



IQMS – SERIAL NUMBER IS THE KERNEL

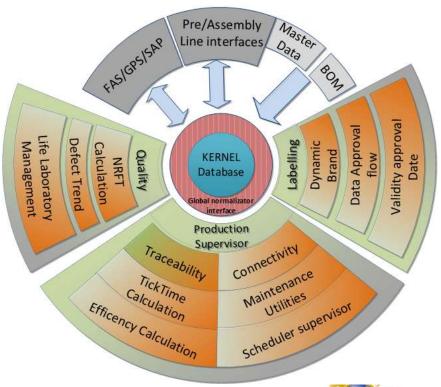
Just one database to manage all activities trough generate unique serial number for any appliance.

Simple interface with all factories application

Simple management of data for keys departments

Simple structure for excellent results

iQMS Integrated Quality Management System

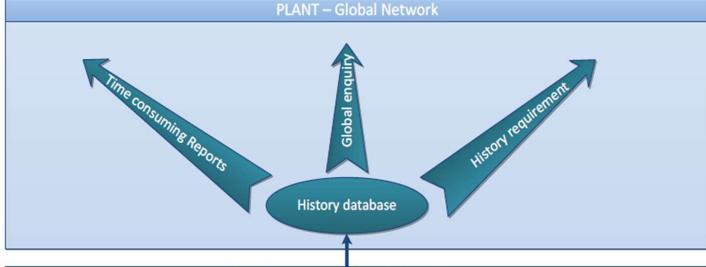




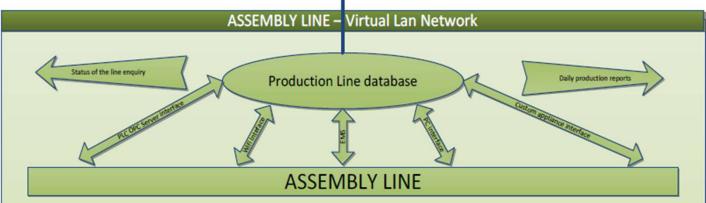
IQMS – IQMS – ARCHITECTURAL STRUCTURE

TWO DIFFERENT STRUCTURES FOR TWO DIFFERENT TASKS

PLANT NETWORK for historical and reporting information (time consuming activity)



ASSEMBLY LINE NETWORK for currently online production (fast response action)





IQMS – MAIN ACTIVITY

- Production supervisor Tasks scheduler,
- Management of all approval activities of master data,
- Approve and print all labels by planned Order or tasks,
- Start & Control scheduled appliance production on each area,
- Quality management of production by tests collection of data,
- Production monitoring and reporting,
- Production declaration.

