



Session: 4E51

"Trends in Production Management Software - A Must Attend for Anyone Evaluating Software"

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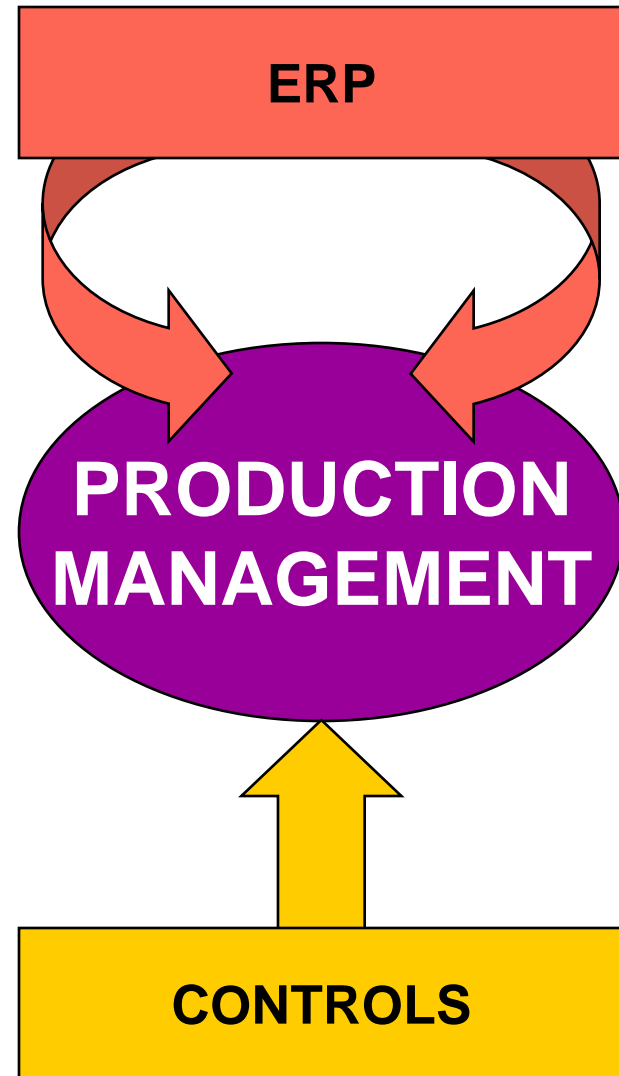
Trends in Factory Automation Systems

(Which System Is Right for You?)

- **Objective:**
 - Provide guidelines for evaluating which Production Management Software (PMS) is right for your organization.
- **Target Audience:**
 - Firms evaluating PMS solutions.
- **Description:**
 - Are you trying to evaluate PMS? You're not alone! While the market is so full of noise, fewer than 50 percent of firms evaluating PMS actually purchase the solution they originally consider. Although vendors pitch a wide range of benefits, we found the adoption of a solution is typically driven by one primary goal. Learn seven parameters to help pinpoint the right solution for you.
 - Surprisingly, for most firms the driving force is improved performance not manufacturing productivity. We'll cut through the confusion and focus on providing insights into the true value of PMS. Arm yourself with the knowledge you need to make an informed PMS decision.

