

CONTINUED IMPROVEMENT PROGRAMME: RESULTS & LESSONS LEARNED.

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Date : 02 / 07 / 2018

Venue : Durban South Africa

FOR PUBLICATION

1. PRESENTATION OF SOMEF

INNOVATION THROUGH EXPERIENCE

SOMEF is a group of companies specialized in manufacturing and marketing of electrical tooling and equipment for domestic use.

- Turnover : 20 MEuros (2017) ;
- Exports to more than 10 countries: 30 % of turnover spent on exports;
- Employs over 600 people ;
- SOMEF possess its own R&D lab: engineers, senior technicians, dedicated development and simulation software (SolidWorks), 3D Printing machine;
- Lab equipped with several test machines;
- System quality certified ISO 9001: 2015 ;
- CE branding;
- 1 % of turnover invested in R&D: Product development and process;
- 5 Production sites: 5 in Tunisia ;
- Dedicated logistics warehouses;
- 2 injection workshops with 30 presses of 40 T to 350 T and 30 robots ;
- Several assembly workshops for finished products: switches, prises, circuit-breakers, etc.



1. PRESENTATION OF SOMEF

OUR MAIN PARTNERS



1. PRESENTATION OF SOMEF

OUR FIELDS OF ACTIVITY



- Electrical appliances
- Circuit-breakers
- Distribution boxes
- Accessories and wiring
- Videoconferencing
- Lighting
- Energy saving
- Home automation



2. KAIZEN ACTIVITIES: METHODS / ENHANCEMENT TOOLS

- 5S Method;
- KAIZEN Approach: Improvement of Productivity, Stock Optimization, Lead Time Reduction & Area reduction;
- SMED Method: Reduction of mold change time;
- TPM : Total productive maintenance.

2. KAIZEN ACTIVITIES: 5 S / SMED

5S : ACTIONS PERFORMED AND RESULTS

Produce better – Improving productivity & quality :

- Minimizing the time lost looking for tools, items or documents;
- Reducing the number of breakdowns;
- Fast detection of defects;
- Better visual management.

Live better:

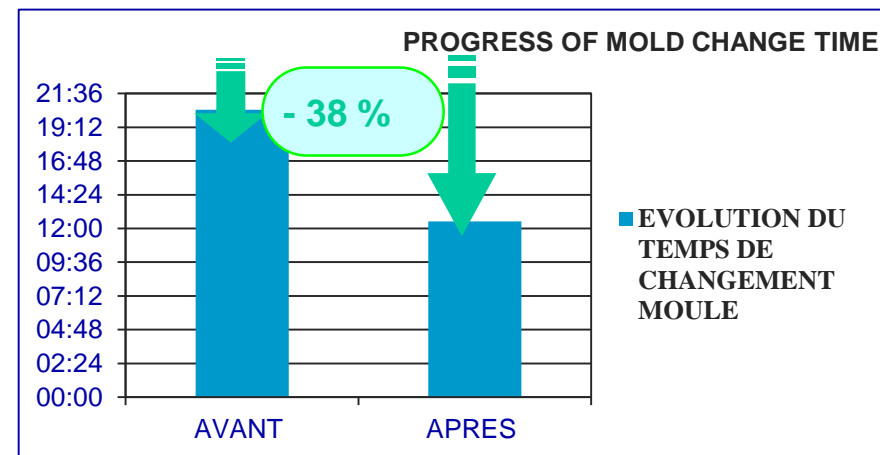
- Improving working conditions (housekeeping, reducing the number of incidents...);
- Better ergonomics for work stations;
- Encouraging teamwork.



SMED : (SINGLE MINUTE EXCHANGE OF DIE) : METHODOLOGY & RESULTS

- Initial situation: Video recording of a mold change
- Analysis of the change process
- Weak points and upgrade plans:
 - Gain per organization
 - Gain per technical modification

Result assessment.



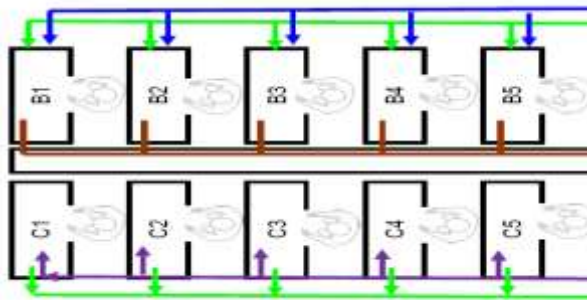
2. KAIZEN ACTIVITIES: Switches production line. PICTURES OF UPGRADE ACTIONS



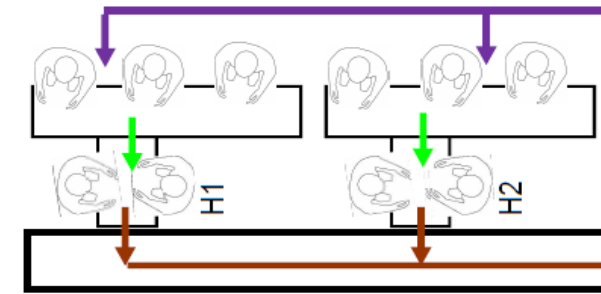
Assembly work split into two separate operations



Improvement of components layout at the stations: Reduction of assembly time.



