

4 DECADES IN WIRING HARNESSES



idaco



The Change needs a Revolution

ASC



Version 2



Version 1

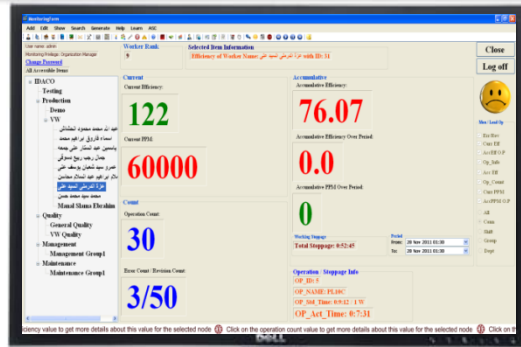
Automatic Supervisor and Control System

Why ASC??



Organization Manager

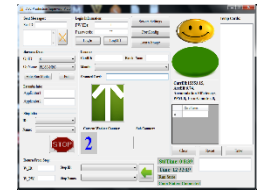
Monitor your organization Efficiency, Quality and Stoppages down to the level of departments, groups and workers at any place.



Store Worker Production faults

Store Worker Production

Store Worker Production Stoppages



ASC Mobile Application or Hardware Unit for each Quality Worker.

ASC Mobile Application or Hardware Unit for each Production Worker.

ASC Mobile Application or Hardware Unit for each Maintenance Worker.

ASC provides

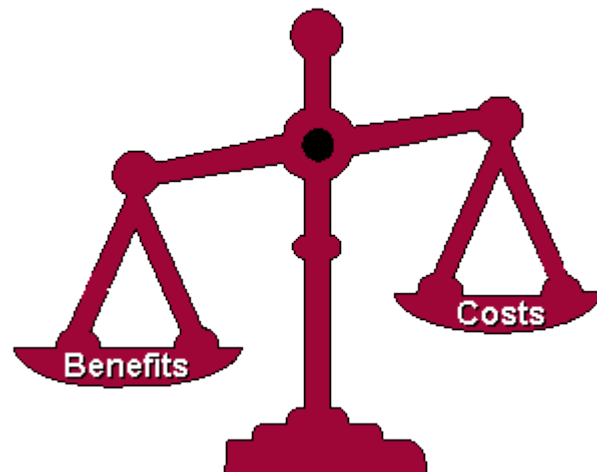
- Immediate feedback
- Increasing both Efficiency & Quality
- Employees motivation
- Maximizing team work spirit
- Real time waste analysis
- Monitor Workers inside and **outside the organization included workers locations**



Success story

When this system was applied for more than a year on a group of 35 worker their overall Efficiency increased by **96%**.

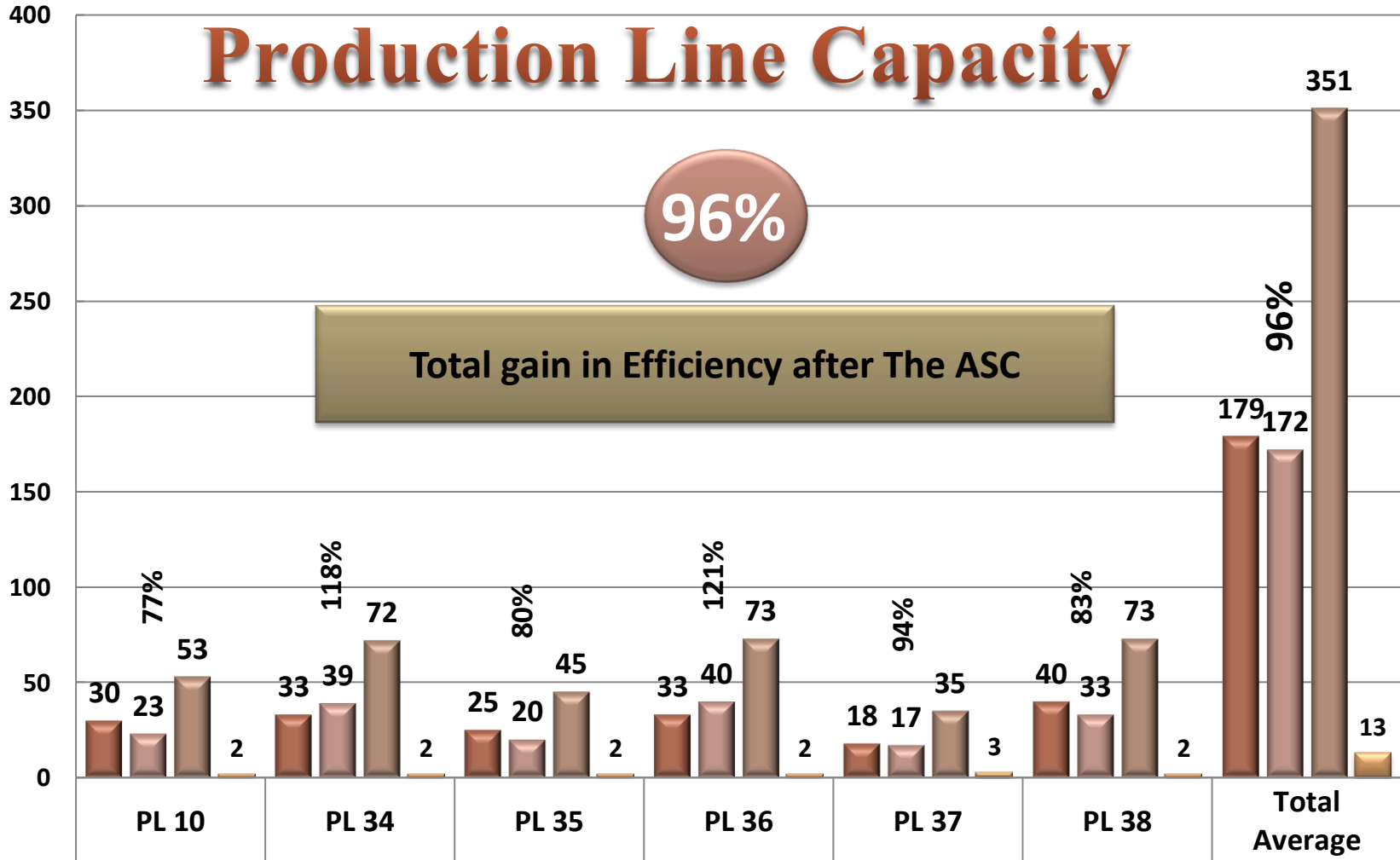
Payback period if the overall efficiency is increased only by less than **20%** your payback period is less than **10 months**.



Production Line Capacity

96%

Total gain in Efficiency after The ASC



Before ASC	30	33	25	33	18	40	179
Capacity	23	39	20	40	17	33	172
After ASC	53	72	45	73	35	73	351
Production Units	2	2	2	2	3	2	13

Adaptation to Real Life

Problem	Solution and Enhancement
Efficiency calculation accuracy over the Shift	Use weighted average time in equations
Make efficiency effected by PPM	Use fault weights in efficiency equations
Fake Counter	Posting and Max. efficiency threshold
Authorized stoppage	Integrating the company formal stoppages into the system
Workers leave unit before shift ending	End Shifting Recalculations
Automatic Counter (Press)	GPIO

Adaptation to Real Life

Problem	Solution and Enhancement
Multi worker efficiency wrong calculation	Multi Worker Mode
Worker movements	Worker logged in one unit at a time
Maintenance, Production stoppage deals	Calculate maintenance worker efficiency
Wrong real time follow up in large operations	Divided Operations Mode