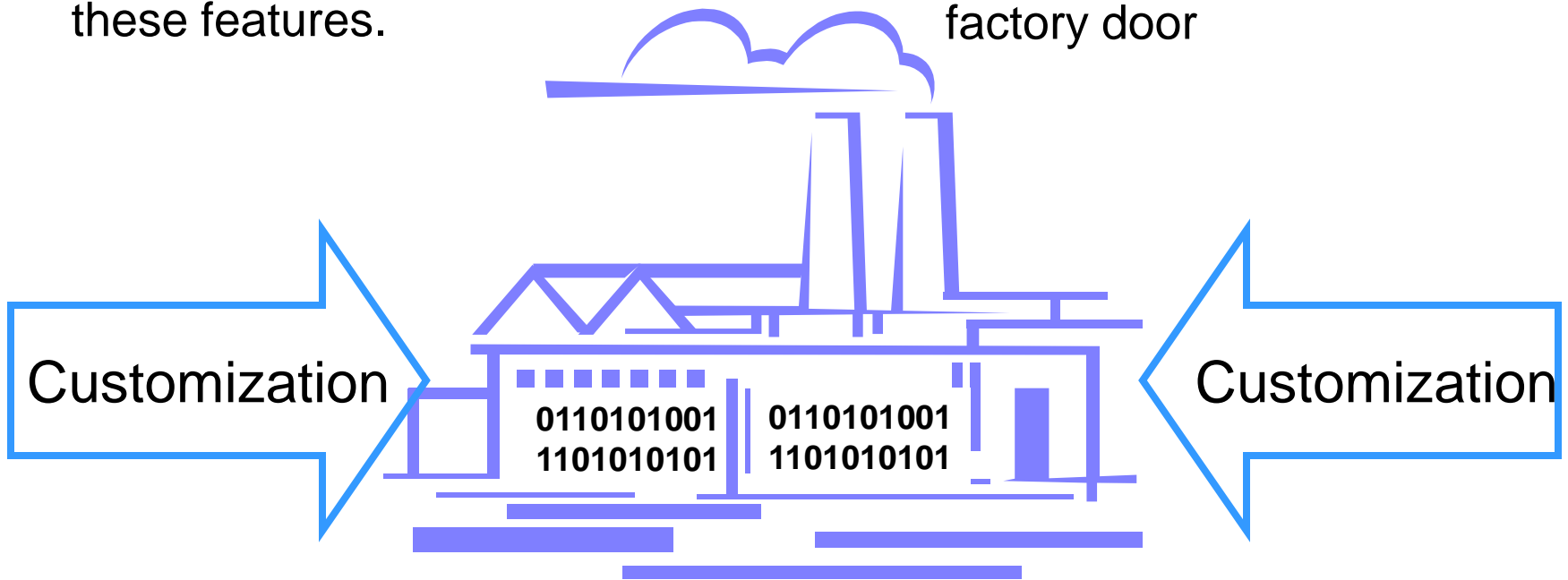
Mega Trends in Factory Automation

- ERP vendors want access to the factory
 - Factory floor modules used to be add-ons, they're becoming strategic
 - vendors are spending more time promoting these modules
- Control vendors want to expand their influence in the factory
 - As factory management systems grow, the vendors ability to offer unique control systems declines
 - vendors want to supply distributed control systems (DCS) or other tools linking control systems to each other and to ERP systems