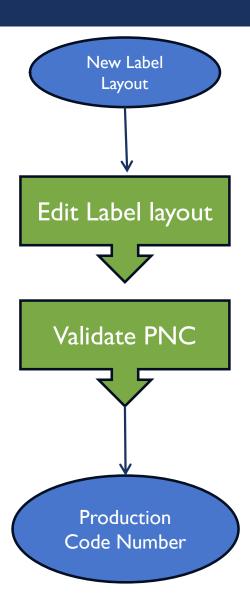


IQMS – GENERATING LABELS

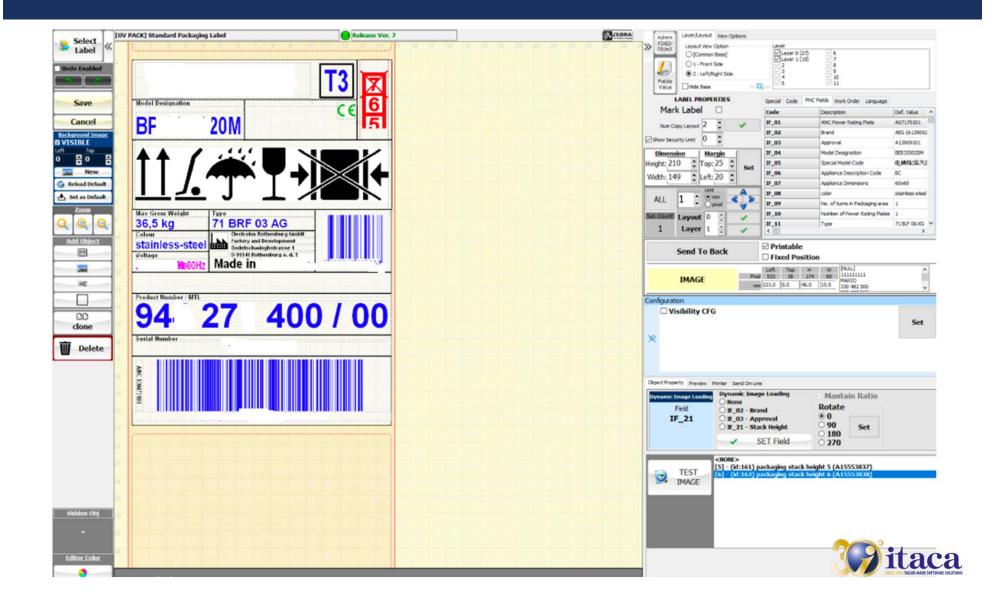
Create new label take two steps :

- 1. Draw layout using a customized label editor
- 2. Link all layouts on a PNC version and approve it through PNC validator functionality

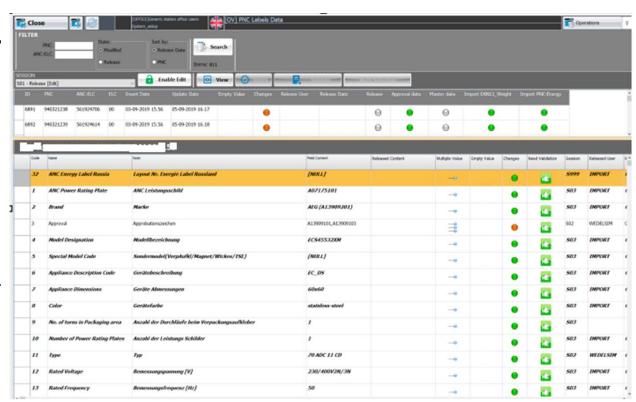
Production code number is automatically generated to identify a set of labels to produce



IQMS – EDITOR LABELS



- CERTIFIED APPROVAL FLOW,
- MULTI SESSION APPROVAL,
- SESSION APPROVE JUST SINGLE FIELD OF DATA,
- AUTOMATIC SENT OF MAIL AFTER ANY APPROVAL STEP,
- SPECIAL SESSION FOR FINAL RELEASE TO PRODUCTION,

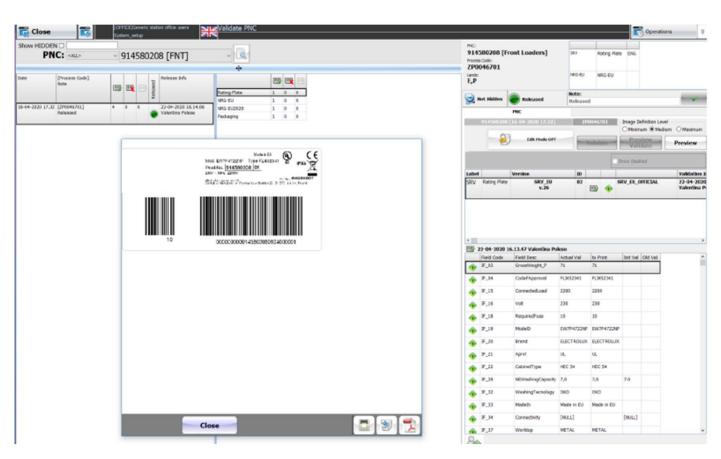


IQMS – MASTER DATA APPROVAL FLOW

IQMS – PNC VALIDATION SCREEN



- Unique place to validate PNC version fields and labels,
- Preview of any layouts,
- Trace of user's action,
- Quality approval screen.