Adaptation to Real Life

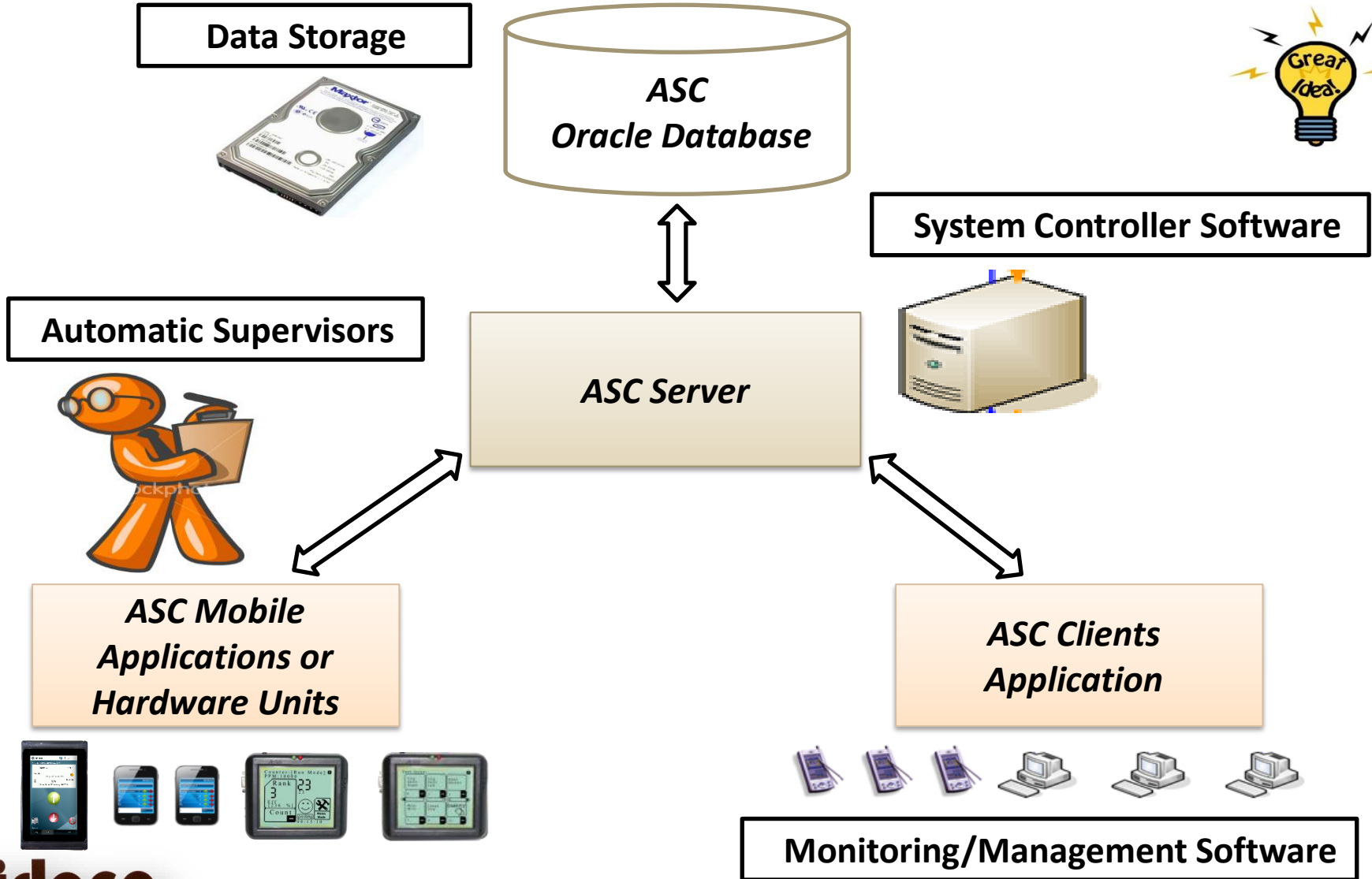
Problem	Solution and Enhancement
Quality Efficiency	Dynamic Standard Time
Password hack	Return from stop through name/password or (RFID access card at ACS v2)
Wrong eff calculation because of life feeded data	Data correction mechanism
System wifi overriding	Solved

Features



- **Enhance the traditional monitoring techniques**
- **Build communication system between all workers and their managers.**
- **Real time feedback of bonuses according to the efficiency and Quality.**
- **Differentiate between active and less active workers giving a sense of justice.**
- **Increasing the performance level of the utility departments.**
- **Traceability in case of barcode processes.**
- **Help manager to take decision using reports types and Hierarchy from organization down to level of workers**

ASC Block Diagram



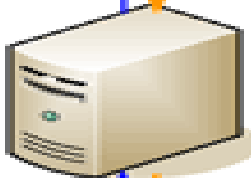
Data Storage



ASC
Oracle Database



System Controller Software



Automatic Supervisors



ASC Server

ASC Mobile
Applications or
Hardware Units

ASC Clients
Application

Monitoring/Management Software



ASC Types



Types of Automatic Supervisor at each Worker

Two Types of ASC Hardware Unit:

- ASC Hardware Unit with Wired connection on ASC Server.
- ASC Hardware Unit with Wireless connection on ASC Server.



ASC Mobile Application which work as ASC Hardware Unit and Connect on the ASC Server through:

- **WIFI.**
- **3G/4G (Mobile Network)** which also make the manager able to **monitor the worker outside the organization** in special tasks and also monitor the locations of the workers outside the organization.



ASC Production

Toggle List contains: Current Eff., Acc. Eff., PPM, fault Counter, Revised Counter, Posting Counter, Bonus Salary, Worker Rank.

Green Led
(High Eff.)

Red Led
(Low Eff.)

Power Jack

Current Counter

Buzzer (Alarm)

List of Workers IDs

Smile face

High Eff.

Normal Eff.

Low Eff.

Barcode Conn. Socket

Stop Working

Count Down Timer

Decrement Counter

Receive Completed Operations by Posting Worker

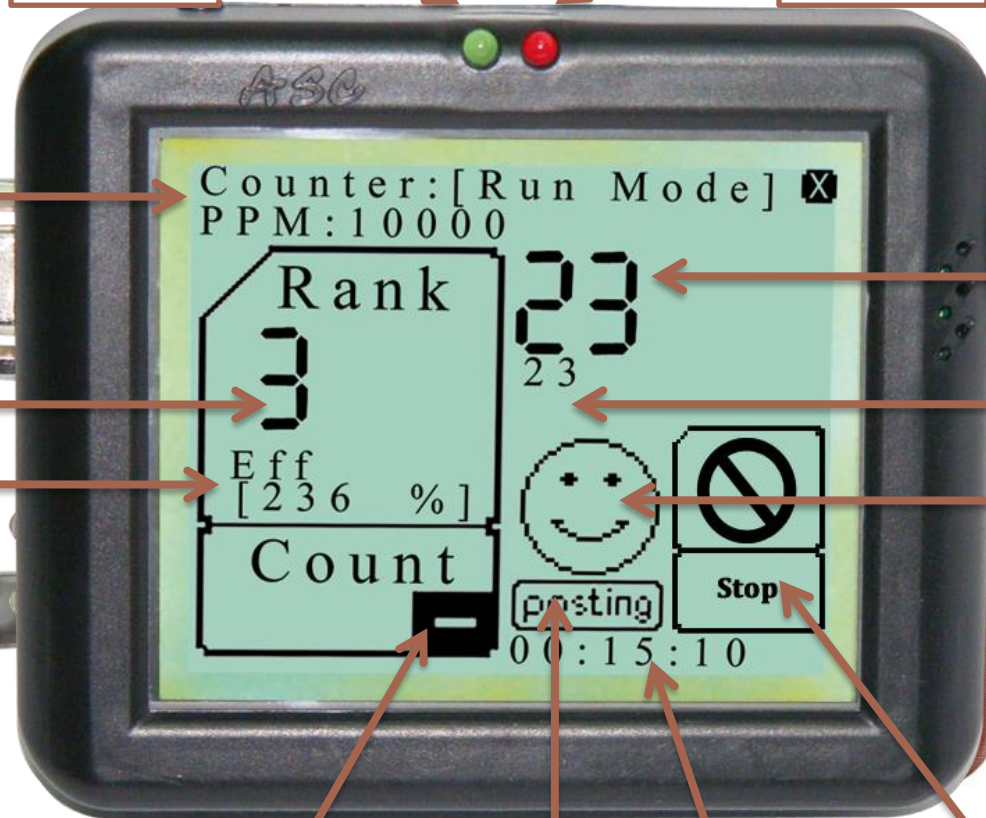
ASC Fixation

Network Connection Socket

Last Cycle Efficiency

Worker Rank

Ext. Devices Socket



ASC Fixation

Decrement Counter

ASC Fixation

Count Down Timer

Stop Working

Rank
3
Eff
[236 %]
Count

23
23

posting
Stop
00:15:10



ASC Production

Toggle List contains: Current Eff., Acc. Eff., PPM, fault Counter, Revised Counter, Posting Counter, Bonus Salary, Worker Rank.

Count Down Timer

Smile face



High Eff.



Normal Eff.



Low Eff.