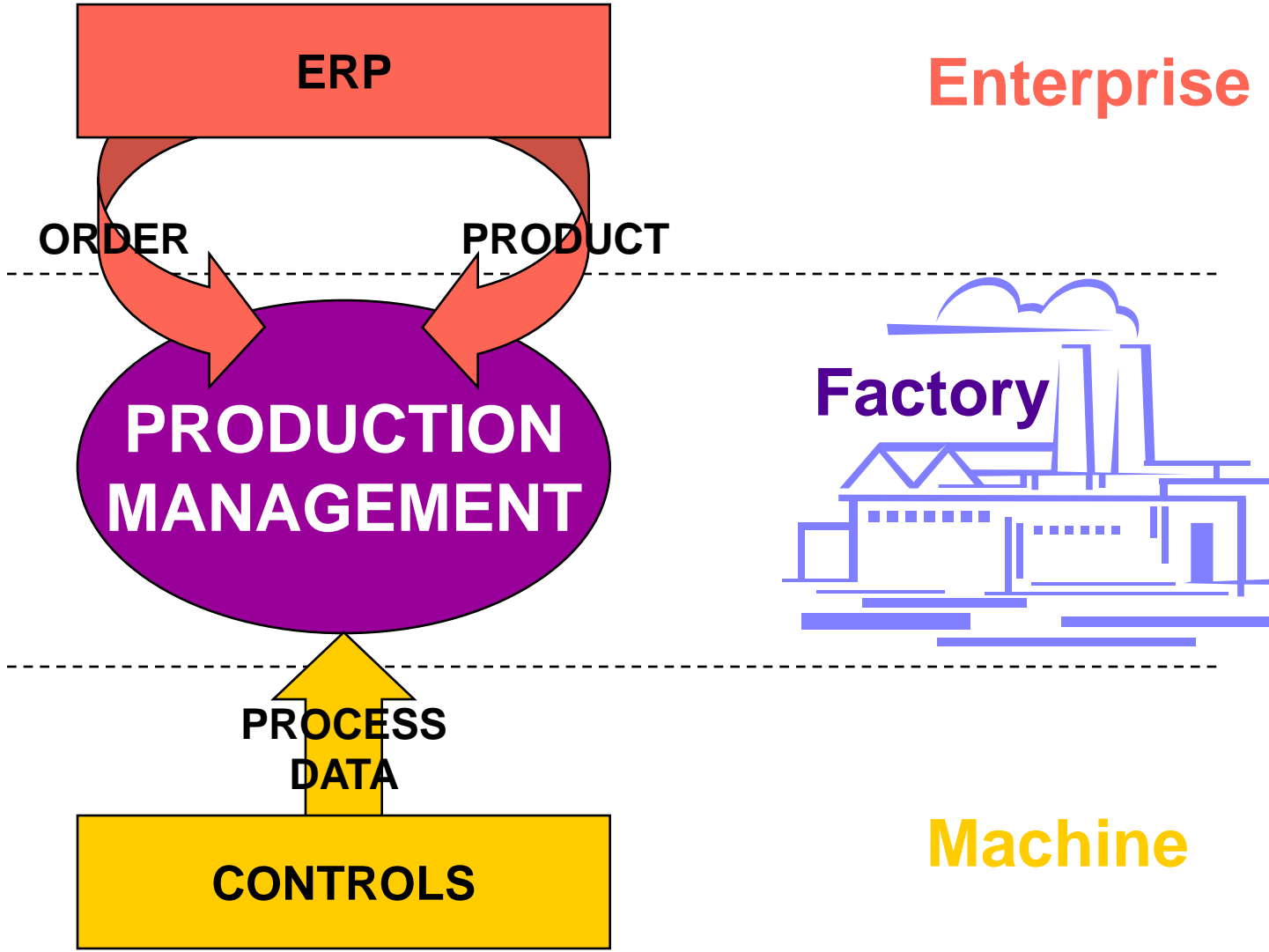


Mega Trends in Factory Automation

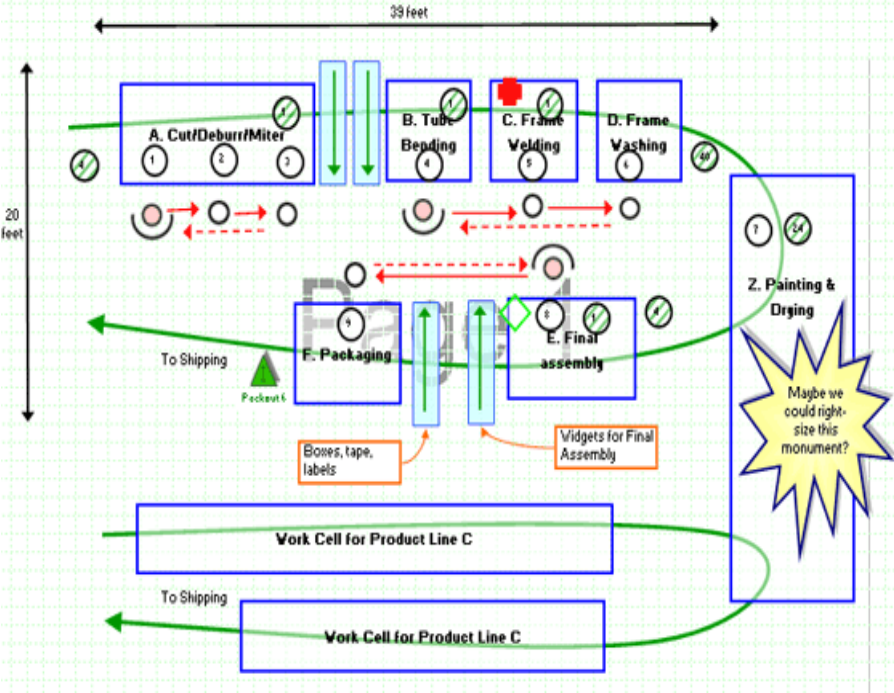
- Markets will continue to push for customer-specific production
 - Customer data imbedded in the product
 - CRM enables small target customer groups – with unique product configurations. Product Managers are learning to use these features.
- Automated sources of factory floor information are exploding
 - RFID will push back to the beginning of the assembly line
 - Machine vision will continue to expand
 - Voice input is knocking at the factory door



