ZINC OXIDE

ZINC OXIDE FROM SECONDARY ZINC (HZS, DROSS)

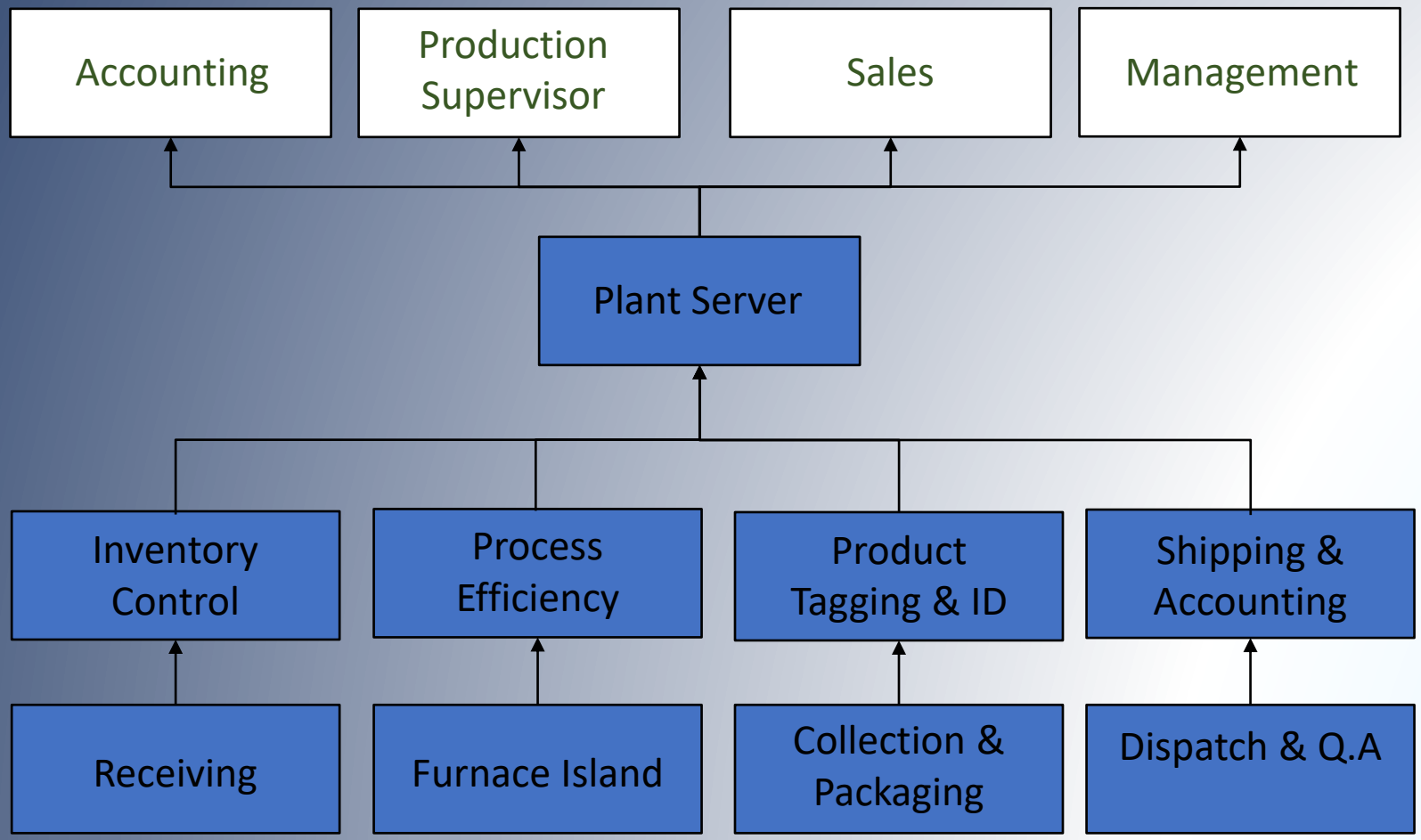
EQUIPMENT PLANT INTEGRATION

INTRODUCTION

The first few slides explain some of the reasons that it is a good idea to consider partial or total plant integration when considering the upgrade of an existing plant or the construction of a new facility

The last few slides list some of the possibilities available.

CONTROL SYSTEMS DESIGN



The new controls package uses digital actuators and sensors connected to the main PLC by a communication network

The standard controls package anticipates full plant integration via a *DCS*

INTEGRATION ADVANTAGES

- Material tracking and monitoring
- Campaign planning
  - Choice of feed materials with input from sales and end user requirements
  - Maintenance schedule planning with regard to client requirements and feed availability
  - Inventory control
- Sales and Production activities.
  - Grades and quantities required, with deadlines
  - Feed inventory available to meet immediate and future requirements
  - Logging of systems engaged in production
  - Integration with Quality Assurance systems
  - Integration with planning and accounting

ZINC OXIDE HANDLING

- Logging material into storage
  - Client information & tracking data
  - Attachment of all documentary requirements
  - Storage and shipping instructions
- Handling special products; coated, pelletized, etc.
- Logging process yields
- Handling off-specification, quarantined and process waste
- Shipping
  - Consolidation of client loads
  - Preparation of required…
    - Conformity/ QA certificates
    - Shipping documents
    - Weigh bills /Bills of Lading
  - Presentation of information to accounting etc.
  - Presentation of Chain of Custody (COC) Audit information etc.

PROCESS PERFORMANCE MONITORING

- By designing the plant where all the functions are integrated, it is possible to monitor process efficiency and plant performance in real time.
- As data is being constantly collected, it is now a simple matter to generate electronic records proving that a particular shipment conforms to all quality and regulatory requirements

- Designing an integrated plant is a statement of intent to a potential zinc oxide client that:
  - Efforts will be made to deliver a quality product on time, backed up with the proper documentation
- Most large zinc oxide consumers will be operating integrated plants and will be familiar with the advantages of a DCS.
  - It is possible to provide real time data (Schedule, QA, COC, Certificates, Declarations etc.) concerning a client order online.

BURNS