



Lean Champions – 2025 Annual Projects Summary

Continuous Improvement through 5S & Kaizen



Annual ceremony – January 2026, Pravets

www.lean.bg

Team



Plant



Products: Cylinder head and knuckles



Total area: 30 000 m²

Total number of employees: 750

Scope of activities:

- Aluminium melting
- Coring
- Casting
- CNC

Customers:

AUDI, VOLVO, FORD, MERCEDES, RENAULT

Annual performance – KPI table



Linamar Light Metals Ruse

Quarters 2025	5S				Kaizen projects					Voting score		Quarterly results 2025
	First audit result	Second audit result	Target	5S score %	KPI	Before	After	Target	Score %	Average score	Score %	
Q1	68%	86%	80%	100%	Efficiency FA7	40.0%	53.0%	52.0%	100%	3.8	57%	85.6%
Q2	70%	85%	80%	100%	Efficiency Dept.	47.0%	50.0%	48.0%	100%	2.18	73%	90.9%
Q3	72%	82%	80%	100%	Efficiency Dept.	50.0%	49.0%	51.0%	96%	2.50	83%	93.1%
Q4	60%	79%	80%	99%	Efficiency Dept.	49.0%	55.0%	55.0%	100%	---	---	---

Colour indicator: ● above 90% | ● 80–90% | ● below 80%

Note: Final quarterly results are calculated as a weighted average of 5S, Kaizen and Voting scores.

Q1 Kaizen Project – Problem, Scope and Targets



Problem

Defining the problem:

Following the change in ownership and management, the company entered a period of adaptation, which led to challenges in maintaining sustainable working practices. One of the affected processes is Autonomous Maintenance – key to ensuring the long-term effectiveness of the equipment. A gradual deviation from established good practices is observed, leading to a decline in machine efficiency and potential losses in productivity. Additional impacts are seasonal staff fluctuation, reduced cleanliness in production areas and the absence of key operators, which further complicates the stability of processes and the maintenance of standards.



Project Scope

Define the scope of the project :

The FA7 machine was selected to start the project, which was characterized by low 5S conditions, numerous anomalies and lack of systematic maintenance. These factors led to low equipment efficiency, frequent unplanned downtime and limited productivity. The choice of this machine as a pilot site is strategic, as its improvement will have a direct impact on the stability of the processes and will serve as a model for the implementation of good practices in the remaining machines.



