

# Malaysia's First State Of The Art Automated Mail Processing Hub



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## INTRODUCTION

POS Malaysia Berhad (PMB), the national postal service provider for the country, is divided into 3 Strategic Business Units (SBU).

Of the three SBUs, mail business under PosMel is the largest in terms of staff strength (8,680) and has contributed 62.2% of total revenue for 2011/12.

80% of total mail volume in Malaysia originates from the Central Region (Kuala Lumpur, Selangor and Negeri Sembilan) while 60% is delivered in this region.

## TRANSFORMATION PROGRAMME

PMB had initiated a transformation programme to improve the efficiency of the national postal operation, with the main focus on the Central Region.

As a major component of the transformation programme, a new mail processing centre known as National Mail And Parcel Hub (NMPH), was set up in Shah Alam.

Four mail processing centres (MPC) – Kuala Lumpur (KLMPCC at Dayabumi), Bukit Raja, Bangi and Seremban – were consolidated into one automated mail processing centre, i.e. the NMPH.

Before the setting up of NMPH, the mail processing was primarily done manually except for the culling, facing and cancelling (CFC) operation using CFC machines installed at KLMPCC and Bukit Raja MPC and optical character recognition (OCR) sorting operation using two aged OCR machines in KLMPCC. The simplified mail process flow of KLMPCC is depicted in Figure 1.