IQMS – INVOLVED DEPARTMENT

R&D

Production

Quality

T&M engineering

Maintenance



IQMS: R&D

All instruments to produce a label in one system

Editor labels with programmable fields contents

Standardized flow to create new labels

Organize all labels needed for PNC in a unique production serial number

Historical tracking for know who and when validated labels

Paper reduction by collecting images of approved labels in historical main database



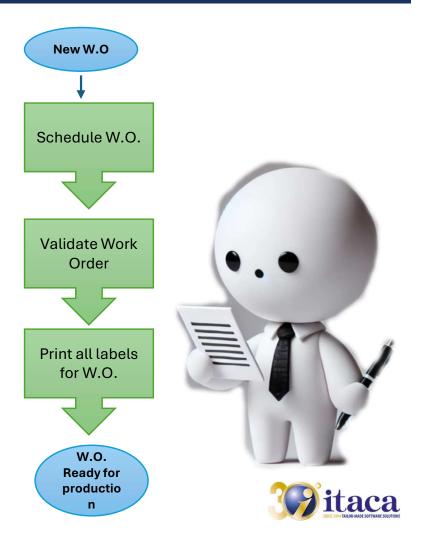
IQMS – PRINT A WORK ORDER

Nr. 3 Steps to Print Labels

Receive planned workorder from MRP into iQMS system scheduler

Approve scheduled WO/Tasks to identify the needed Labels for production

Print all labels needed for selected WO (Service, Rating, Energy, Warranty, Packaging, etc)



IQMS: PRODUCTION

All production lines activities under control in real time

Automatic efficiency Calculation reports

Rework management: all appliance coming from warehouse are keep under control

Tools warm backup to avoid stop of production

Shipment management with interface to business Application for automatic generation of ship documents



IQMS – T&M ENGENEERING FRIENDLY INTERFACE

Common interface for any working place

Simplified user understan ding





IQMS – PRODUCTION



Manage production in few steps:

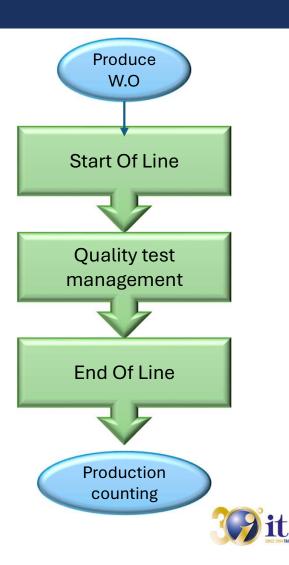
Start Of Line assembly line read the service label the appliance is accepted or refused by the system (if not planned is refused) .

Quality test acquisition to check if quality respect the predefined rules .

End Of Line as quality production : point of certification the appliance has been produced .