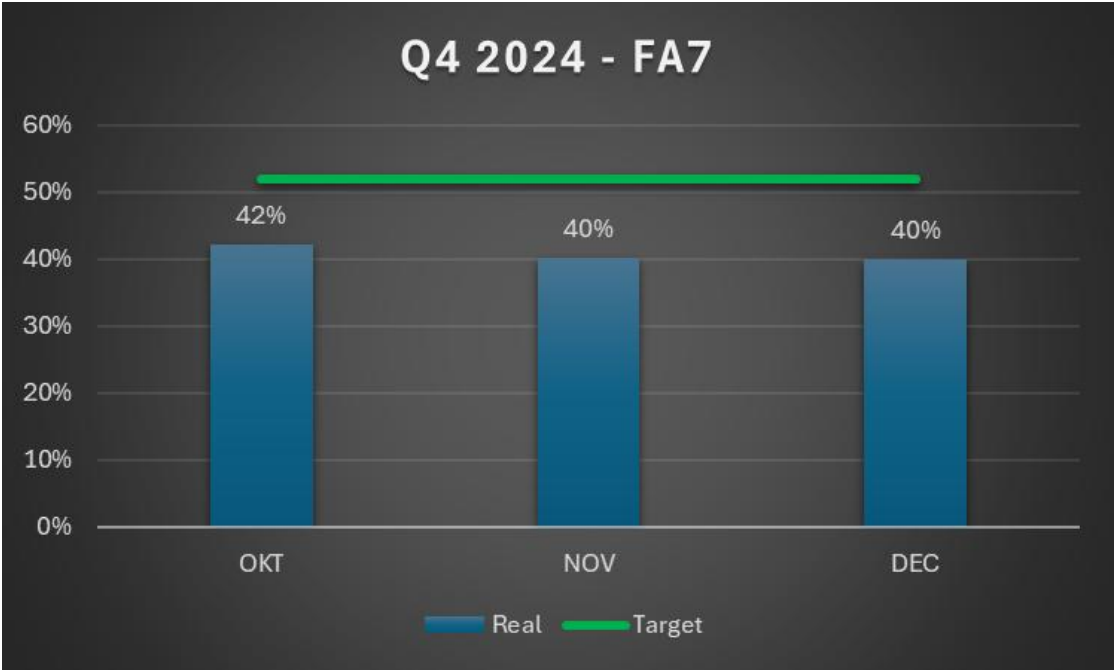
Target and result

KPIs	Measurement unit	Baseline	Target	Result	Savings
Efficiency FA7	%	40%	52%	53%	114 606 €
AM Master plan completion	%	0%	10%	10%	
Period		12/2024	March 2025		

Q1 Kaizen Project – Before & After

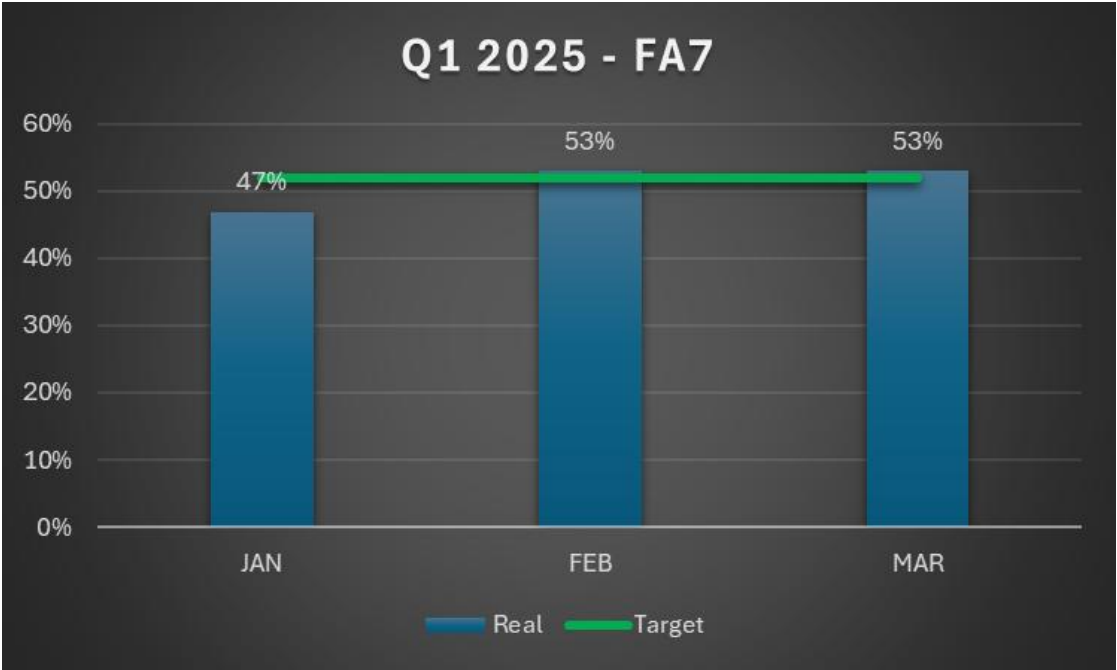
Before

Define the problem:
Low efficiency of the machine



After

Define the improvement:
In the end of the quarter, we see significant increase



Q1 Kaizen Project – Before & After

Before

Define the problem:

Very contaminated hydraulic motor



After

Define the improvement:

Cleaning and removing leak



Q2 Kaizen Project – Problem, Scope and Targets



Problem

Defining the problem:

Following the change in ownership and management, the company entered a period of adaptation, which led to challenges in maintaining sustainable working practices. One of the affected processes is Autonomous Maintenance – key to ensuring the long-term effectiveness of the equipment. A gradual deviation from established good practices is observed, leading to a decline in machine efficiency and potential losses in productivity. Additional impacts are seasonal staff fluctuation, reduced cleanliness in production areas and the absence of key operators, which further complicates the stability of processes and the maintenance of standards.