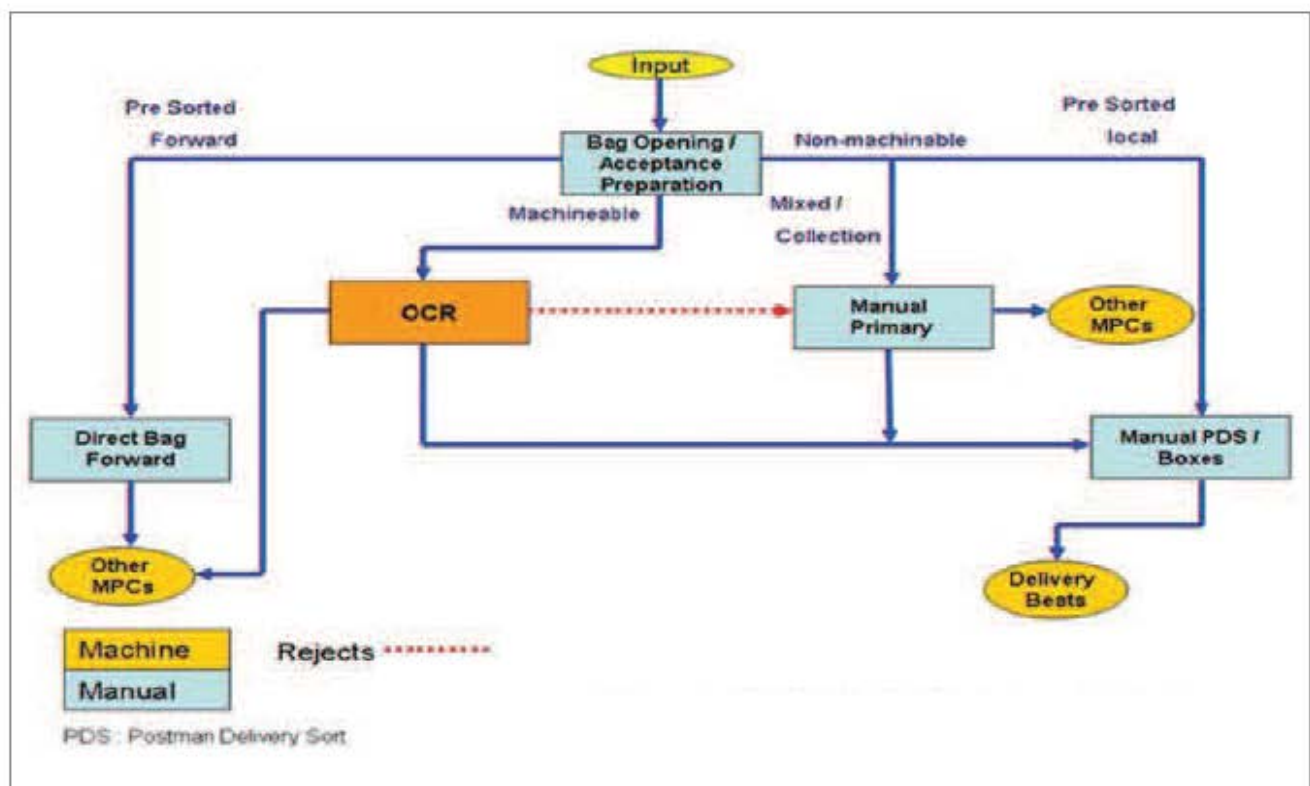


Figure 1: KLMPCC Process Flow

**PROJECT IMPLEMENTATION**

PMB acquired a 22.3-acre factory lot in Section 21, Shah Alam, with four major existing buildings comprising two large factory buildings, administration block and utility building.

PMB engaged a Malaysian engineering consulting firm as the Project Management Consultant to undertake the conceptual design of the postal automation system, building renovation works and to manage the project implementation.

The Works Contract was awarded in a single package via an open tender exercise. The Contractor selection process was done based on stringent tender evaluation criteria and scoring system.

**POSTAL AUTOMATION SYSTEM IN NMPH**

To achieve the desired level of automation and to improve the mail operation, the following core components were installed in NMPH:

- Six new Mail Processing Machines (MPM).
- One new Culler Facer Canceller (CFC), and three existing CFCs were relocated from KLMPK and Bukit Raja MPC.
- A Flat Sorting Machine (FSM).
- A Tray Conveyor System (TCS).
- An Integrated Production Planning System (IPPS).
- An Open Reader Technology Platform (ORTP).
- A Data Warehouse.

- A Master Control Room.

The simplified process in the flow of mail operation in NMPH is shown in Figure 2.

One of the most important components of NMPH is the IPPS. The system has been developed to meet the operation visibility requirements of PMB and is capable of the following:

- forecasting mail traffic volume from bulk mailers and collection mail
- planning mail operations
- staff scheduling
- managing the arrival, dispatch and bay allocation of all vehicles
- managing time attendance system
- collecting data directly from the automation systems
- providing real time operation dashboard
- providing reports and KPIs based on a central database of historical data.

The ORTP, which is an open platform for address recognition, interfaces with the mail processing machines, i.e. MPMs and FSM, the Address Management System (AMS) and the Data Warehouse to facilitate the following:

- Resolve "service requests" from MPMs and FSM, e.g. address resolution
- Manage tag information associated with the physical mail items