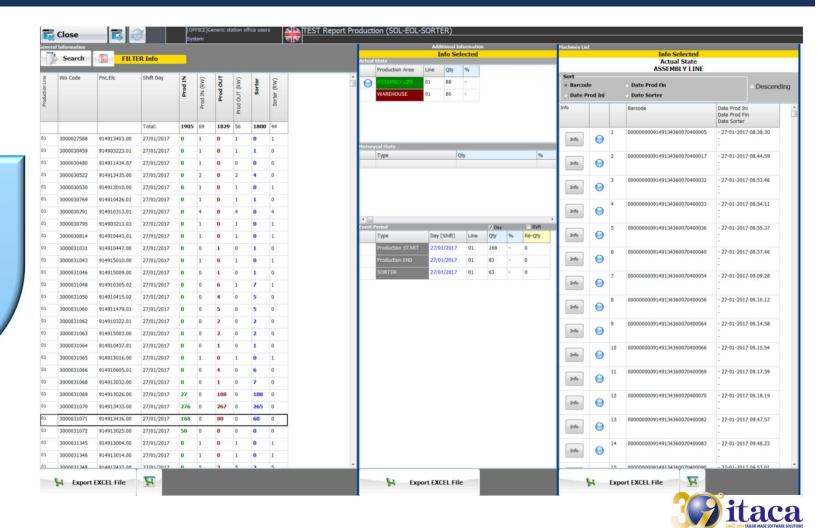


Production counting



IQMS – PRODUCTION COUNTING REPORTS

Real-time production report to have all under control



IQMS: QUALITY

Apply of quality rules to be used in production lines

Real time defects tracking to know the quality trend in production line

New factory level defects definition keeping unchanged MQMS level meaning. From the headquarters or centralized system, it is possible to have a comprehensive view of defect management across all branches, even those located in other countries.

Full integration between who discover the problem and who repair

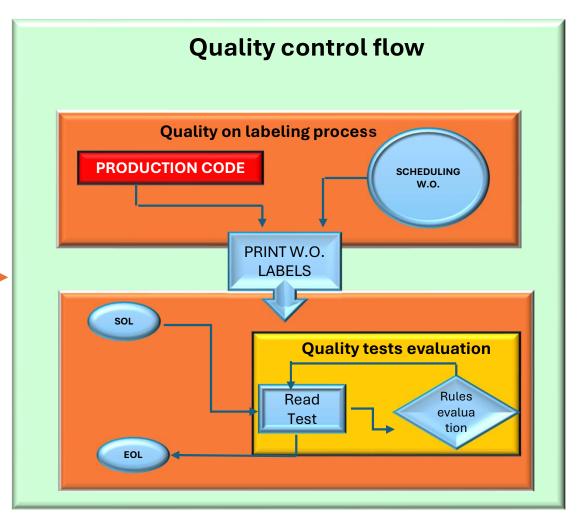
Daily/Monthly reports to tracking critical components

Automatic NRFT (Non-Right First Time) Calculation and reporting



IQMS: QUALITY

Assembly line under quality supervisor by applying all rules defined in setup time according with quality department