Project Scope

Define the scope of the project :

In the second quarter, the focus is on three additional machines – FA1, FA3 and FA4. In parallel, the Autonomous Maintenance process is being restored by introducing T-cards targeting operators and cleaning activities. The aim is to restore good practices, increase staff engagement and ensure equipment stability through a systematic approach to maintenance.



Target and result

KPIs	Measurement unit	Baseline	Target	Result	Savings
Efficiency Coring Department	%	40%	48%	50%	135 295 €
AM Master plan completion	%	10%	40%	40%	
Period		12/2024	June 2025		

Q2 Kaizen Project – Before & After

Before

Define the problem:

Bad condition of cleanness



After

Define the improvement:

Restoring T – cards for maintaining cleanness

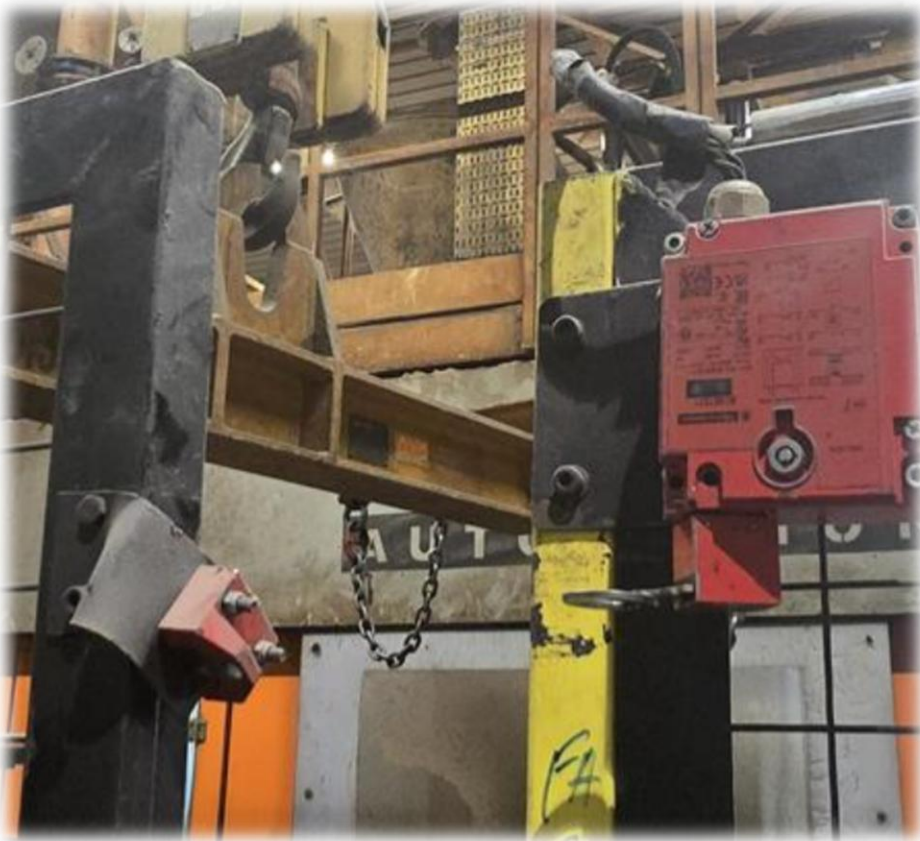


Q2 Kaizen Project – Before & After

Before

Define the problem:

Broken safety locks on most machine



After

Define the improvement:

Restoring locks on all machines



Q3 Kaizen Project – Problem, Scope and Targets



Problem

Defining the problem:

Following the change in ownership and management, the company entered a period of adaptation, which led to challenges in maintaining sustainable working practices. One of the affected processes is Autonomous Maintenance – key to ensuring the long-term effectiveness of the equipment. A gradual deviation from established good practices is observed, leading to a decline in machine efficiency and potential losses in productivity. Additional impacts are seasonal staff fluctuation, reduced cleanliness in production areas and the absence of key operators, which further complicates the stability of processes and the maintenance of standards.