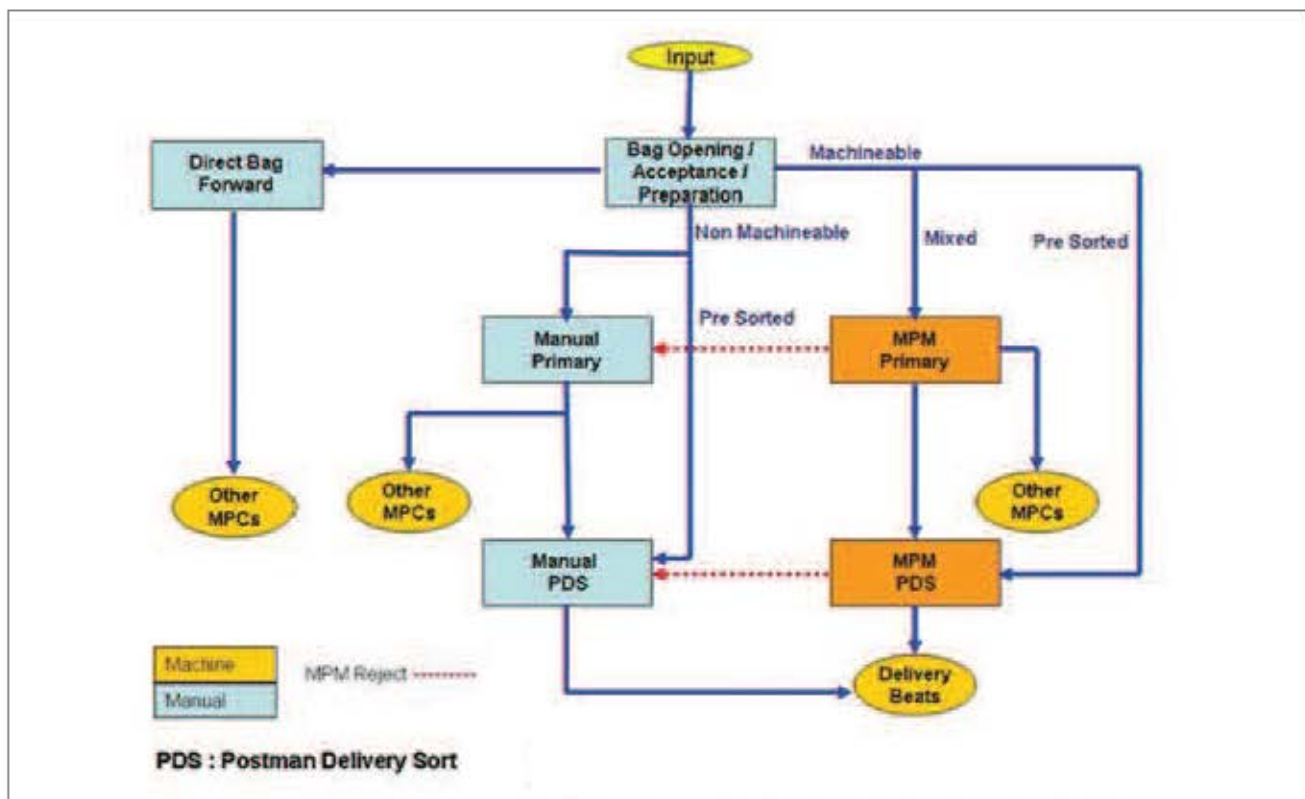


Figure 2: Mail Process Flow in NMPH

## FEATURE

- On-Line and Off-Line Video Coding
- Performance reporting of the automated address resolution
- Performance reporting of the Video Coders
- Training of the Video Coders
- Archive image and address data for subsequent analysis
- Provide simulation of auto address recognition.

The data warehouse is to accumulate data from IPPS in order to provide a rich source of data for Business Intelligence (BI). It is capable of:

- Receiving Address Management System (AMS) downloads for distribution to the automation systems
- Receiving address resolution data from the ORTP for upload to the AMS
- Receiving Key Performance Indicators from the automation systems
- Receiving Tag Data for each mail item processed by the automation systems
- Providing users with the ability to see key dashboard indicators and the data for business analysis.

The Master Control Room (MCR) is where the NMPH operations are monitored and supervised. The MCR is equipped with dashboard displays, i.e. flat panel displays comprising six units of 42" LCD wall-mounted displays that are able to show the following:

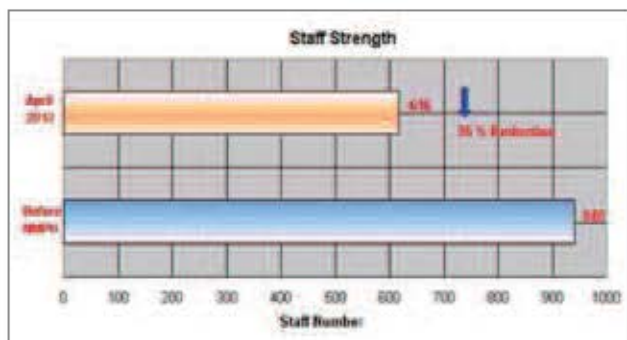
- Real time GPS position of PMB fleet vehicles destined for the NMPH
- Status of the dock management system
- Status of the mail processing machines
- Work area status, throughput and productivity rates
- Video Coding System queue status and etc.

### MAIL OPERATION PERFORMANCE IMPROVEMENT ACHIEVED

The following improvements were recorded in mail operation based on operation data given by PMB.

