

# Dynamics Ax - Production Accounting I

## Introduction

### The Definition

Production Accounting I is the first sub module of the Production Accounting Module (PAM). PAM is 100% Microsoft Dynamics Ax.

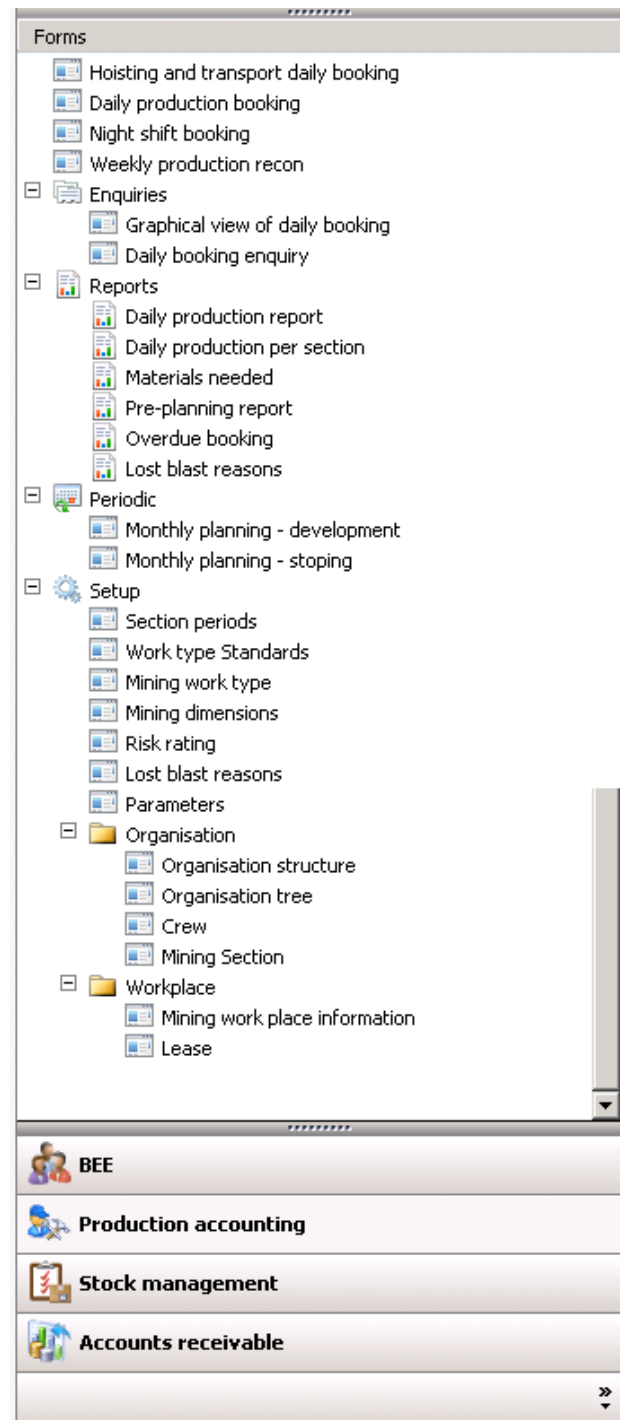
- Production Accounting I deals with mining operations while
- Production Accounting II covers the area of surface operations (also referred to by some as Metals Accounting).

A range of highly specialized mine planning, geological, and geotechnical software systems have been developed and are utilized in the mining industry to support ore body analysis, mine design and to plan production of the mineral-rich ore in the most cost-effective way. In essence, Production Accounting I utilizes the outputs of such expert systems to plan, execute and control production in order to meet such production targets.

The Production Accounting discipline provides production management with tools to plan, schedule and record the production as well as the required materials in order to meet their call. Production management is able to manage performance against predefined key performance indicators (KPI's) and to utilize accurate information to take corrective action where production is negatively impacted.

Elements of a good mining production system include:

- A single, shared information repository
- User-friendly production recording system
- Reporting at different management levels
- Materials planning against mine work standards
- Production unit labour planning and management



## Solution

### The Dividends

If properly implemented, an integrated mining production system will give the following benefits:

- Less interfaces to maintain
- Reduced cost of manual re-work
- Proper analysis of production efficiency
- Complete and accurate view of inventory
- Improved inventory planning and control
- User securities and audit trail for changes
- A closed loop between planning and execution
- Accurate and streamlined production reporting
- A consistent data set – one version of the truth
- Consolidated view of stock piles, bookings, shift performance etc viewable inside Dynamics Ax or Microsoft Excel.

### The Dilemma

Production systems used in mining operations have traditionally been disparate, labour intensive and mostly used separate from the organisation's enterprise resource planning system. The production plans and targets generated by specialized mine planning systems are generally transferred to a number of spreadsheets. The labour, equipment and materials planning are then performed using different systems.