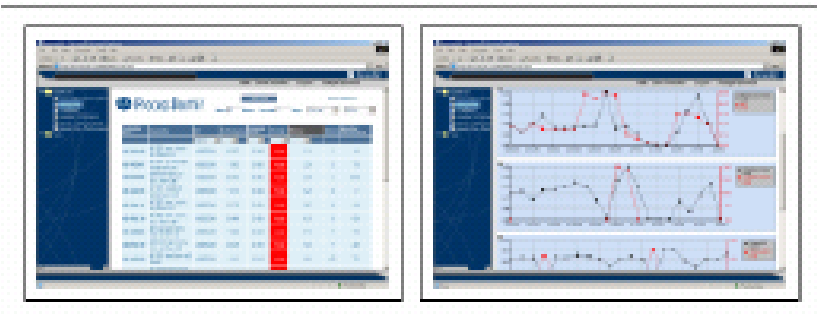
Information Architecture



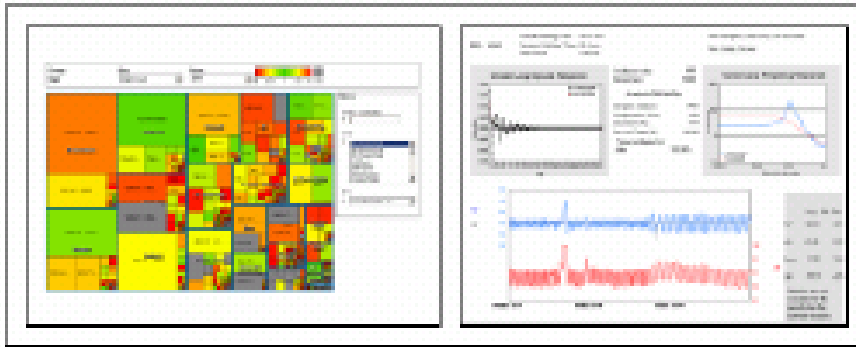
Lean Manufacturing and Production Management Software