Project Scope

Define the scope of the project :

In the third quarter, the focus is on the FA5, FA6 and FA9 machines. Due to seasonal staff fluctuations and the absence of key operators, it was necessary to attract foreign labor to ensure production stability. In parallel, we started the first steps towards digitalization of the department and equipment, in order to increase transparency, traceability and efficiency of processes.



Target and result

KPIs	Measurement unit	Baseline	Target	Result	Savings
Efficiency Coring Department	%	40%	51%	49%	164 647 €
AM Master plan completion	%	40%	70%	70%	
Period		12/2024	September 2025		

Q3 Kaizen Project – Before & After

Before

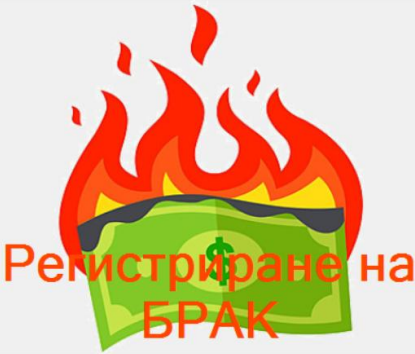
Define the problem:
Manual entering of data

The image shows a handwritten data entry form for a LINAMAR machine. The form is titled "Контрол на брака на съярната машина" (Defect control of the machine) and includes fields for "Дата" (Date) and "Смина" (Shift). The main table contains columns for "Израсти" (Growth), "14:00", "15:00", "16:00", "17:00", "18:00", "19:00", "20:00", "21:00", "22:00", and "Общо" (Total). The data is handwritten in blue ink. Below the table, there is a section for "Аларми" (Alarms) with sub-sections for "Врати" (Doors), "Хидравлика" (Hydraulics), and "Пясък" (Sand). The form also includes a section for "Машини" (Machines) with a list of operators and their respective production times.

After

Define the improvement:
Start of Digitalization in the department

Линамар Лайт Металс Русе ЕООД Сърцарен							v. 2025.7.31.1			X
LLMR-PC6845							24.09.25 18:50			
	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Общо
Изстрели	3	26	9	1	31	0	0	0	0	70
Автоматичен режим => GTDI UPG - Corebox HP - 1										
Аларми		Врати		Хидравлика		Пясък				