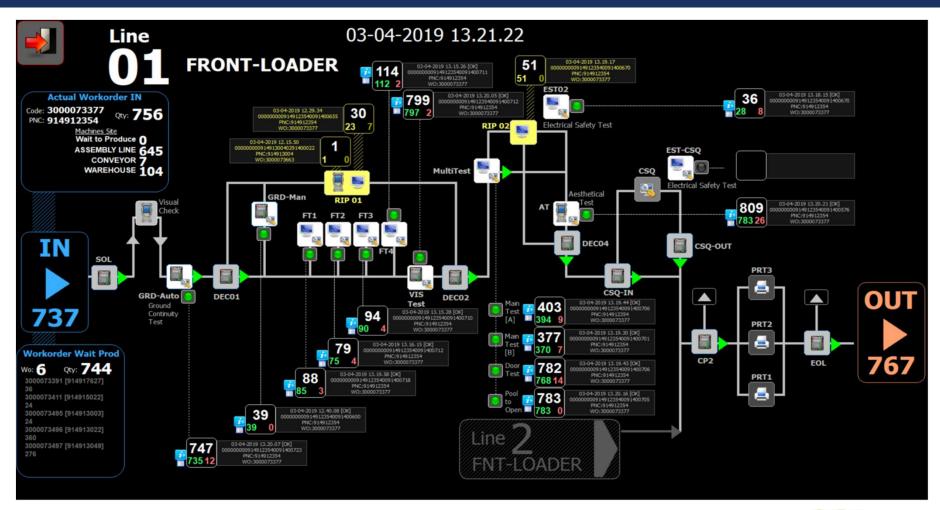


IQMS – SHIFT EFFICIENCY REPORTING

Close				ic stati		port Shift Efficiend	У													
Date	1	-	System_Set	_	ব্য					_		_			_					
01/04/2019	~		≥ 01 ≥ 02		06										-	(Config	A	ctual Shift	Setting Area
03/04/2019		Line		has	08	Apply										(6)	5	දිදු	Line 01 V DIC	onsumed: [WG]
Shift -			□ 05		□ Ch ···	D-1-1										DL PNCs		Time	DL Consu	imed / Losses
		200		-	□ Show			-		_			100			DETITO	1000	Time		
roduction Day	Ass.ly Line	Shift	Takt Time	DL RE AL	Daily Prod declared (SOL)	Allowed Time REAL	Allowed Time	DL consumed	Losses	Absenteism	Overtime	Strike	Σ	Missing Cmp	Quality Cmp	Equipment	Trial/Test Prod	Others	DL REAL Efficency	DL Efficency
lendar Date	no	no.	pcs/h	Co	qty/shift	Working Hours	Working Hours	h/shift	h/shift	h/shift	h/shift	h/shift	h/shift	h/shift	h/shift	h/shift	h/shift	h/shift	%	%
1/04/2019	01	1	118,73		851	499,17	549,34	525,02	-24,32	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-24,32	95,08	104,63
1/04/2019	01	2	118,73	•	900	529,66	582,72	605,56	22,84	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	22,84	87,47	96,23
1/04/2019	01	-	118,73		1751	1028,82	1132,06	1130,58	-1,48	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-1,48	91,00	100,13
1/04/2019	02	1	118,73		837	482,23	505,42	530,60	25,18	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	25,18	90,88	95,26
1/04/2019	02	2	118,73		856	492,53	522,14	348,68	-173,46	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-173,46	141,26	149,75
1/04/2019	02	-	118,73		1693	974,76	1027,57	879,28	-148,29	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-148,29	110,86	116,86
1/04/2019	03	1	91,69		390	273,37	298,89	318,36	19,47	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	19,47	85,87	93,88
1/04/2019	03	2	91,69		700	488,93	534,74	500,28	-34,46	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-34,46	97,73	106,89
1/04/2019	03	-	91,69		1090	762,30	833,62	818,64	-14,98	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-14,98	93,12	101,83
1/04/2019	06	1	92,33		686	499,00	543,58	523,02	-20,56	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-20,56	95,41	103,93
1/04/2019	06	2	92,33		600	422,92	446,31	485,12	38,81	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	38,81	87,18	92,00
1/04/2019	06	3	92,33	•	1	0,76	0,82	0,76	-0,06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-0,06	99,76	108,31
1/04/2019	06	-	92,33		1287	922,68	990,72	1008,90	18,18	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	18,18	91,45	98,20
1/04/2019	-	1	92,33		2764	1753,77	1897,23	1897,00	-0,23	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-0,23	92,45	100,01
1/04/2019	-	2	92,33		3056	1934,03	2085,91	1939,64	-146,27	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-146,27	99,71	107,54
1/04/2019	-	3	92,33		1	0,76	0,82	0,76	-0,06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-0,06	99,76	108,31
1/04/2019	-	-	92,33		5821	3688,56	3983,96	3837,40	-146,56	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-146,56	96,12	103,82
2/04/2019	01	1	118,73		876	280,77	308,36	527,02	218,66	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	218,66	53,28	58,51
2/04/2019	01	2	118,73		901	540,82	593,94	593,98	0,04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,04	91,05	99,99
2/04/2019	01	-	118,73		1777	821,59	902,30	1121,00	218,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	218,70	73,29	80,49
2/04/2019	02	1	118,73		883	506,20	550,82	519,44	-31,38	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-31,38	97,45	106,04
2/04/2019	02	2	118,73		859	510,92	554,33	0,00	-554,33	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-554,33	777	777
2/04/2019	02	-	118,73		1742	1017,12	1105,15	519,44	-585,71	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-585,71	777	777
2/04/2019	03	1	91,69		390	272,22	297,74	308,78	11,04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	11,04	88,16	96,43
2/04/2019	03	2	91,69		700	487,55	533,35	496,28	-37,07	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-37,07	98,24	107,47
2/04/2019	03	-	91,69		1090	759,77	831,09	805,06	-26,03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-26,03	94,37	103,23
2/04/2019	06	1	92,33		552	395,38	431,25	387,58	-43,67	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-43,67	102,01	111,27
2/04/2019	06	2	92,33		700	511,12	556,61	538,18	-18,43	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-18,43	94,97	103,42
2/04/2019	06	-	92,33		1252	906,50	987,86	925,76	-62,10	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-62,10	97,92	106,71
2/04/2019	-	1	92,33		2701	1454,57	1588,17	1742,82	154,65	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	154,65	83,46	91,13
2/04/2019	-	2	92,33		3160	2050,41	2238,23	1628,44	-609,79	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	-609,79	777	777
2/04/2019	-	-	92.33	- T	5861	3504.97	3826,41	3371,26	-455,15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-455,15	7??	???