List of Workers IDs & Operation ID

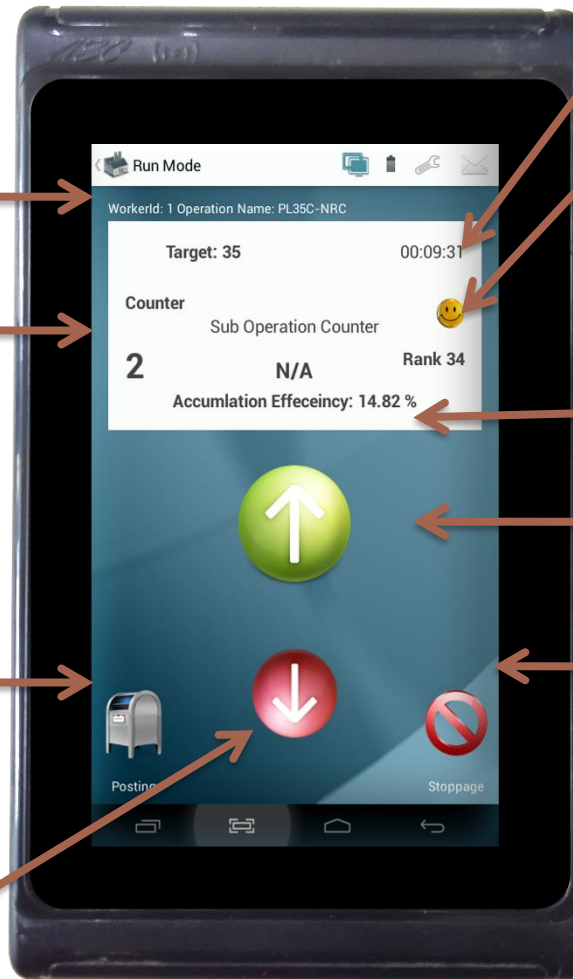
Increment Operation Counter

Stop Working

Current Counter

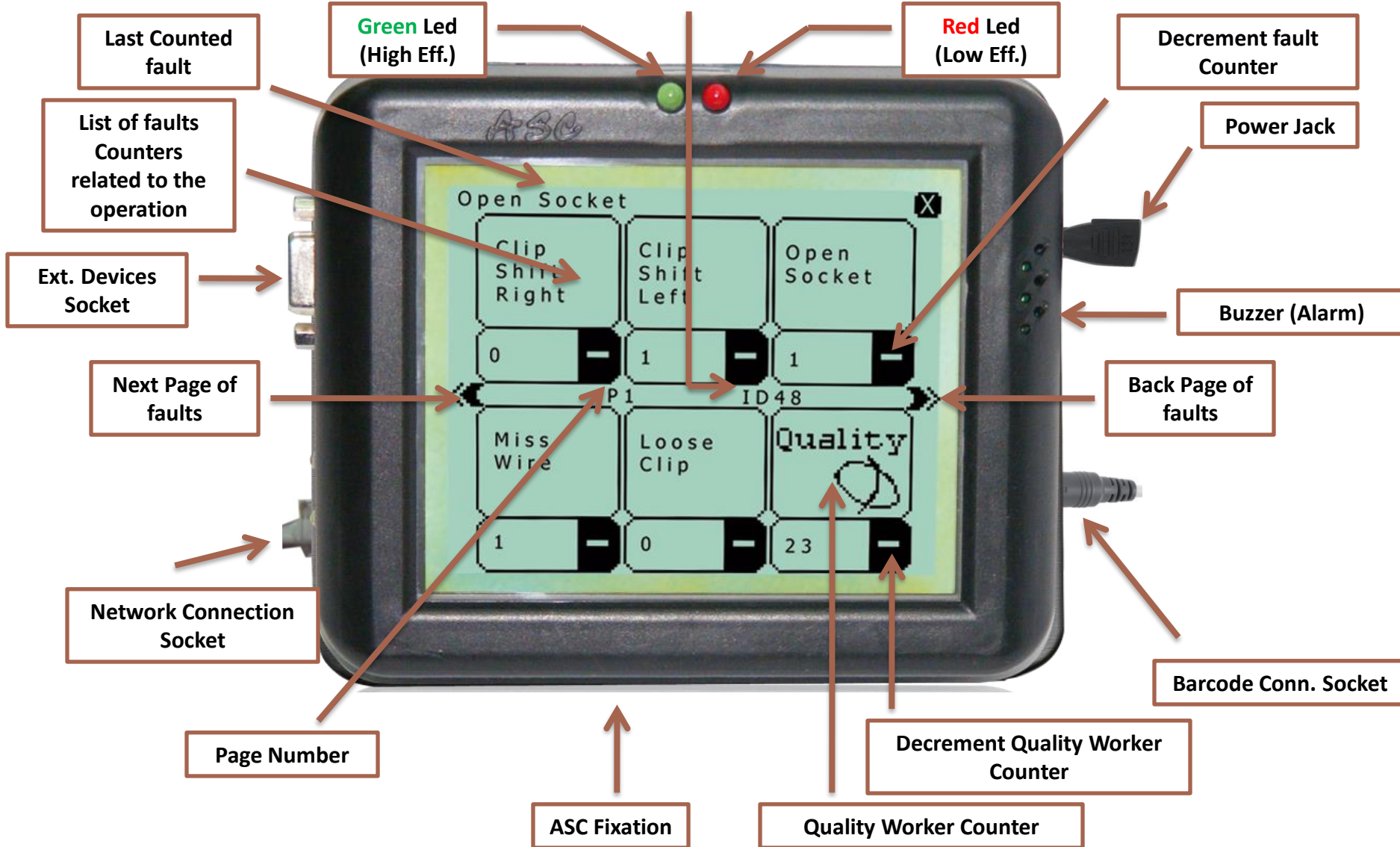
Receive Completed Operations by Posting Worker

Decrement Operation Counter



ASC Quality

Fast change for the production worker ID which the quality worker is currently checking his production



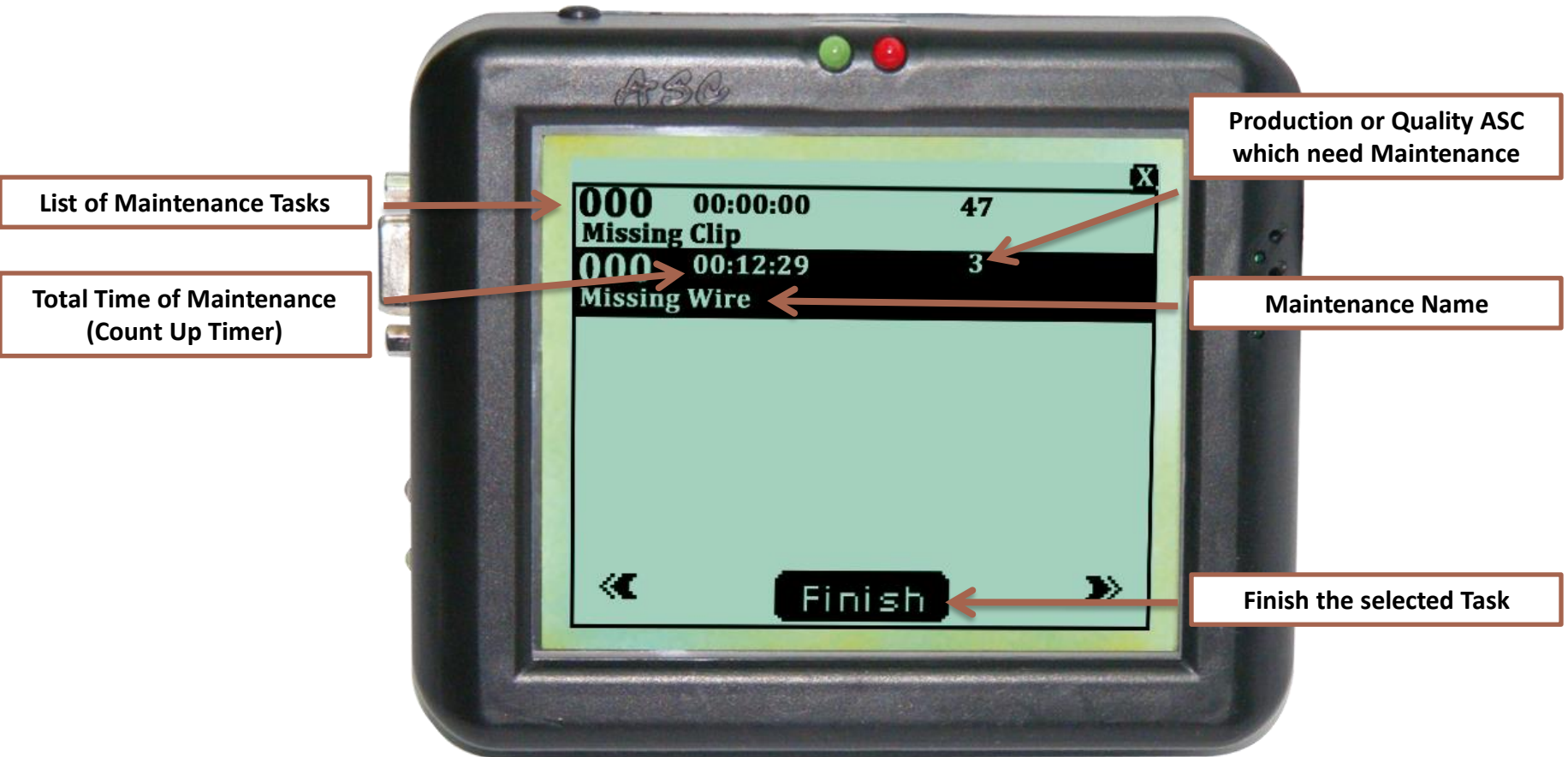
ASC Quality

The screenshot shows the 'Quality' application interface on a mobile device. The interface includes a header with 'Quality', a status bar with 'Over Period Eff: 00:02:35', and a main section for 'Total Counter: Quality Counter: 4'. Below this is a grid of fault counters for various components, each with an increment/decrement button. Callout boxes point to these elements:

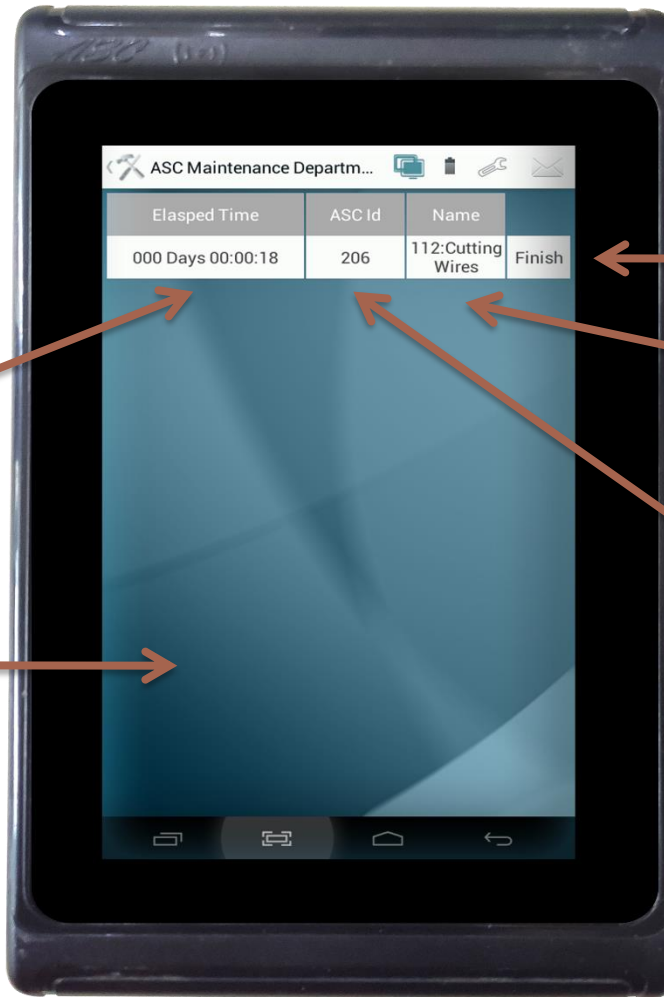
- Total Quality Worker Counter**: Points to the '4' in the 'Total Counter: Quality Counter:' section.
- Quality Worker Counter**: Points to the '4' in the 'Total Counter: Quality Counter:' section.
- Increment Quality Counter**: Points to the green upward arrow button.
- Decrement Quality Counter**: Points to the red downward arrow button.
- Increment fault Counter**: Points to a green upward arrow button in the fault grid.
- Decrement fault Counter**: Points to a red downward arrow button in the fault grid.
- List of faults Counters related to the operation**: Points to the grid of fault counters.
- Search on fault**: Points to a search icon in the bottom right corner.

Component	Counter Value	Increment	Decrement
D2	1	Green Up	Red Down
B3	1	Green Up	Red Down
B1	1	Green Up	Red Down
A1	0	Green Up	Red Down
E12	0	Green Up	Red Down
A32	1	Green Up	Red Down

ASC Maintenance



ASC Maintenance



**Total Time of Maintenance
(Count Up Timer)**

List of Maintenance Tasks

Finish the selected Task

Maintenance Name

**Production or Quality ASC
which need Maintenance**

All Accessible Items

- IDACO
 - Testing
 - Production
 - Demo
 - VW
 - عبد الله محمد محمود الحشاش
 - محمود سيد رمضان السيد
 - عمرو سيد شعبان يوسف على
 - تامر رمضان على رمضان
 - عزة الدرملی السيد على
 - علام عبد القوی ابراهيم جاد
 - محمد سيد محمد حسن
 - Quality
 - General Quality
 - VW Quality
 - Quality Test
 - محمد فاروق
 - Management
 - Management Group1

Worker Rank
1

Selected Item Information
Efficiency of Worker Name: عمرو سيد شعبان يوسف على with ID: 18

Current
Current Efficiency:
105.64 Last cycle

Accumulative
Accumulative Efficiency:
114.96 Click here to get cycles details

Current PPM:
90909.1

Accumulative Efficiency Over Period:
113.5 Click here to get analysis over period

Count
Operation Count:
33 Click here to get PPM analysis

Accumulative PPM Over Period:
0.0 Click here to get stopp. over period

Error Count / Revision Count:
3/33 Click here to get errors analysis

Working Stoppage
Total Stoppage: 1:22:39
Period
From: 01 يوليو 2011 02:39
To: 04 يوليو 2011 02:39

Operation / Stoppage Info
OP_ID: 6
OP_NAME: PL35C
OP_Std_Time: 0:13:56 / 1 W
OP_Act_Time: 0:13:11

Close

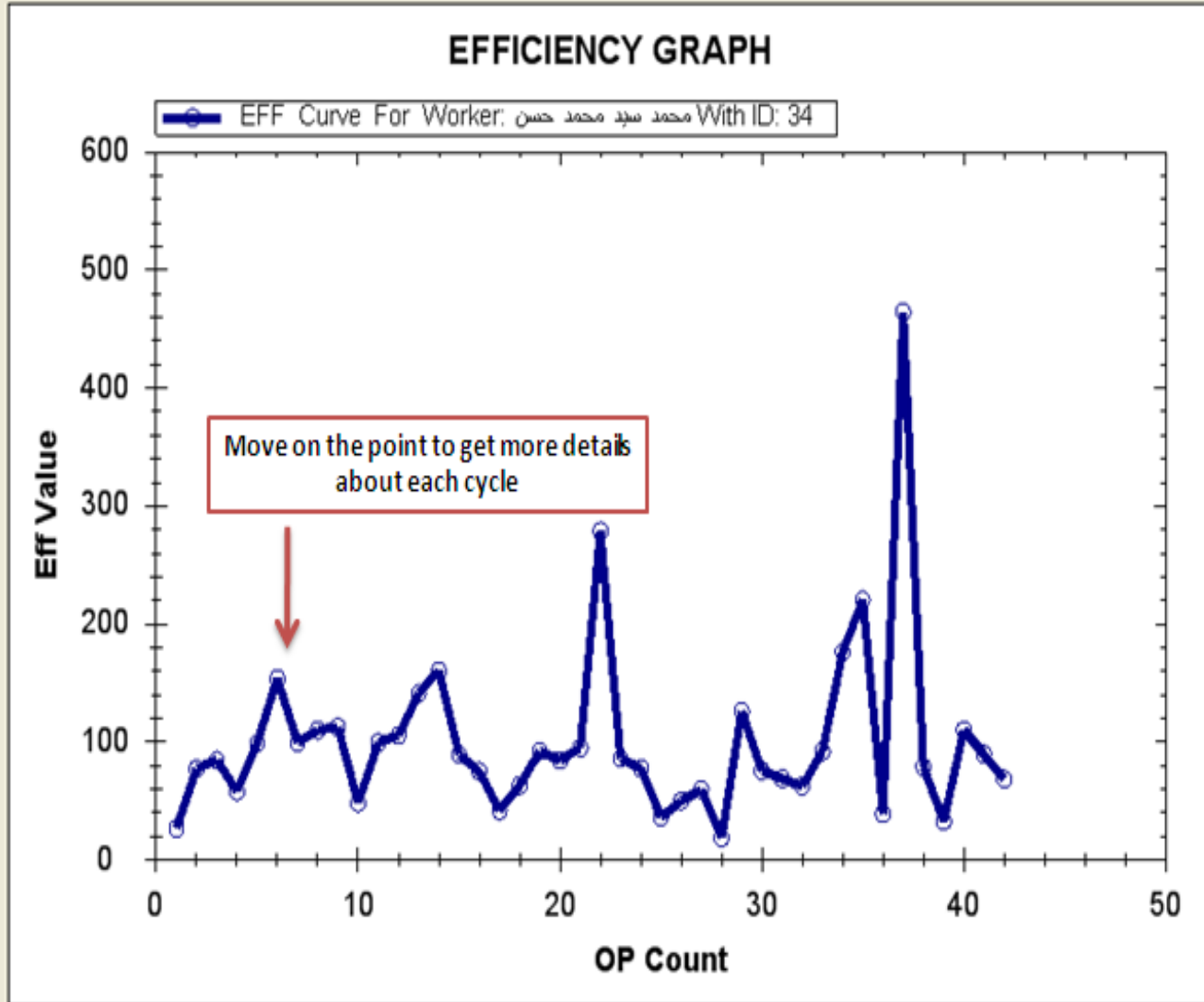
Log off



- Mon / Load Op
- Err/Rev
- Curr Eff
- AccEff O.P
- Op_Info
- Acc Eff
- Op_Count
- Curr PPM
- AccPPM O.P
- All
- Conn
- Shift
- Group
- Dept

Analysis period

- IDACO
 - Testing
 - Production
 - Demo
 - VW
 - عبد الله محمد محمود الحشائين
 - محمود سيد رمضان السيد
 - عمرو سيد شحيان يوسف على
 - ذاهر رمضان على رمضان
 - عزة اللارملي السيد على
 - عالم عبد القوي ابراهيم جلا
 - محمد سيد محمد حسن
- Quality
 - General Quality
 - VW Quality
 - Quality Test
 - محمد فاروق
- Management
 - Management Group1



