have 40 years of expertise.”

Midal team leader, Ermelinda Manuel, noted that the boards help people gain clarity about the whole process. “If there is a crisis,” she said, “it is visible to everyone.” Because the plant’s data is posted, everyone knows exactly where they stand. “It is very easy to get information to monitor processes closely,”



Midal Mozambique General Manager Vinay Rana, and his leadership team, gathering for a daily meeting next to the central visual boards displaying the plant’s KPIs.

“It is very easy to get information to monitor processes closely.”

HERGILIO ZANDAMELA

TEAM LEADER, MIDAL MOZAMBIQUE

said Hergilio Zandamela, another Midal team leader. “On the production floor, each team can go to the board and look at the numbers.”

The management team also uses visual boards for their daily meetings, which are now dedicated to solving high-priority issues. “We meet every day, maximum 15 minutes” said Quality Manager Kaira, “and only address the red indicators.”

Broadening input for critical decisions improves the entire system. One example involved emulsion, an oil-water mix used to lubricate aluminum rods during cooling. Contaminants can lead to scrap. One time when scrap rates rose, the shop floor team found bacteria growing in the emulsion, which is something a senior team member might have missed. The team now tracks contamination on a visual board as early as possible to prevent product damage at its source and reduce waste when discarding products down the lines.

Transforming Company Culture through Lean Practice

“When we implemented the tools,” recalled General Manager Rana, “people on the shop floor could immediately see it was helping us. There was no longer that stress which we had been going through all these years.”

Laurent Boisseuil, the Lean expert who conducted the assessment, boils the Lean practice down to three key principles:

- Do not judge people harshly for making mistakes. Instead, improve the process to avoid the mistakes next time.
- Do not change processes carelessly. If you change a process, you will change the result. Since the ultimate goal is to satisfy the customer, do not risk making changes that customers will not want.

- Make sure everyone in the factory works together. Any change to one team will likely affect everyone else.

Lean culture encourages workplace collaboration, not internal competition. At the plant management level, as Quality Manager Kaira noted, “Lean is a joint effort among all the departments: safety, quality, production, maintenance, and procurement. We all have the same goals.”

Working together boosts morale and strengthens commitment. As employees witness the positive impact of their efforts on overall plant performance, they get more engaged. “Anyone who comes inside our plant can tell,” said Midal Production Superintendent Alfredo Pagamento. “We’re doing well, we measure and always want to take it to the next level,” said Pagamento.

Contributing to Social and Environmental Development

On-the-job learning improves professional skills, job-readiness of employees, and overall job quality. In a country where many people have limited schooling levels and unemployment is high, Midal provides employees with opportunities to acquire skills and practical knowledge relevant not only to their current jobs but also for their long-term careers. “They are eager for technological skills, as well as the skills of advanced management,” explained Rana.

Lean methods also reinforce workplace diversity. People at Midal come from a variety of cultural and ethnic backgrounds, echoing the diversity in Mozambique. The mix of perspectives “is building a very healthy working environment,” said Midal Team Leader Zandamela. “That’s something we are grateful about.”

Women rise to key positions based on opportunities to put their competencies into practice. Currently, the top quality and logistics executives are women along with managers in HR, production, and maintenance, even though women represent only 12 percent of the plant’s total workforce. Upon promotion, Ermelinda Manuel, one of Midal’s team leaders, said: “At first there was a bit of resistance, but they let me prove I could do it. Once I showed that I was capable, support came from everywhere.” Like other women promoted to managerial positions, Manuel augmented her on-the-job training with personal life experiences. “In

everyday life, you have to think quickly to solve any problem that appears,” she said. “That helps a lot here.”

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ERMELINDA MANUEL

TEAM LEADER, MIDAL MOZAMBIQUE

Working at Midal Mozambique also serves as an introduction to the industrial world for employees who come from rural areas. Lean production is participative and requires leadership commitment and bottom-up solutions. As General Manager Rana put it: “We show employees what we have done yesterday, what we are doing now, what we have saved through their work. We show them this is where we stand and what their contribution is to the results.”

Waste reduction, in the Lean sense, also contributes to reducing the company’s environmental footprint. Teams monitor consumption of resources, including energy, water, and raw materials. Midal Mozambique has cut natural gas use by a third, solely through efficiency. “We have a team of colleagues devoted to environmental impact,” said General Manager Rana. “When there is an oil spill or contamination of the waste product, we ask them to resolve the problem. In the past, we weren’t that systematic. Now we are doing it daily.”



Ermelinda Manuel, Team Leader, monitors production KPIs, ensuring the information is visible to all staff on the production floor.

The people interviewed for this case study include:

- Vinay Rana, General Manager, Midal Mozambique
- Paulino Alamo, Production Manager, Midal Mozambique
- Célia Naveia Kaira, Quality Manager, Midal Mozambique
- Alfredo Pagamento, Production Superintendent, Midal Mozambique
- Ermelinda Manuel, Team Leader, Midal Mozambique
- Hergilio Zandamela, Team Leader, Midal Mozambique
- Diane Davoine, Project Lead, IFC
- Jean Laprevotte, Chief Special Operations Officer, IFC
- William Kizito, Investment Officer, IFC
- Laurent Boisseuil, Senior Consultant, Progress Partners

Contact:

Sabine Hertveldt, Senior Operations Officer, IFC:
shertveldt@ifc.org

This case study was prepared in collaboration with Juliette Powell and Art Kleiner from KPI, edited by William Corcoran, and designed by Luis Liceaga.

Photo credits: Midal Mozambique

Cover photo: Midal Mozambique's production team in an area of the plant.

About IFC

IFC—a member of the World Bank Group—is the largest global development institution focused on the private sector in emerging markets. We work in more than 100 countries, using our capital, expertise, and influence to create markets and opportunities in developing countries. In fiscal year 2024, IFC committed a record \$56 billion to private companies and financial institutions in developing countries, leveraging private sector solutions and mobilizing private capital to create a world free of poverty on a livable planet. For more information, visit www.ifc.org.

About FIAS

The Facility for Investment Climate Advisory Services (FIAS) is a collaboration between 14 development partners and the World Bank Group. As of FY25, the roster of FIAS Development Partners was Australia, Austria, Canada, Denmark, the European Union, France, Ireland, Luxembourg, Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United States, in partnership with the International Bank for Reconstruction and Development (IBRD) and the International Finance Corporation (IFC). FIAS funding supports client-facing and knowledge development projects. IFC oversees and manages the FIAS multi-donor trust fund that allocates support to client-facing projects implemented by IFC Advisory and Upstream Services teams and FIAS-supported global platforms and global knowledge projects implemented by IFC and IBRD team.

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