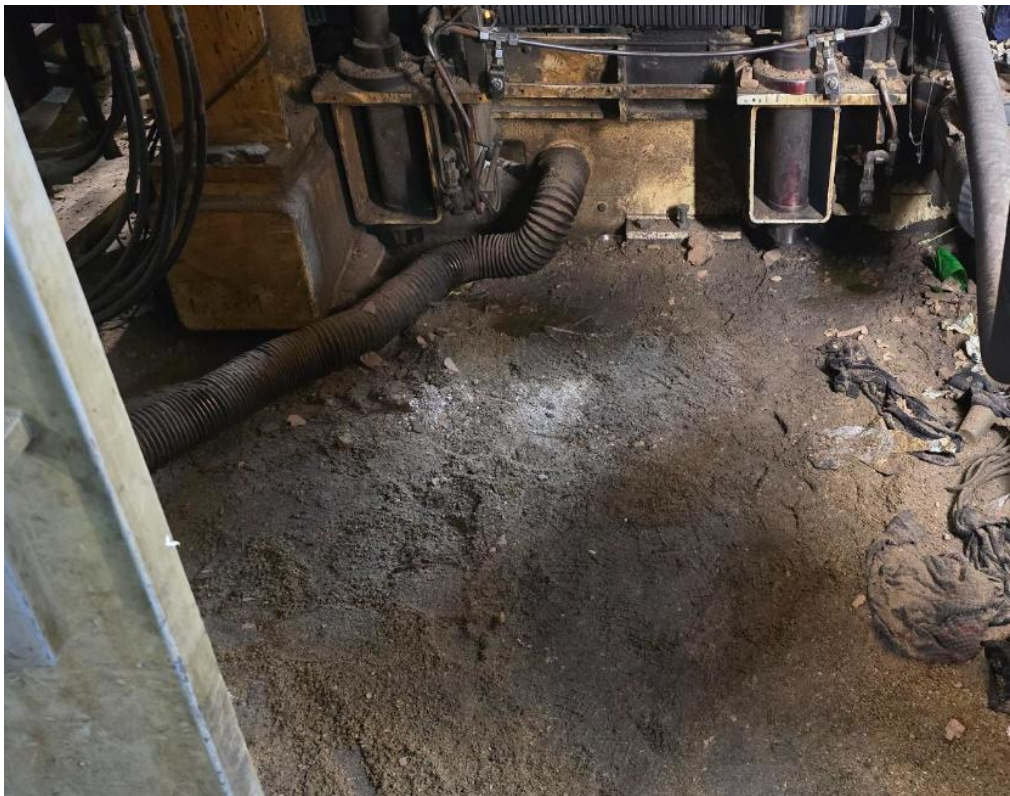


Q3 Kaizen Project – Before & After

Before

Define the problem:

Bad condition and leakage of oil



After

Define the improvement:

Locating leakage and repairing



What we have learned from our kaizen projects

More Communication  – Ensure clarity and transparency in every step.

Bad Examples  – Identify and eliminate poor practices early.

Feedback Loop  – Regular constructive feedback drives success.

System Discipline  – Without following a well-built system, improvements lose meaning.