Representation of lean processes



Lean processes independent of computer representation

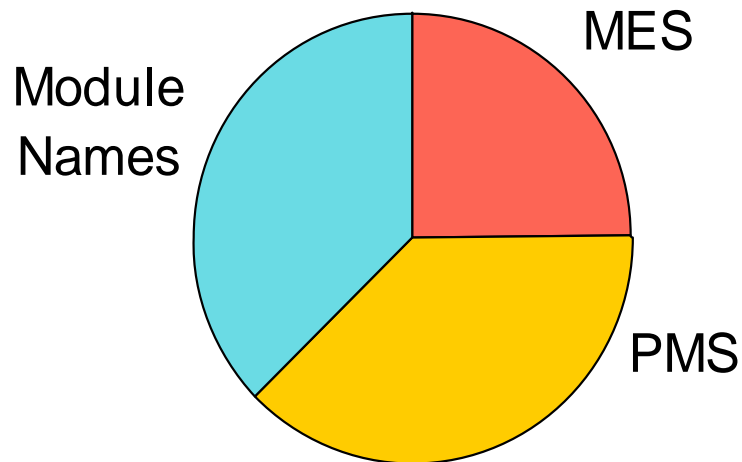


Defining MES, CPM, and PMS

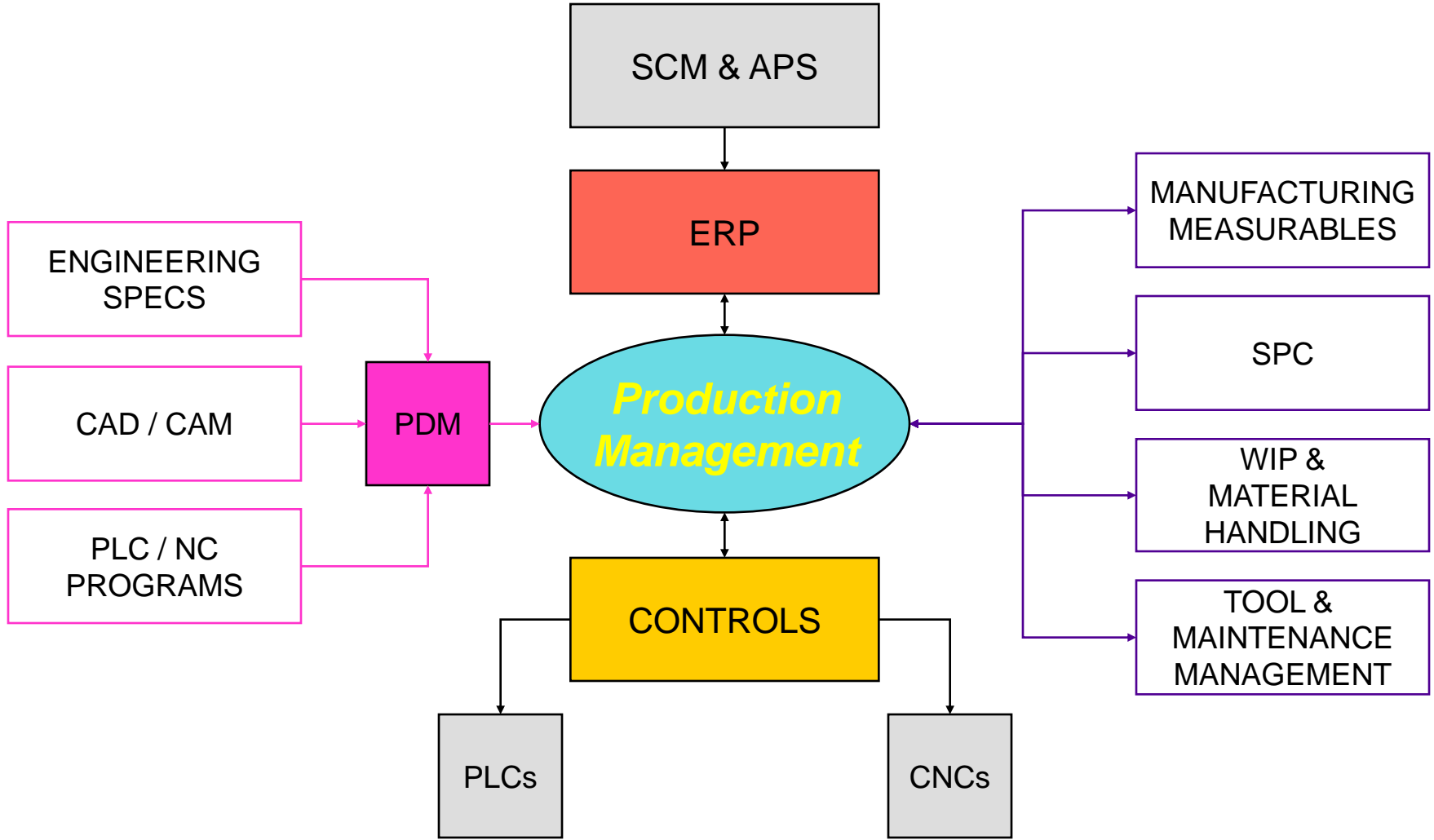
A real time production management system, sometimes called:

- Manufacturing Execution Systems
- Collaborative Production Management
- Production Management Systems