IQMS – QUALITY SYNOPTIC ASSEMBLY LINE





IQMS – T&M ENGINEERING

Optimization
of working
time: friendly
interface
support users
on daily
activity

Users can know better status of appliances

Centralized
information cutting
all redundant
operation (ex:
repeat test already
done, automatic
defect reparation if
last test OK)



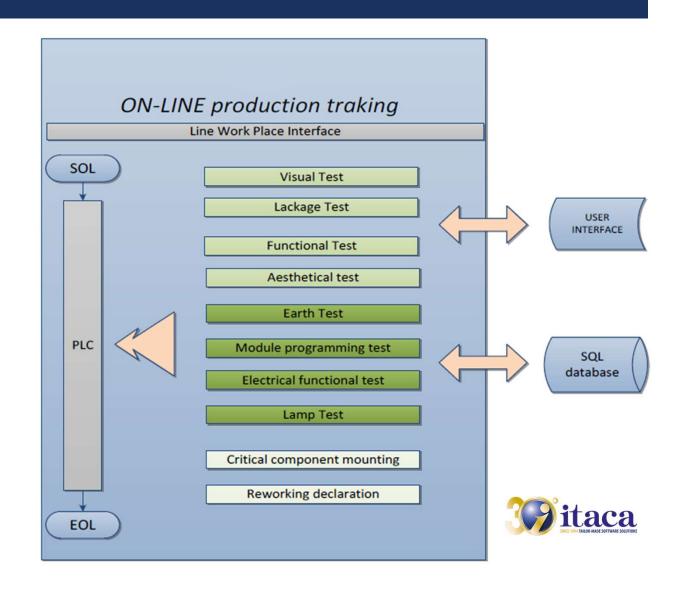
IQMS – PRODUCTION INTERFACE

☐ Different possibility to set up the quality test :

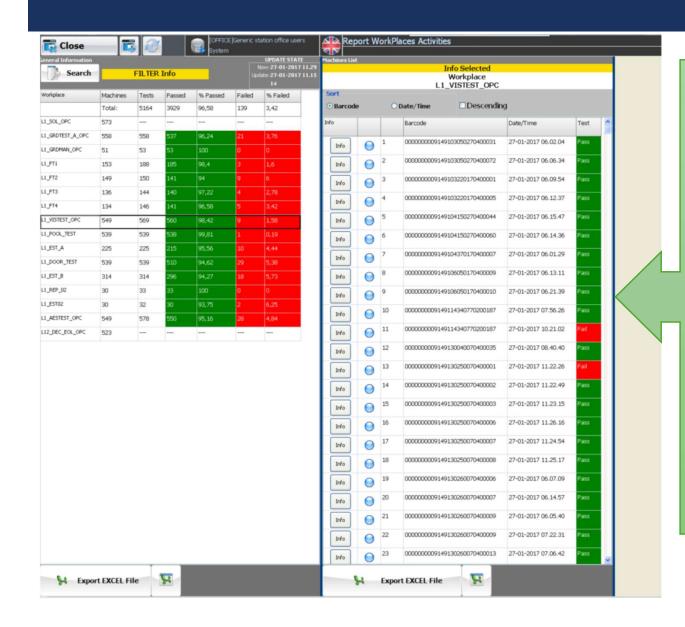
By user manually

Automatically by OPC interface

- ☐ Critical component are managed by interface
- ☐ All line activity under control