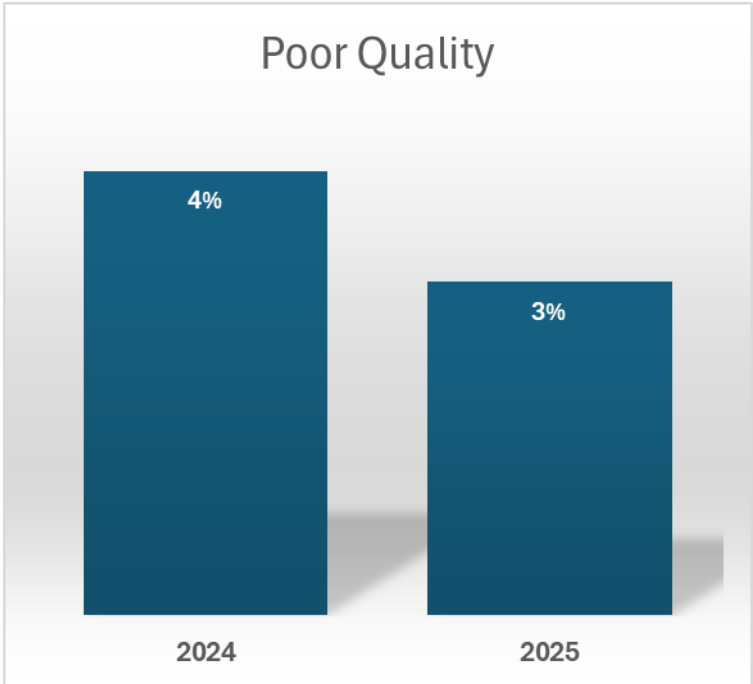
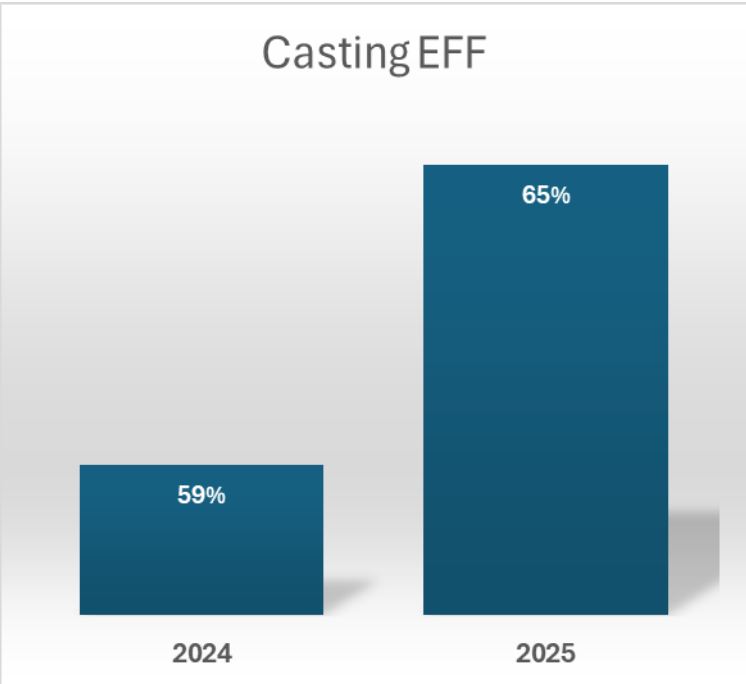
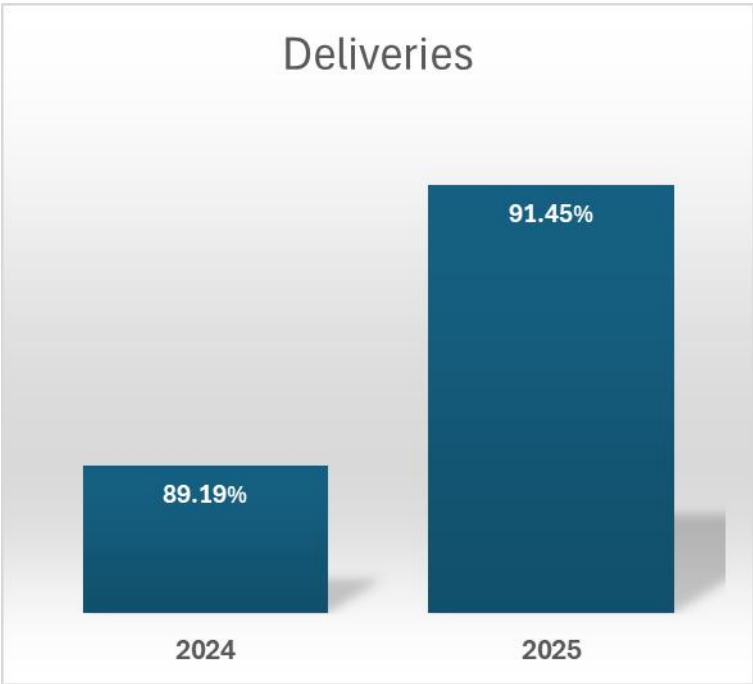
Summary of the main results and benefits of the year.

Tangible (quantitative):

- Deliveries to Casting increased with 2.26%
- Casting efficiency increased 59% -> 65%
- Saved 716 488 € in total efficiency gains

Intangible (qualitative):

- Poor Quality decreased with 1%.
- Continuous improvement mindset.
- Reduced turnover and absenteeism.
- Better information flow between teams and departments.



Our long-term vision and commitment

- ✓ **Maintain and Continuously Improve Efficiency Levels** ⚡
- ✓ **Expand Our International Workforce** 🌐
- ✓ **Engulf All Machines (New & Old) with Digitalization** 🤖
- ✓ **Robotization in Core Box cleaning area, which will lead to better performance** 🤖
- ✓ **Launch New Kaizen Project to Reduce Coring Scrap Rates** ♻️

Acknowledgment & Gratitude

We would like to express our sincere thanks to:

-  **Our colleagues from other plants** for their continuous support over the year.
-  **The Lean Champions** for their skillful guidance and assistance in the successful implementation of our project.
-  **Our entire team and management** for the excellent work and dedication.

Let's keep improving in everything we do and inspire everyone around us!  