The recording of actual production and materials utilized then needs to be consolidated into a number of different spreadsheets, which need to be consolidated again for reporting purposes. Spreadsheets may be manipulated, the transfer of data is prone to errors and the storing of results makes future reporting cumbersome.

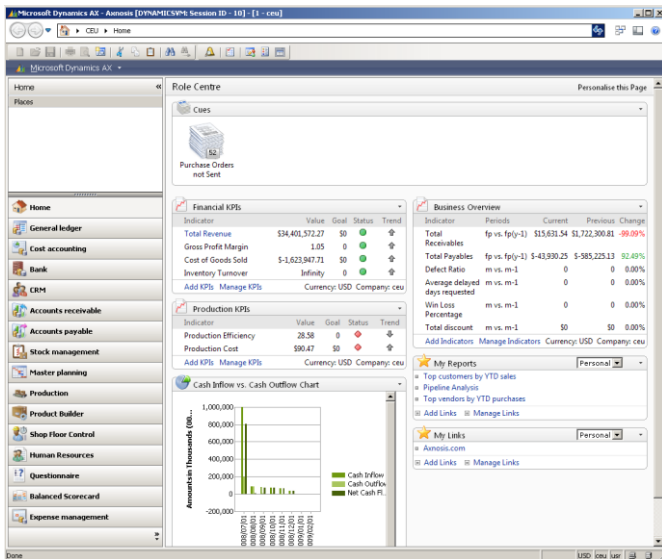
The planning of materials, based on the mine's work standards and production advance, has traditionally been unsatisfactory and the timeous communication of such requirements has also been inadequate.

Daily C.R.M. tons report - Report																			
File Edit Tools Command Help																			
<b>Daily C.R.M. tons report</b>																			
Page 1 2008/11/20 01:31:23 pm																			
<b>Sites</b>																			
Site	Level %	Milling rate																	
CO	18.00	100.00																	
LI	16.00	90.00																	
ZF	16.00	110.00																	
<b>Tons to crusher</b>																			
Lease ID	Tons to crusher																		
ZF	2 386.00																		
LD	0.00																		
MB	1 736.00																		
CC	0.00																		
<b>Stock piles</b>																			
Lease ID	Opening stock	Tons hoisted	To ZF	Tons to crusher	Closing stock														
ZF	1 839.00	1 268.25	40.00	2 386.00	761.25														
MB	249.00	1 777.00	40.00	1 736.00	250.00														
CC	0.00	0.00	0.00	0.00	0.00														
LD	0.00	0.00	0.00	0.00	0.00														
ZF	0.00	0.00	0.00	0.00	0.00														
<b>Monthwise Production (Measuring Month)</b>																			
Section ID	Tons called	Tons achieved	Tons variance	Prog. tons called	Prog. tons achieved	Prog. tons variance	Milling Month Tons called	Milling Month Tons achieved	Milling Month Tons variance	Milling Month Prog called	Milling Month Prog achieved	Milling Month Prog variance							
ZF-JIC	1 691.00	498.75	-1 382.00	18 601.00	11 878.00	-6 723.00	1 691.00	926.25	-1 382.00	18 601.00	11 878.00	-6 723.00							
ZF-Cheerab	1 010.00	384.75	-625.00	9 090.00	3 371.00	-5 719.00	1 010.00	384.75	-625.00	9 090.00	3 371.00	-5 719.00							
ZF-Sett3	479.00	384.75	-265.00	5 749.00	2 837.00	-2 911.00	479.00	384.75	-265.00	5 749.00	2 837.00	-2 911.00							
<b>Shift Performances</b>																			
Section ID	Nr of trucks Morning	Nr of trucks Afternoon	Nr of trucks Night	Call Morning	Call Afternoon	Call Night	Prog Call Morning	Prog Call Afternoon	Prog Call Night	Prog Achieved Morning	Prog Achieved Afternoon	Prog Achieved Night							
ZF-JIC	22.00	0.00	0.00	0.00	0.00	16.00	40.00	0.00	15.00	44.00	0.00	14.00							
ZF-Cheerab	27.00	0.00	0.00	0.00	0.00	0.00	51.00	0.00	0.00	54.00	0.00	0.00							
ZF-Sett3	30.00	0.00	0.00	0.00	0.00	0.00	46.00	0.00	0.00	42.00	0.00	0.00							
ZF-JIC	22.00	0.00	0.00	0.00	0.00	16.00	40.00	0.00	15.00	44.00	0.00	14.00							
ZF-Sett3	30.00	0.00	0.00	0.00	0.00	0.00	46.00	0.00	0.00	42.00	0.00	0.00							
<b>Daily Development Production Bookings</b>																			
Section ID	SMt Nr	ORD Call	ORD Achieved	ORD Variance	Prog call	Prog Achieved	Prog Variance	Access Call	Access achieved	Access variance	Access Prog call	Access prog achieved	Access prog variance	Redev Call	Redev Achieved	Redev variance	Total dev metres called	Total dev metres achieved	Total dev metres variance
CC-Sett1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MB-JIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.80	3.80	0.00	3.80	3.80
MB-Sett	0.00	0.00	4.30	4.30	0.00	4.30	4.30	0.00	0.00	0.00	4.30	4.30	0.00	0.00	0.00	0.00	4.30	4.30	0.00
ZF-Cheerab	0.00	67.00	0.00	-67.00	0.00	0.00	0.00	15.65	4.50	-11.15	0.00	0.00	0.00	63.96	0.00	-63.96	148.61	4.50	-142.11
ZF-JIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.90	3.90	0.00	3.90	3.90
ZF-Sett3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZF-Sett	0.00	1.30	3.40	2.10	0.00	3.40	3.40	0.00	0.00	0.00	3.40	3.40	0.00	0.00	0.00	0.00	1.30	3.40	2.10
ZF-Sett1	0.00	0.00	4.00	4.00	0.00	4.00	4.00	0.00	0.00	0.00	4.00	4.00	0.00	0.00	0.00	0.00	0.00	4.00	4.00
<b>Daily stopping production bookings</b>																			
Section ID	Nr of shft	M2 call	M2 achieved	Variance	Daily % blasted	Prog call	Prog Achieved	Variance	Prog % blasted										
CC-Sett1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
MB-Sett	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
ZF-Cheerab	0.00	27.63	0.00	-27.63	0.00	0.00	0.00	0.00	0.00										
ZF-JIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
ZF-Sett3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
ZF-Sett	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										