Graph Type

Curr Efficiency

Acc Efficiency

Graph Over Period

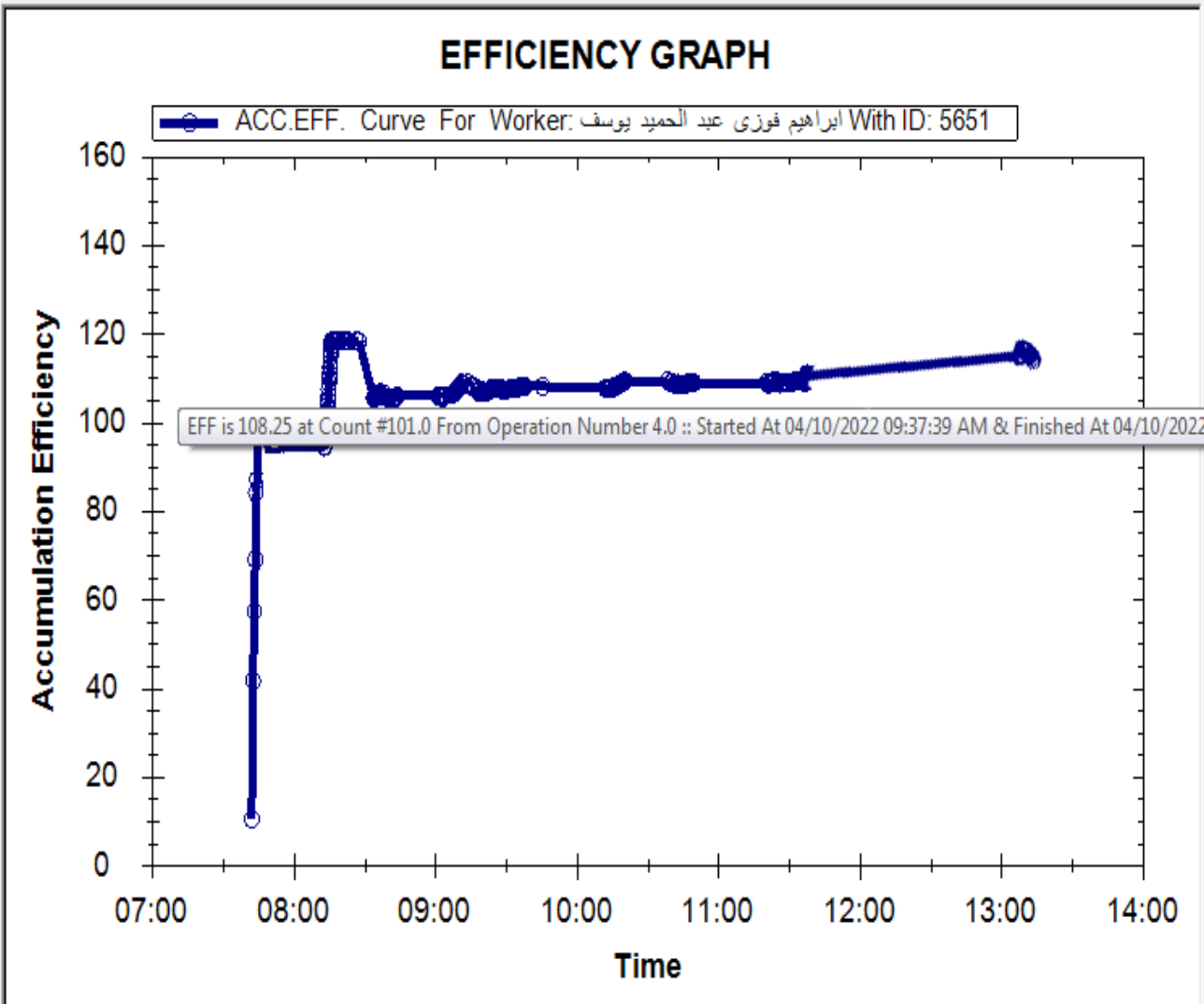
From: 04 يوليو 2011 02:52

To: 04 يوليو 2011 02:52

Generate

Cancel

- IDACO1
 - test_demo2
 - DemoDept
 - Testing
 - Production
 - مكابس
 - محمد احمد شعبان عبد الجواد
 - احمد خليل احمد محمد
 - أبو بكر فتحي محجوب
 - مصطفى عبد التواب محمود محمد حرب
 - عبد الغفار فوزي محمد عبد الغفار
 - احمد خميس السيد قطب
 - محمد السيد سليمان عطية
 - محمد رمضان احمد سيد
 - اسلام حسن على خليفه
 - ابراهيم فوزي عبد الحميد يوسف**
 - علاء عبد المجيد عبد المجيد
 - محمود عبد النبي صابر محمد
 - احمد حمدي عبد الستار محمود
 - امين عيسى امين محمد
 - محمود محمد أبو سيف
 - سامح عبد اللطيف عبد مكاوي
 - ايمن قرني احمد حساتين
 - admin
 - Cutting
 - محمد رفعت قرني على
 - محمد سعيد ابو سريع
 - خالد احمد عبد العظيم محمد
 - ايمن سامي عبد المعبود على
 - محمد محمد سيد ابراهيم
 - محمد سعيد ابراهيم
 - احمد محمد عبد التواب محمد
 - طه احمد ناصف جمال
 - محمد سيد احمد عبد الخالق
 - شاهر محمد علوانى عبد المجيد



Graph Type

Curr Efficiency

Acc Efficiency

Graph Over Period

From: 04 Oct 2022

To: 04 Oct 2022



Worker Stoppages Details



	OP_NAME	STOP_ID	STOP_NAME	STOP_STD_TIME	STOP_START_TIME	STOP_END_TIME	TOTAL_T
▶	Tarmala	52	Quality data adjust	0:2:0	04/10/2022 07:47:56 AM	04/10/2022 07:54:05 AM	0:6:9
	Tarmala	52	Quality data adjust	0:2:0	04/10/2022 08:00:57 AM	04/10/2022 08:12:38 AM	0:11:41
	Tarmala	52	Quality data adjust	0:2:0	04/10/2022 08:12:55 AM	04/10/2022 08:24:21 AM	0:11:26
	Tarmala	52	Quality data adjust	0:2:0	04/10/2022 09:04:56 AM	04/10/2022 09:11:46 AM	0:6:50
	Tarmala	52	Quality data adjust	0:2:0	04/10/2022 09:15:04 AM	04/10/2022 09:25:37 AM	0:10:33
	Tarmala	52	Quality data adjust	0:2:0	04/10/2022 09:26:19 AM	04/10/2022 09:32:06 AM	0:5:47
	Tarmala	1	Rest	0:40:0	04/10/2022 09:45:14 AM	04/10/2022 09:59:10 AM	0:13:56
	Tarmala	52	Quality data adjust	0:2:0	04/10/2022 10:09:20 AM	04/10/2022 10:33:41 AM	0:24:21
	Tarmala	54	Menawla Fail	0:2:0	04/10/2022 10:58:10 AM	04/10/2022 11:04:55 AM	0:6:45
	Tarmala	52	Quality data adjust	0:2:0	04/10/2022 11:09:32 AM	04/10/2022 11:26:24 AM	0:16:52

Still Working Till Now

Total Stoppages/Breaks Time: 2:50:4

Total Stoppages Time: 1:57:40

Total Breaks Time: 0:52:24

Stoppages_Over_Period

From:

04 Oct 2022



To:

04 Oct 2022



Export To Report

Load

Not Stop

Delete Selected Stoppages

Not Break

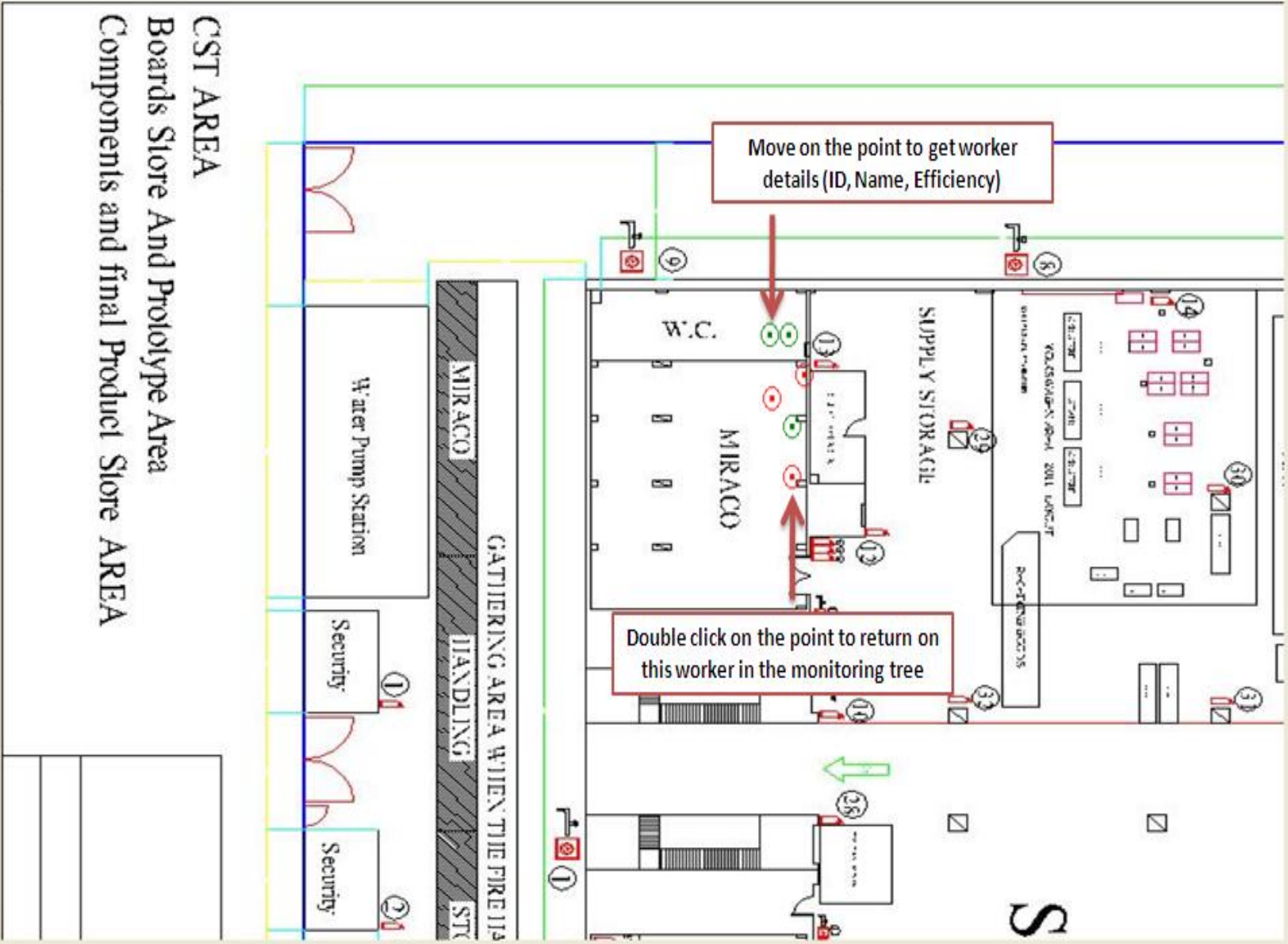
Cancel

Image List



ACTORY GROUND FLR

- تامر رمضان علي رمضان
- محمد سيد محمد حسن
- الله محمد محمود الحشاش
- عزة الدرمللي السيد علي
- علام عبد القوي ابراهيم جاد
- مرو سيد شعبان يوسف علي
- محمود سيد رمضان السيد



WIFM



Production

Quality

Learn

Motivations

Posting

Detect Specific Parameters for each Worker:

- Start time of working.
- End time of working.
- Number of completed operations.
- Details about each cycle.
- Accumulation Efficiency.
- Active Shift.
- Expected output related to the shift time.
- Has over time or not.
- Available breaks related to the shift time.
- Amount of stoppages (Breaks or Maintenances) taken by the worker.

WIFM



Production

Quality

Learn

Motivations

Posting

Detect Specific Parameters from Q.Worker:

- Quality check operations count for each production worker.
- Number of faults found in the operations completed by each production worker.
- Details about each fault (Number, Name, Weight, Description,...).
- The Quality worker parameters is as well recorded.

WIFM



Production

Quality

Learn

Motivations

Posting

ASC System gives you the ability to learn:

- **Production Operation** (to detect the standard time of the operation which will be used to calculate the efficiency).
- **Organization Layout** (to detect the location of each ASC HW Unit for tracking and visualization).

WIFM



Production

Quality

Learn

Motivations

Posting

ASC System helps the worker to increase his efficiency and production through:

- Smile face at the ASC HW Unit.
- Win Win .
- Bonus salary at each tick.
- Real time ranking.
- Count down timer for each cycle.
- Real time feedbacks from the system.

WIFM



Production

Quality

Learn

Motivations

Posting

The System minimizes the probability of miss counting using the posting technique:

- **The worker receives the produced products and records the received number to validate the counter of the producing worker.**
- **The system Automatically differentiates between these different scenarios:**
 - ✓ **Correct count.**
 - ✓ **Miss count from prod. worker.**
 - ✓ **Miss counting from the receiving worker.**
 - ✓ **Miss counting from both.**

WIFM



Barcode Connection

Tracking

Continuous Feedbacks

ASC Settings

Privileges

ASC System gives you the ability to connect Barcode reader to the ASC HW Unit in order to read data.



WIFM



Barcode Connection

Tracking

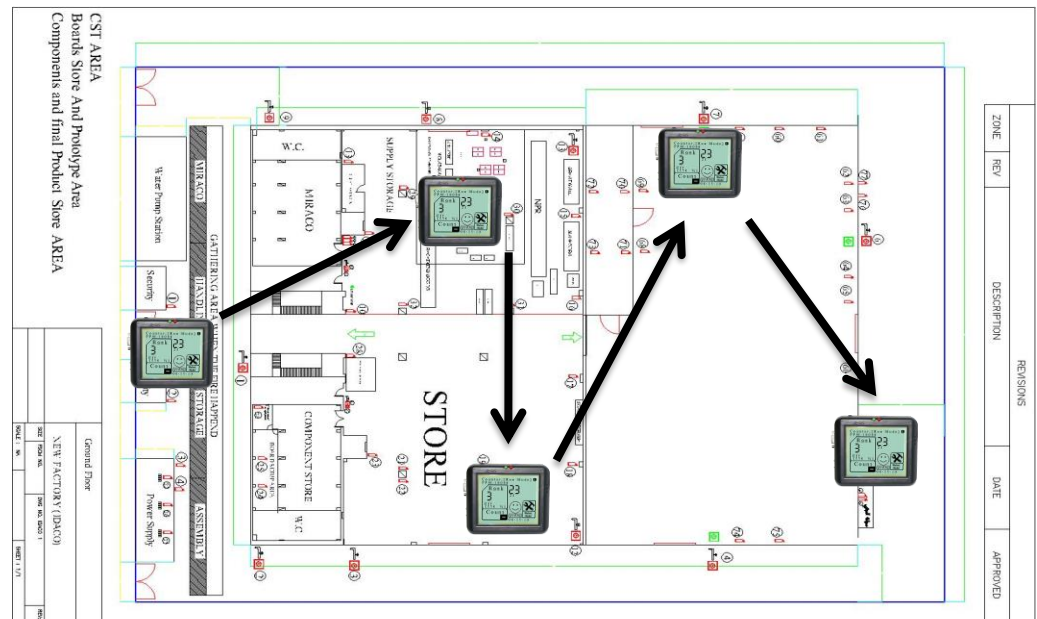
Continuous Feedbacks

ASC Settings

Privileges

ASC System gives you the ability to track the worker movement inside the organization departments through:

- **Detecting the ASC HW Units which the worker is using in factory layout graph**



WIFM



Barcode Connection

Tracking

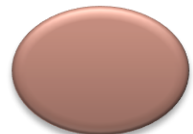
Continuous Feedbacks

ASC Settings

Privileges

ASC System sends real time feedback to the connected worker like:

- Current Efficiency.
- Accumulation Efficiency.
- Quality revised counter.
- fault Counter.
- PPM.
- Bonus Salary.
- Led Indicator (**red** or **green**).
- Posted Counter.
- Worker Rank.
- Count down timer. (**Count down** then **Count Up**)



WIFM



Barcode Connection

Tracking

Continuous Feedbacks

ASC Settings

Privileges

ASC System gives the administrator the ability to define specific parameters which effect on the system calc. like:

- **Win Win Parameters.**
- **Enable / Disable Over Breaks on Workers.**
- **Team Mode / Individual Mode**
- **Each user has the ability to select specific loading setting.**
 - ✓ **Specific Department.**
 - ✓ **Specific Group.**
 - ✓ **All Workers.**
 - ✓ **Connected Workers.**
 - ✓ **Spec. Shift Workers.**

WIFM



Barcode Connection

Tracking

Continuous Feedbacks

ASC Settings

Privileges

ASC System Supports some privileges:

Monitoring Privilege:

- **Administrator:** Can access all nodes in the organization and monitoring them.
- **Dept. Manager:** Can access his department included related group and related workers only.
- **Grp. Manager:** Can access his group and related workers only.

Posting Privilege: to decid which worker to post which operation.

WIFM



Threshold Settings

History Analysis

Exporting To Excel

Graph

Customization

ASC System gives you the ability to detect specific thresholds through **Settings** which effect certain indicators in the system like:

- **Current Efficiency threshold.**
- **Accumulation Efficiency threshold.**
- **Accumulation Efficiency over period threshold.**
- **Current PPM threshold.**
- **Accumulation PPM over period threshold.**
- **ASC Led effected by (**Current** or **Accumulation**).**

WIFM



Threshold Settings

History Analysis

Exporting To Excel

Graph

Customization

ASC System Supports History Analysis in specific period for:

- Stoppages (Breaks or Maintenances) occur in this period by W or G or D or O.
- faults occur in this period by W or G or D or O.
- Accumulation Efficiency in this period for W or G or D or O.
- Detailed Efficiency for all cycles in this period for W or G or D or O.
- Workers Logging in and off details in this period.
- System Errors (Log File).

