1. 
   a. Vesta decided to invest in a MES (Manufacturing Execution) system that was integrated with its new ERP (Enterprise Resource Planning) system. Where these will lead to automation of shop floor capabilities.

   b. Vesta decided to invest in an APS (Advanced Planning and Scheduling) system which replaced the previous use of Excel spreadsheets for production scheduling.

   c. -20-25% increase in productivity
      -30% decrease in raw material stock (due to better material requirement forecasting)
      -25% decrease in WIP (due to increased control on the shop floor)

2. 
   a. Vendor Managed Inventory. Suppliers manage the inventory of the manufacturer.

   **Quote from Wikipedia:** [http://en.wikipedia.org/wiki/Vendor_Managed_Inventory](http://en.wikipedia.org/wiki/Vendor_Managed_Inventory)

   **Vendor Managed Inventory (VMI)** is a family of business models in which the buyer of a product provides certain information to a supplier of that product and the supplier takes full responsibility for maintaining an agreed inventory of the material, usually at the buyer's consumption location (usually a store). A third party logistics provider can also be involved to make sure that the buyer have the required level of inventory by adjusting the demand and supply gaps.

   As a *symbiotic* relationship, VMI makes it less likely that a business will unintentionally become out of stock of a good and reduces inventory in the supply chain. Furthermore, vendor (supplier) representatives in a store benefit the vendor by ensuring the product is properly displayed and store staff are familiar with the features of the product line, all the while helping to clean and organize their product lines for the store.

   One of the keys to making VMI work is shared risk. Often if the inventory does not sell, the vendor (supplier) will repurchase the product from the buyer (retailer). In other cases, the product may be in the possession of the retailer but is not owned by the retailer until the sale takes place, meaning that the retailer simply houses (and assists with the sale of) the product in exchange for a predetermined commission or profit. A special form of this commission business is *scan-based trading* whereas VMI is usually applied but not mandatory to be used.

   This is one of the successful business models used by Wal-Mart and many other big box retailers. Home Depot uses the technique with larger suppliers of manufactured goods (ie. Moen, Delta, RIDGID, Paulin). VMI helps foster a closer understanding between the supplier and manufacturer by using Electronic Data Interchange formats, EDI software and statistical methodologies to forecast and maintain correct inventory in the supply chain. Vendors benefit from more control of displays and more contact to impart knowledge on employees; retailers benefit from reduced risk, better store staff knowledge (which builds brand loyalty for both the vendor and the retailer), and reduced display maintenance outlays. Consumers benefit
from knowledgeable store staff who are in frequent and familiar contact with manufacturer (vendor) representatives when parts or service are required, store staff with good knowledge of most product lines offered by the entire range of vendors and therefore the ability to help the customer choose amongst competing products for items most suited to them, manufacturer-direct selection and service support being offered by the store, and finally the relatively frequent occurrence of "Well, I'm pretty sure this is right for your needs but let me take you over to Luc; Luc works for Company X and he's the real expert on their stuff".

b. 1) Elimination of the dependence on the data provided by the manufacturer about its inventory that currently being used. Vendor will have the ability to control the inventory information which increases efficiency.
   2) Real-time data will be available to the supplier increasing the accuracy and timeliness of the inventory information.
   3) Ability to build a faster VMI since the interface of ERP will no longer be required.
   4) Decrease in stock out risk due to timely information and ‘0 reliance on the manufacturer’s technical system.
   5) Ability to collect several customers (of a supplier) in a single interface rather than one for each.