

Machine Relationship Management

Profitable production processes are dependent on the ability to measure current productivity, plan measures for improvement, identify weaknesses and increase profit.

We'll bring information on your production to the point where it matters – where you can save money. The MRM® Box automatically encompasses all of the important machine and production parameters to provide effective product control and management reports.

The MRM® Box forms a permanent relationship between production and management by providing up-to-the minute information on current production regardless of the location or branch, enabling measures to be taken accordingly.

Product Performance

The MRM® Box can be utilized as a standard solution to control production and provides direct access to

- Productivity indexes
- Interference
- ACTUAL/TARGET performance
- Trends

MRM® Systems

Based on the MRM® Box, we can offer you our extensive services and products with the goal of achieving a comprehensive and lasting increase in productivity and quality in the following areas:

- Maintenance Management
- Personnel Time Records
- Coworker Information Systems
- Quality Assurance
- Connection to ERP Systems (e.g., SAP, Microsoft Dynamics)

The MRM® Box:

- operates in any system
- compatible with all software
- compatible with any type of machinery
- simple and fast to install
- flexible us
- plug and use play easy to use
- paperless communication
- ROI less than 10 months
- unbeatable price

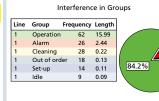
ROI

The ROI is significantly less than 10 months. Depending on the capacity, concatenation level and costs incurred by idle machinery, it could even be much shorter. (Source: Expert Report Fraunhofer Institute).



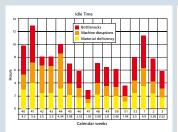
MRM® reports are easily accessible through any PC or WEB browser, and provide constant information on your production.

						Liv	/e Vi	iew				
Line 1 Live-	View Ov	erview				_						
dot												
Job No.: 4711			Mixer		Ш	Filler			Packer			
Target quantity: 10,000		10,000										
Quantity pro-	duced:	2.500		_			_			_		
Units per hour: 25		25		Produced			Produced			Produced		
Productivity:		- 1	_	TOUDLE			FIUUUU			rioudo		
Time: 7		75%	Quanti	Quantity produced Total: 2562		Ouar	Quantity produced		Quantity produced			
Units	Inits: 60%		Total:			Total: 2558			Total: 22500			
aily Overvio	w		Day:		1312	Day:		1308	Day:		1250	
Pro	oduced		1			1.			1			
Daily quantit	v:	1250	Opera	tion O	rerview	Oper	ation C	Iverview	Oper	ation (verviev	
Operation Or	erview		Group	Frequence	op Duration	Group		op Sportion	Group		oy Duration	
Group	Frequen	cy Duration			26/25/25			2025025		ion Bx		
Alarm	6x	00:58:25	Uperatio	in ax	00:15:53	irlia.	tion as	025253	Idle	son ax		
Operation	8x	26:25:36	1-20	18	w. 13/34	1 200	14	va. n/ 54	1.20	18	w.5/53	
Idle	1x	02:52:53	TOP 3	Dienm	tions	TOB	3 Disrus		TOR S	Disru		
TOP 3 Disrup	tions	- 1										
Alert	Frequen	cy Duration	Group	Frequenc	cy Duration			y Duration	Group		cy Duration	
Motor disrupti	on 2x	01:10:25	Motor		01-10-25	idle a	tx	00:21:01	idie a		00:10:21	
Idle 2	1x	00:21:01	disuption	2x	01:10:25	Alarm		00:02:22	idle b	1x	00:01:01	
Idla 1	1 4	00:02:22	idle	1x	00:02:22							



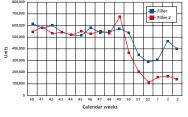
Detailed Overview

MRM® management reports are available in table form or graphic depiction to provide all relevant production data.



Weekly Performance

Graphic Overview



Stoppage Distribution

Output Distribution

All MRM® solutions are geared toward the OEE (Overall Equipment Effectiveness) standard. The MRM® analysis software makes it possible to quantify the sources of loss (plant failure due to loss of time, speed reduction and processing errors) and instigate the necessary countermeasures.