IQMS – REPORTING ACTIVITY PER WORKPLACE



The chart represents the distribution of production lines based on the defect percentage detected at each workstation, whether automatic or manual.

The analysis allows for the rapid identification of critical areas where defects occur more frequently and helps assess the effectiveness of automation.



IQMS – MAINTENANCE

PLC's software simplified by using OPC Sever

Common protocol interface to exchange information with iQMS for any working place

The user interface includes a tool that enables the monitoring of the quality measurement system's degradation.

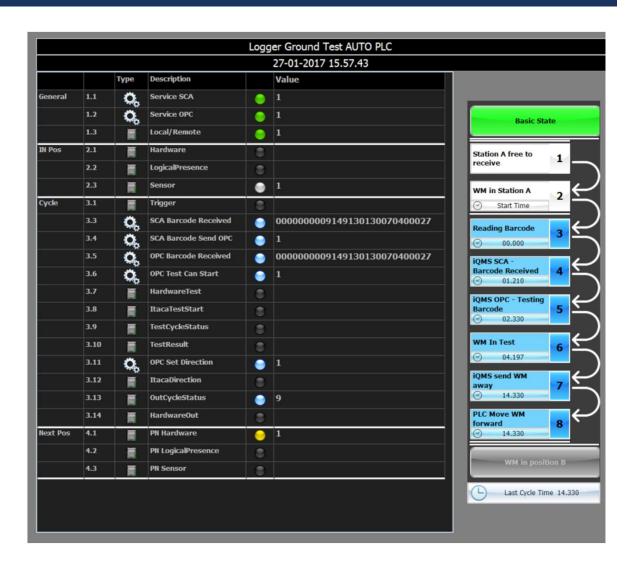


IQMS – MAINTENANCE FLOW INTERFACE

Trace of time activity: detailed timestamp for any step

Total Cycle time

Flow chart status working place for maintenance understanding in case of fault





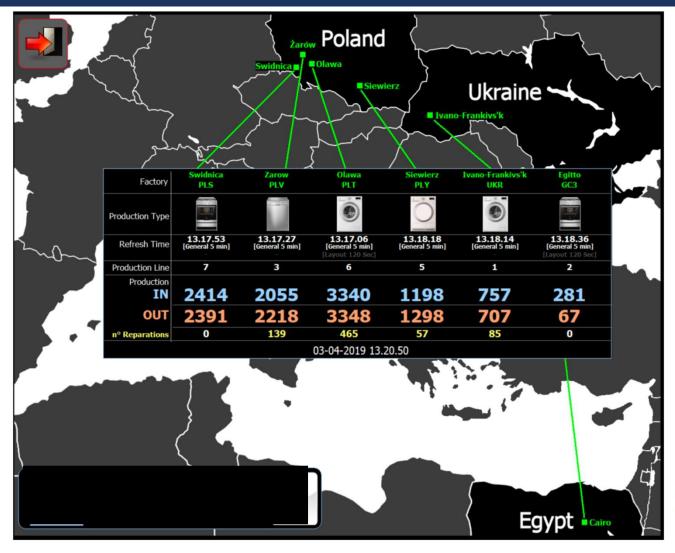
IQMS – EMEA, MENA, APAC, BRICS, LATAM...

Synopetic to show production performance

Main information available to WEB application



IQMS – EXAMPLE OF GLOBAL PRODUCTION MANAGEMENT AND MONITORING







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