#### a) Decrease in Staff Number

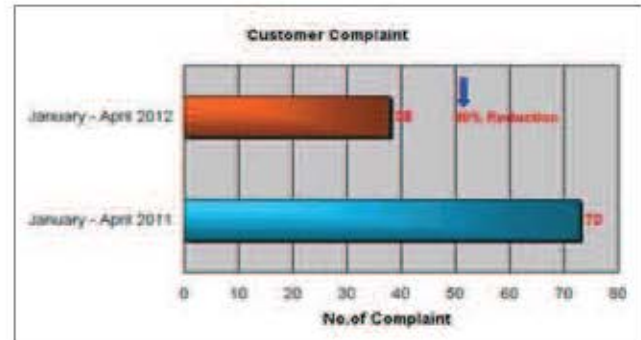
The mail acceptance, preparation and sorting staff strength was reduced as follows:



This was achieved due to the introduction of automation in the mail processing.

#### b) Fewer Customer Complaints

The average reduction in customer's complaints for mails was as follows:



One important factor that contributed to the reduction in customer complaints was the timely delivery of mails.

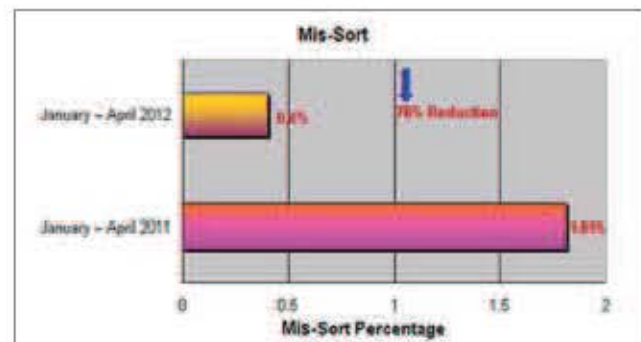
#### c) Next Day Delivery (D+1 Service Standard)

Prior to the commencement of NMPH operation, the D+1 service standard was provided for mail originating from and delivered to the same post code area. Now the area of coverage for D+1 service standard has been extended to the whole of Central Region.

This was possible due to improved processing speed and sorting accuracy.

#### d) Lower Mis-sort Rate

On average, the mis-sort rates were as follows:



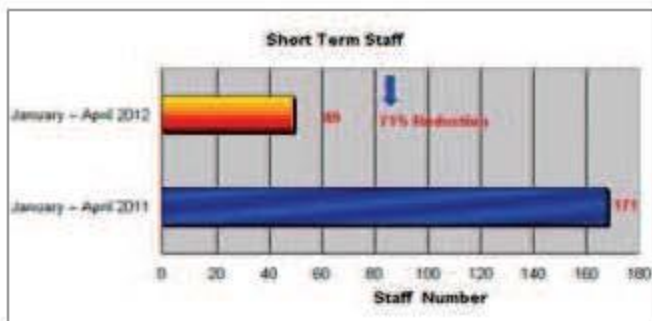
There was an improvement of 1.41% or 78%

The improvement was due to improved sorting accuracy of the automated processing system with reliable optical character recognition of addresses on the mails.

#### e) Decrease in Short-Term Temporary Staff

The average in short-term temporary employees was shown on the following page.

The reduction was achieved as a result of improved processing efficiency and better production planning which was possible with the Integrated Production Planning System.



#### f) Speed and Reliability Performance

The national average speed and reliability performance base on test mails were as follows:

Speed and Reliability Performance		
Year	Speed (%)	Reliability (%)
2010	79	98.3
2011	88	99.4

Improvement	<i>Speed Reliability</i>	
	11%	1.1%

#### Note:

As defined by Malaysian Communications and Multimedia Commission (MCMC), the postal service regulator, speed is the percentage of the total test letters that meet the various delivery times. Reliability, as defined by MCMC, is the percentage of the total test letters delivered within the delivery duration of 14 days.

#### CONCLUSION

With the successful implementation of the National Mail and Parcel Hub Project, PMB has achieved a major milestone in its transformation programme.

The procurement was carried out in a fully transparent manner. The Postal Automation System is a state-of-the-art system. The implementation of the project has brought about improvements in many aspects of PMB postal operation. The successful implementation of the project is definitely a big step forward for PMB in realising its vision to be **“among the world leaders in the distribution of physical communications and integrated logistics”**. ■