WIFM



Threshold Settings

History Analysis

Exporting To Excel

Graph

Customization

ASC System gives user the ability to export into excel file :

- Any history analysis.
- Defined Operations Details.
- Defined faults Details.
- Defined Stoppages Details.
- Defined Shifts Details.
- Defined Breaks Details.
- Defined Workers in Group or Departments or All organization.
- Defined Groups in Department or All organization.
- Defined Department in organization.

WIFM



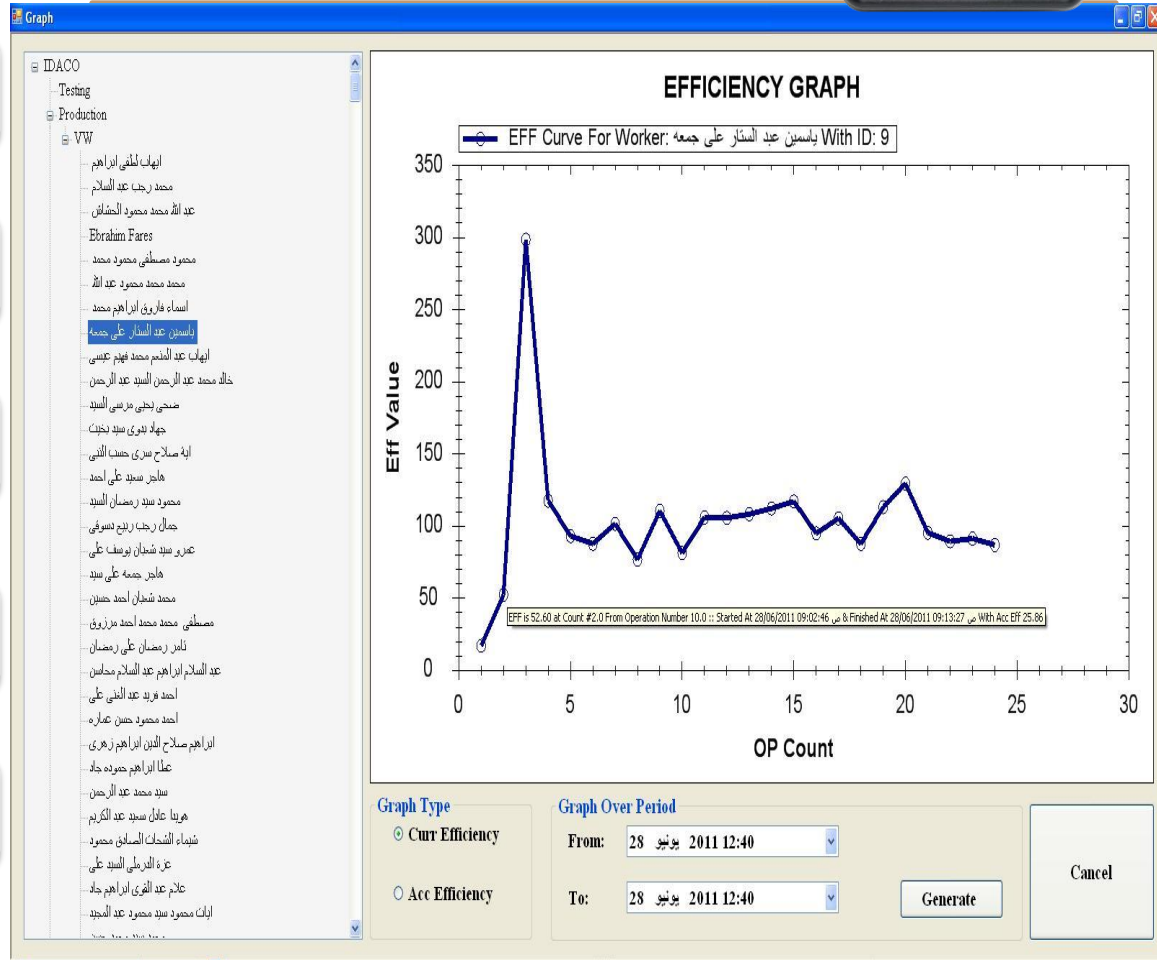
Threshold Settings

History Analysis

Exporting To Excel

Graph

Customization



WIFM



Threshold Settings

History Analysis

Exporting To Excel

Graph

Customization

ASC System gives each user according to his privilege the ability to:

- Add Shift and Edit Shift.
- Add Break and Edit Break.
- Add Organization.
- Add Department and Edit Department.
- Add Group and Edit Group.
- Add Worker and Edit Worker.
- Add Stoppage and Edit Stoppage.
- Add fault and Edit fault.
- Add Operation and Edit Operation
- Show Details about the predefined Entities (Shifts, Breaks, Operations ...) in the database.

WIFM



Maintenance Analysis

Apply Salaries

Map Monitoring

Win Win

Easy Installation

ASC System gives the user ability to generate analysis information for each defined maintenance in the system; this information includes:

- **Number of occurrence.**
- **Taken time to repair this maintenance at each time.**
- **Required time to repair this maintenance.**
- **For Worker, Group, Department or all organization.**

WIFM



Maintenance Analysis

Apply Salaries

Map Monitoring

Win Win

Easy Installation

ASC System gives the organization management the ability to link between workers salaries program used by the organization and the workers results calculated by the ASC System.

Efficiency Results.

- **Quality Results.**
- **Ranking Results.**
- **Discipline Results.**
- **Or any other factors.**

WIFM



Maintenance Analysis

Apply Salaries

Map Monitoring

Win Win

Easy Installation

ASC System gives each user ability to display the location of:

- **Specific ASC Connected on the System.**
- **Collection of ASCs Connected on the System.**

By select the worker node or the group of workers node and click on it.

Then the user can return to a specific worker in the tree from the Layout by clicking on the location of this worker in the map.

WIFM



Maintenance Analysis

Apply Salaries

Map Monitoring

Win Win

Easy Installation

ASC System gives the management the ability to enable or disable Win Win property and the administrator will detect:

- **Win Win Efficiency Threshold.**
- **Percentage of worker part.**
- **Percentage of organization part.**

WIFM



Maintenance Analysis

Apply Salaries

Map Monitoring

Win Win

Easy Installation

ASC System requirements installations is very simple:

- **Just adapter and network point for each hardware unit.**
- **Install ASC Server on Admin. PC.**
 - ✓ **Windows XP/Vista/Seven OS.**
 - ✓ **Oracle Installation Products.**
- **Install ASC Monitoring Client on Any PC in the organization.**
 - ✓ **Windows XP/Vista/Seven OS.**
 - ✓ **Oracle Installation Products.**

And Start to monitor according to the privileges applied by the Admin. ASC Client.

Patents

- USA Patent Number: 13/010,708
- EU Patent Number: EP 10015133.1
- EGY Patent Number : 810/2011

(16) (1) EP 2 458 466 A1

(12) EUROPEAN PATENT APPLICATION

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(71) Applicant: Industrial Development of Automotive Components, IDACO corp, 6th October City (EG)

(72) Inventor: Fouad, Hisham Samal El-Din Mahmoud (6th October City (EG))

(74) Representative: Lammari Berges, Arca et al Avenida General Peraza 40-05, Playa High, Puerto C 39020 Miami (US)

(54) Automatic supervision and control system

(57) The invention describes a system and method for monitoring a machine or an industrial control system quality level of a company close to the level of individual tasks. The system comprising at least one of a set of sensors connected to the level of a set of tasks, the sensors being used for detecting when such two has been detected by several sensors at the same time allowing quality inspectors to enter quality data or each task, a control center connected to the two, and several databases of data area through a processing unit, comprising for controlling the following a set of quality level of each task, other individual or a set of tasks, and at least one, then a set of data connected to the control center, the main data being used for monitoring the quality level of each task.

FIG. 1

براءة اختراع رقم: ٢٨٩٢١

بوزارة التجارة والتمويل
جمهورية مصر العربية

رئيس أكاديمية البحث العلمي والتكنولوجيا
يد الإطلاع على المادة (١٢) من قانون حماية الملكية الفكرية الصادر بالقانون رقم ٨٢ لسنة ٢٠٠٢، وعلى قرار رئيس الجمهورية رقم ٣٧٧ لسنة ١٩٩٨ بزيادة تقم
الأكاديمية البحث العلمي والتكنولوجيا، وعلى نصيب البراءة المنقلم تحت رقم ٨١٠ في ٢٠١١/٠٩/٢٢ والمستندات الملحقة به، قر:

مادة (١) : منح براءة اختراع تحت رقم ٢٨٩٢١
بش: شركة إيجيبيك للتطوير الصناعي الخوازم إسميرت (١) بمم هتام جمال الدين محمود فواد رئيس إدارة الشركة
الأكفوير / الحفظه المسماةه لثلاثة / ١٧/٢١/٢٠١١ / تاريخ ٦ من ٢٠١١
عن إخراج تحت مسمى : تقم الإتراف و التحكم الآلي (ASC)
إسم المخترع : مهديان / هشام جمال الدين محمود فواد
مدة البراءة : عشرون عاماً تبدأ من يوم ٢٠١١/٠٩/٢٢ ، وقد توضح برفقها في الوثائق المصنفة المرفقة بهذه الشهادة .