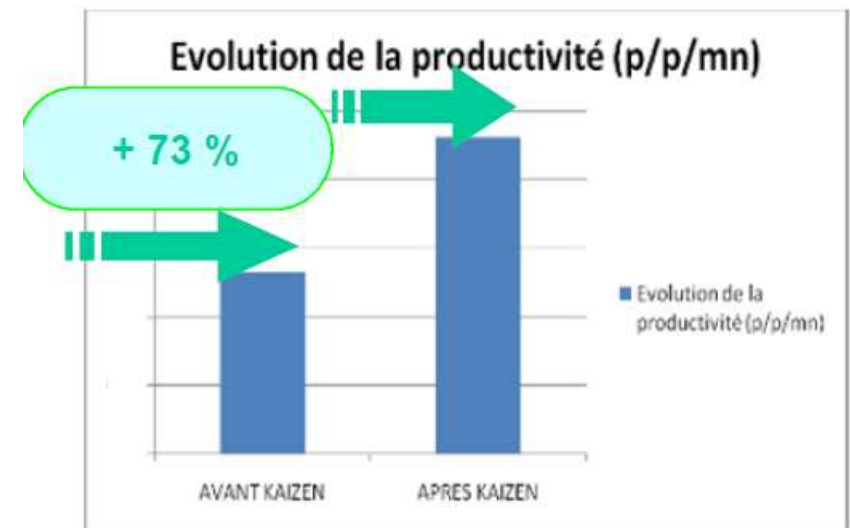
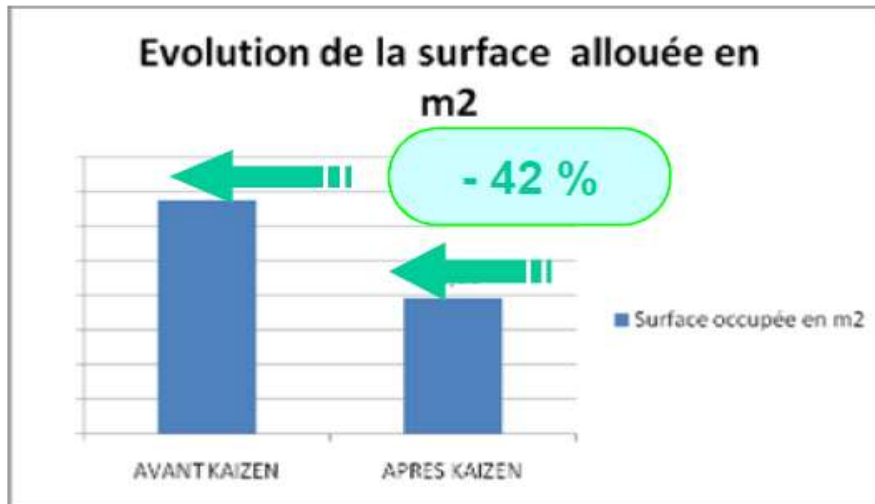
Production line modified into production cells (part by part production).



Design and implementation of a semi-automatic assembly press (10 parts at a time) .



2. KAIZEN ACTIVITIES: Switches production line. RESULTS IN NUMBERS



	BEFORE KAIZEN	AFTER KAIZEN
Current Stocks	120 000 PARTS	0

2. KAIZEN ACTIVITIES: CIRCUIT-BREAKERS ASSEMBLY WORKSHOP.

Layout upgrade

- Scope: Circuit-breakers assembly lines;
- The workshop produces 5 ranges of circuit-breakers.
- There are 3 projects for the layout upgrade.

Range	Designation
F1	MCB modular TD1
F2	MCB modular TD2
F3	MCB in 1 module
F4	RCBO
F5	Differential block

▪ Project No. 2.

▪ Project No. 1.

▪ Project No. 3

2. CIRCUIT-BREAKERS ASSEMBLY WORKSHOP: RESULTS IN NUMBERS

LINE	LINE TD2	LINE 01 MOD	LINE TD 1
LEAD TIME IMPROVEMENT	- 65 %	- 80 %	- 70 %
PRODUCTIVITY ENHANCEMENT	+ 32 %	+ 65 %	+ 47 %
CURRENT STOCKS IN DAYS	- 66 %	- 66 %	- 66 %
DISPLACEMENT	- 70 %	- 68 %	- 75 %

RESULTS IN NUMBERS: WORKSHOP AREA

Reduction in occupied area	- 38 %
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3. LESSONS LEARNED

- The involvement of ALL company stakeholders from the field teams up to Management: operators should participate in selecting the solutions to be implemented;
- Staff training;
- Stringent steering of projects;
- Communication with staff members is a key factor for success;
- Selecting simple solutions to be implemented;
- Identification of constraints before implementing projects;
- Acknowledging the results achieved by project teams;
- Follow-up and continuous assessment of performances;
- Resistance to change decreases steadily as projects progress: SOMEF took two years to upgrade the first line of production, and have upgraded an entire production workshop (5 production lines) in less than a year;

4. CONCLUSION & RECOMMENDATIONS

- The results achieved have shown that the Lean tools (5S, Kaizen, SMED) represent real potential for progress, and lead to tangible and sustainable results ;
- SOMEF will continue in their quest to being more competitive through planning and by launching new enhancement projects;
- SOMEF strongly recommends the adoption of a strategy of continued enhancement based on these tools.

SOMEF TUNISIA expresses great appreciation to:

- Japan International Cooperation Agency (JICA)
- Centre des Industries Mécaniques et Electriques (CETIME)
- Unité de Gestion du Programme National de la Promotion de la Qualité (UGPQ).



Thank you for listening