## Conclusion

### Dynamics Ax

The inventory module in Microsoft Dynamics Ax is used as the backbone and integration repository of mining production. This module with Axnosis MMP (Mining and Metals Processing), used in conjunction with specialized mine planning systems gives users the ability to record actual production against call. Material consumption is planned based on planned production advance and this is communicated to the Stores and Procurement departments so that material availability is improved.



Dynamics Ax has compelling integrated functionality designed for Mining and Minerals Processors (MMP) and includes amongst others:

- Supplier Relationship Management
- Service & Asset Maintenance
- Supply Chain Management
- Financial Management
- Expense Management
- Business Intelligence
- Project Management
- Etc.

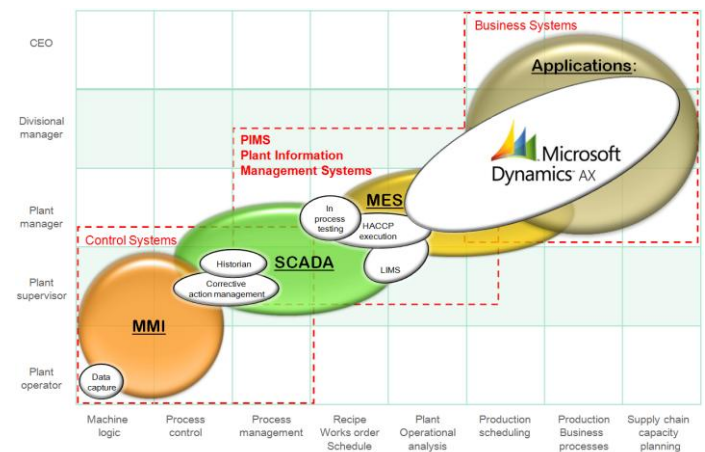
### The Differentiator

Some of the mining production solutions in the market take pride in their functions and features at the expense of integrated information.

Most, if not all of these, have separate and stand alone modules for inventory (including WIP) valuations (ERP), mass balance calculations, sampling, asset maintenance (SAM) and more. The objective of these vendors is to have these modules integrated but in reality they are not.

Dynamics Ax with the Axnosis PAM I and PAM II support the best of breed features and above all *does not* separate the ERP, asset maintenance (SAM) and production accounting. The same inventory master file is used for all these functions. The same user interface exists across the disciplines. Add to this the Microsoft technology with trusted, scalable and robust platforms and you have a compelling and most arguably the most cost effective solution.

Dynamics Ax now extends beyond the traditional boundaries of Business systems and into Manufacturing Execution Systems (MES); an area also known as Plant Information Management Systems (PIMS).



Well integrated data supports reliable and timely information delivery to stakeholders and decision makers, who are then able to quickly respond to deviations from plan.

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