مادة (٢) : صدر هذا القرار بالمغايرة في ٢٧ سبتمبر ٢٠١٨
مادة (٣) : على النجوة المسكلمة تقم في جريدة براءات الإخترع

رئيس أكاديمية البحث العلمي والتكنولوجيا
د. محمد مصطفى

THE UNITED STATES OF AMERICA

TO ALL WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

May 25, 2011

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 13/010,708
FILING DATE: January 20, 2011

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS ES120916,708

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office

T. LAWRENCE
Certifying Officer

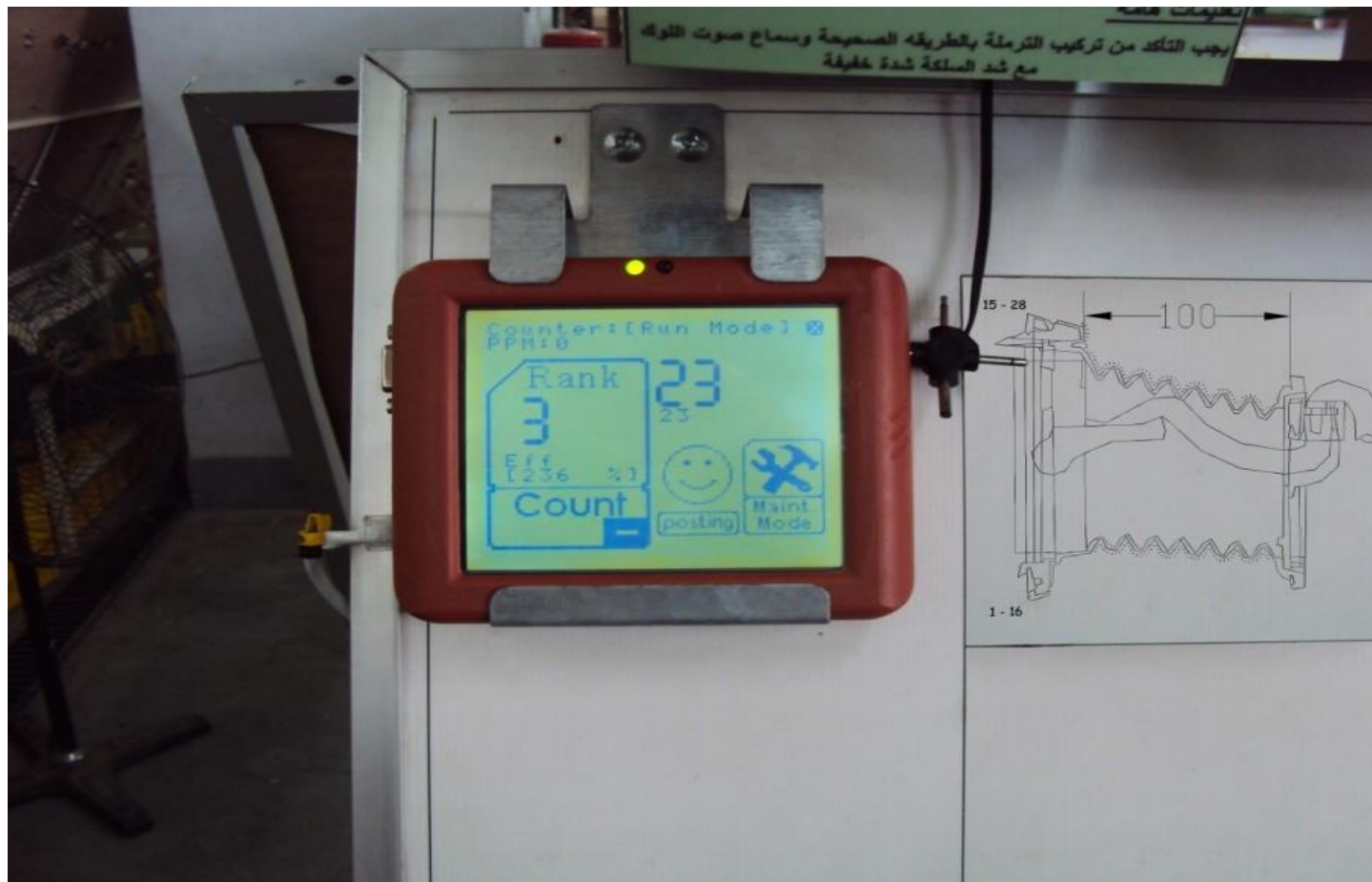
ASC Results



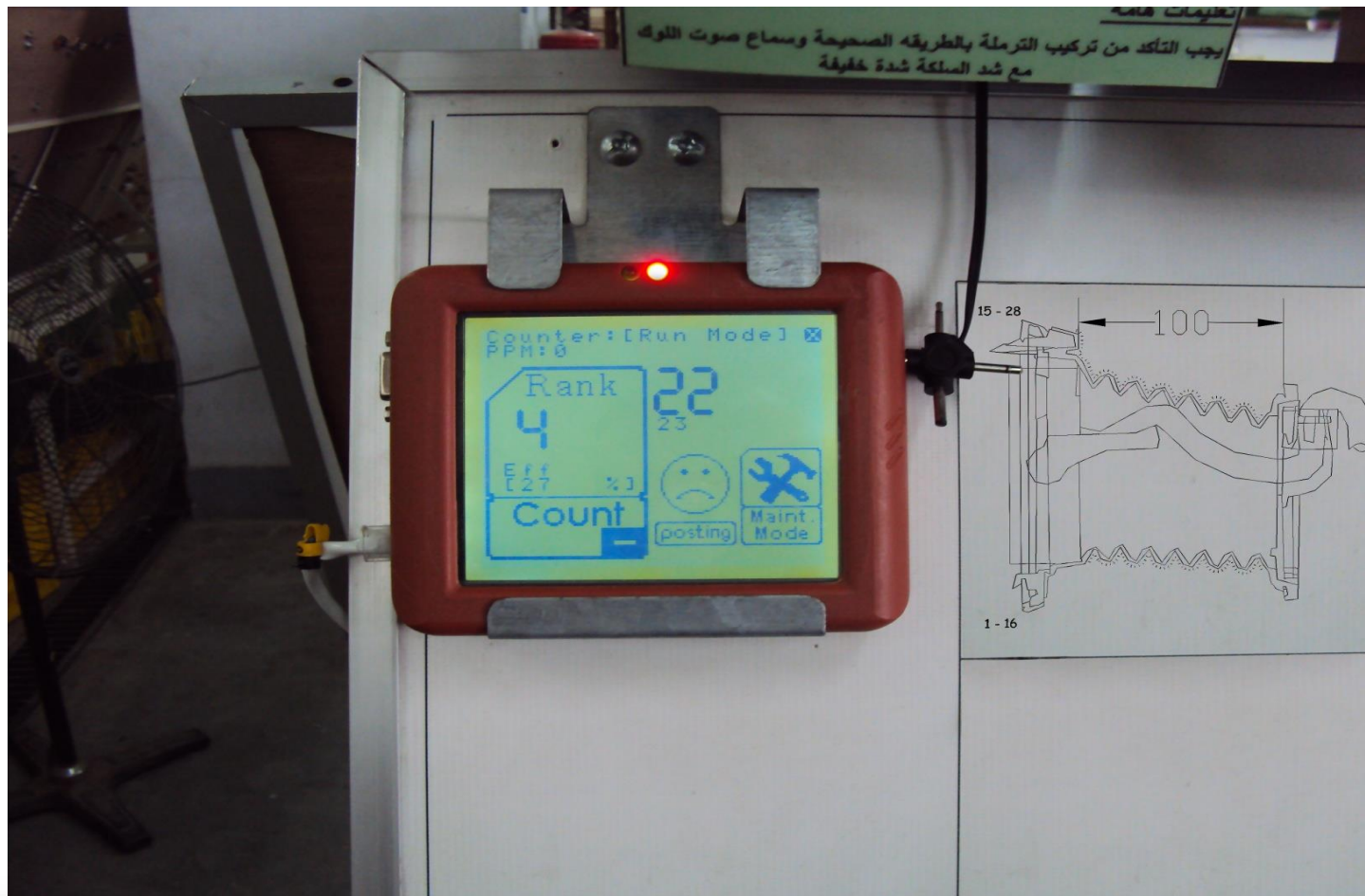
ASC Results



ASC Results



ASC Results





THANK YOU