Line 1		Line 2		
Day		Day		
Stick-Pack Merz: Ope	ration	Stick-Pack Schmucker: O	peration	Current Operational Condition
Piece Counter	25407	Piece Counter	124400	Current Piece Counter
Piece Productivity (%)	85.38	Piece Productivity (%)	97.42	Capacity loss
Time Productivity (%)	97.3	Time Productivity (%)	83.8	Idling loss
Performance (%)	-7%	Performance (%)	-8%	Deviation from target productivity
Capacity Reserve	0€	Capacity Reserve	0€	Deviation in EURO
Theoretical Piece Count by end of day	63384	Theoretical Piece Count by end of day	247801	▶ Trend calculation
OEE (%)	83.08	OEE (%)	81.64	▶ Overall Equipment Effectiveness

op 5 Disruptions			Top 5 Disruptions		
lert		Duration	Alert	Freq.	Duration
ation 2 Emergency off	3	00:04:38	Schmucker door open	9	00:27:49
ation 1 Emergency off	2	00:04:02	Emergency off	2	00:17:42
			Pick and Place	5	00:10:37
			Date reference		00:10:09
			Stick left		
			Paper out	1	00:02:24
			•		

Interference in current duration and frequency







Fraunhofer Project Group **Production Management** and Logistics



* Excerpt

Every plant that was able to utilize an MRM® Box and MRM® System demonstrated a proven significant increase in productivity. Apart from the above-listed benefits, a sudden unexpected competition between the shifts and/or teams led to further improvements, as output, processing rate, numbers of errors, etc. became more transparent. As a result productivity increases had an impact on:

- Organization
- Engineering
- **Employees**

The observed use clearly showed in all cases an amortization period of less than one year. Depending on the degree to which the system's capacity is utilized, the degree of interlinkage and the costs of stoppages, this period can also be just a few months. The observed companies recorded a short-term measurable effect of 5-7% increased output as compared to the situation prior to introducing the MRM® System. Increases of over 25% can be achieved if continuous improvements are made. Utilization of an MRM® System can highlight improvement potentials that had failed to be recognized previously.

Prof. Dr. Wilfried Sihn

Ao. Prof. Dr. Kurt Matyas



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Letter of Reference MRM® Machine Relationship Management

In 2005 an innovative Production Management System was successfully implemented in our production lines PET 0.5 I, PET 2.0 I as well as our glass line to optimize the production process through MRM® Machine Relationship Management.

Goals - Requirements

A permanent increase in production by identifying the weaknesses caused by machine stoppages

- * Automatic data capture of all plant interference
- * Real time and historic reports
- * Accurate reports on set-up and cleaning times for optimization
- Data exchange with ERP System (SAP)

Conversion - Results

- * Ongoing automatic capture and recording of information
- * A significant increase in productivity was achieved

Recommendation

As a result of the very positive experience we had, we can highly recommend the company MRM® Machine Relationship Management and the Production Management System they installed for us.

Michael Höbinger

Asset and Process Improvement Manager

Technical Director

Coca-Cola Beverages Austria GmbH



Since we have had immediate access to the information in a compact form provided by the MRM® Box, we've been able to increase our productivity by over 10% ...

Josef Simon, Engineer (Chairman, NÖM AG)



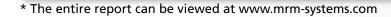
"When I first saw the MRM® Box in use and the first graphic evaluations appeared on my PC screen, I was absolutely convinced. Suddenly you could see what was happening in the production right from your desk, at a glance. What's especially helpful for us is having exact information on the individual set-up procedures. As a result of this newly extracted data, we were able to initiate the first measures to increase our productivity. Our primary goal is to cut the preparation time in half, which makes the amortization time of the manufacturing management installation significantly less than a half a year."

Andreas Figerl (Engineer and Head of Production at Voith Paper)



We had always kept manual records of our production and were actually able to achieve a significant increase in production by doing so. But automatically capturing the data and recording the plant conditions gives us the security of knowing that the records are accurate. In addition, short periods of stoppage are recorded that naturally reduce productivity.

Hannes Reichmann, Engineer (Project Director for SCA Hygiene Products GmbH)



M R SUCCESS IN THE BOX

- Save money for your company.
- Control your own productivity.
- Let us create a custom designed offer for you.
- ROI in less than 10 months!
- Unbeatable price!
- Visit us at www.mrm-systems.com for further information



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