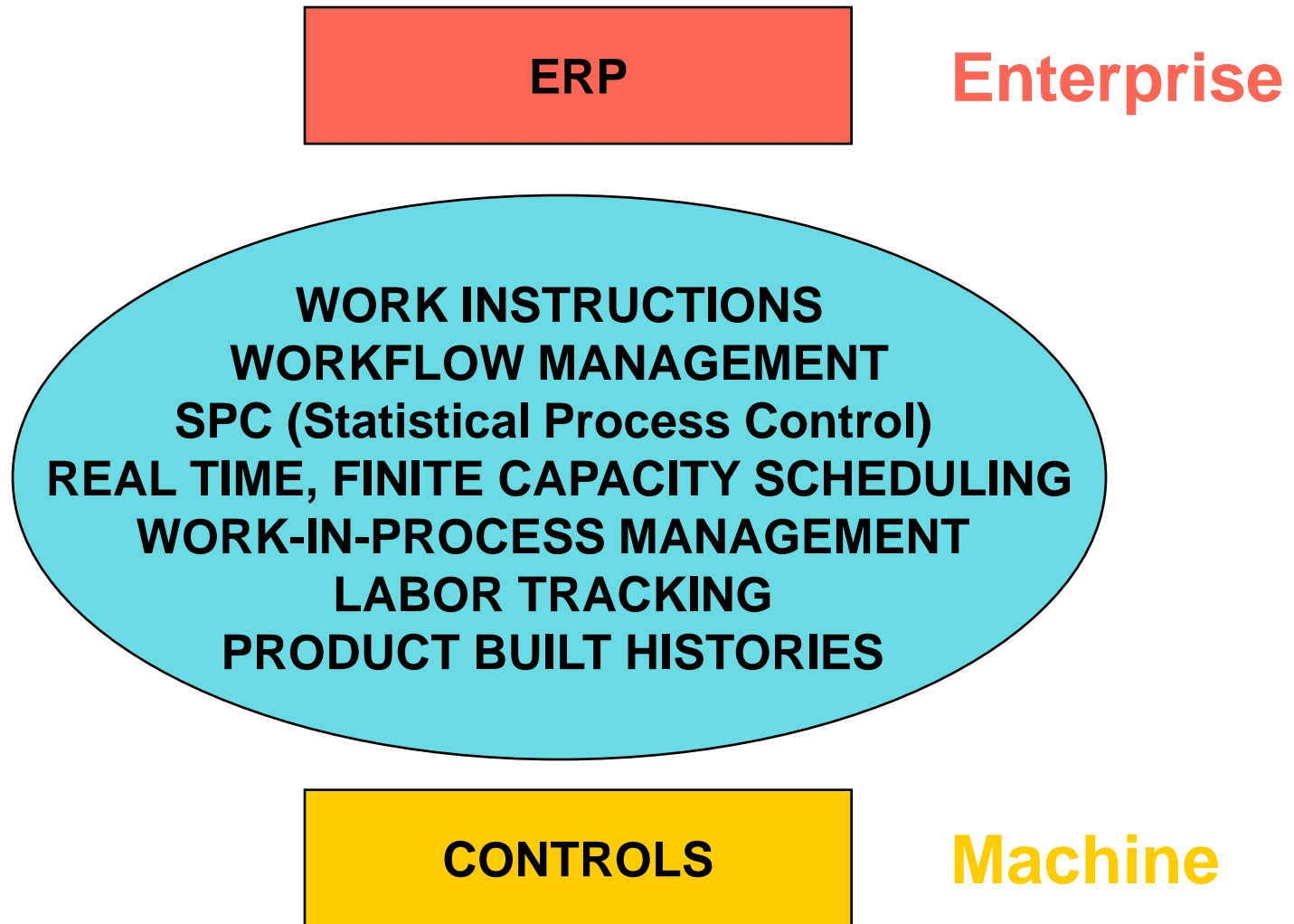
Plant Terminology



Links to ERP & Supply Chain



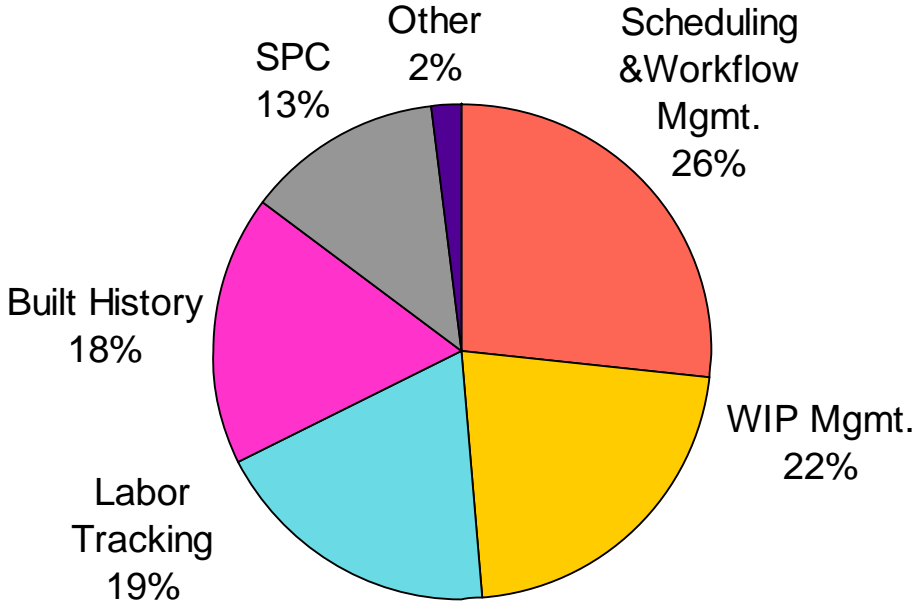
Component Perspective



Component Perspective – Importance/Complexity

ERP

Enterprise

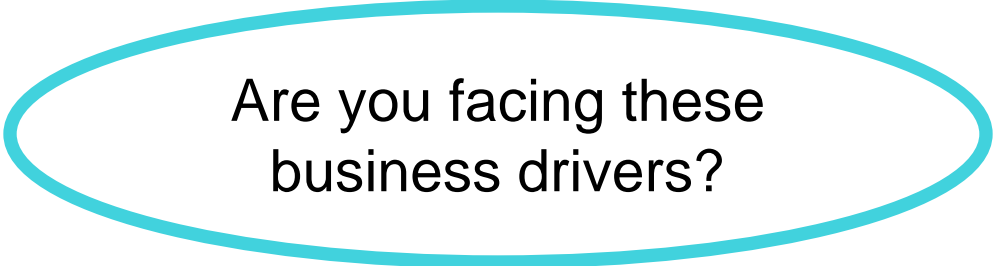


CONTROLS

Machine

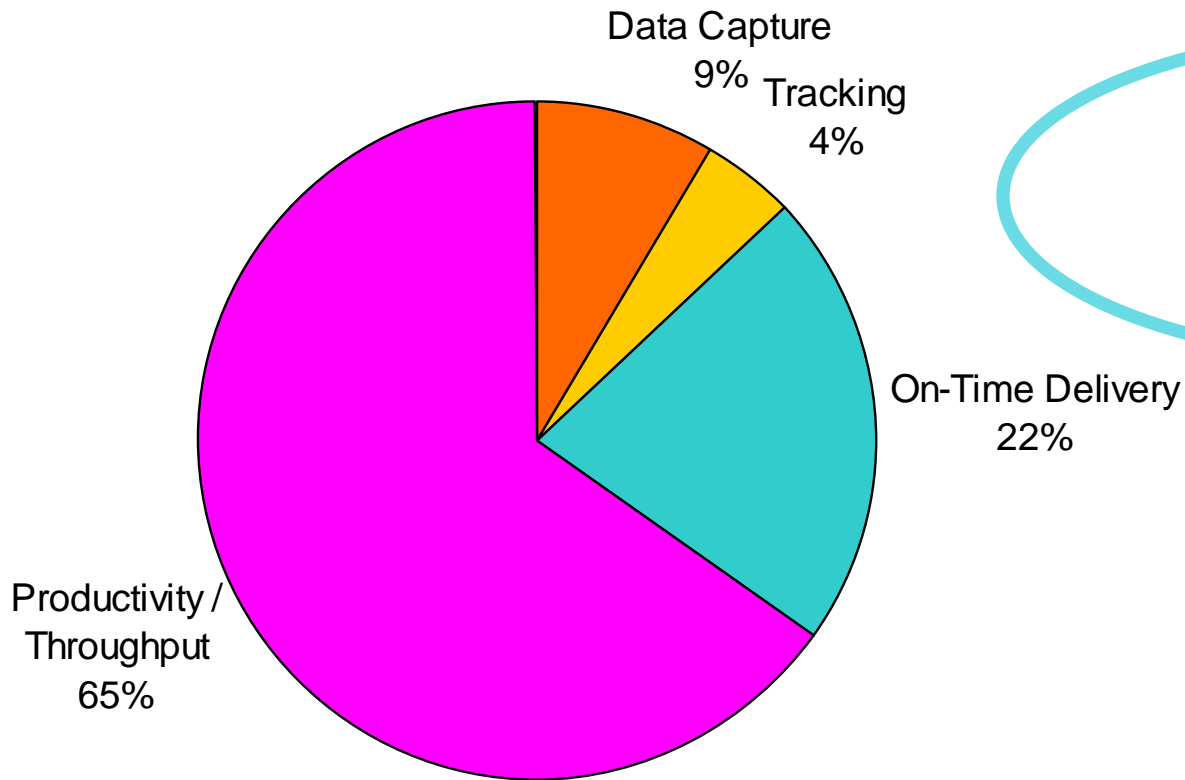
Business Drivers as Described by Users

- Rapidly increasing **demand** with existing high variation
 - Efficient utilization is an issue
- **Product line changes: increased SKUs and/or customization**
 - Factory is confronted with new problems
 - Significantly more work instructions
 - Significantly more scheduling
 - Smaller lot sizes
- **Competitors** are delivering lower per-unit costs
 - Equipment must become more productive



Are you facing these
business drivers?

Trends in Underlying Manufacturing Issues



Project Drivers

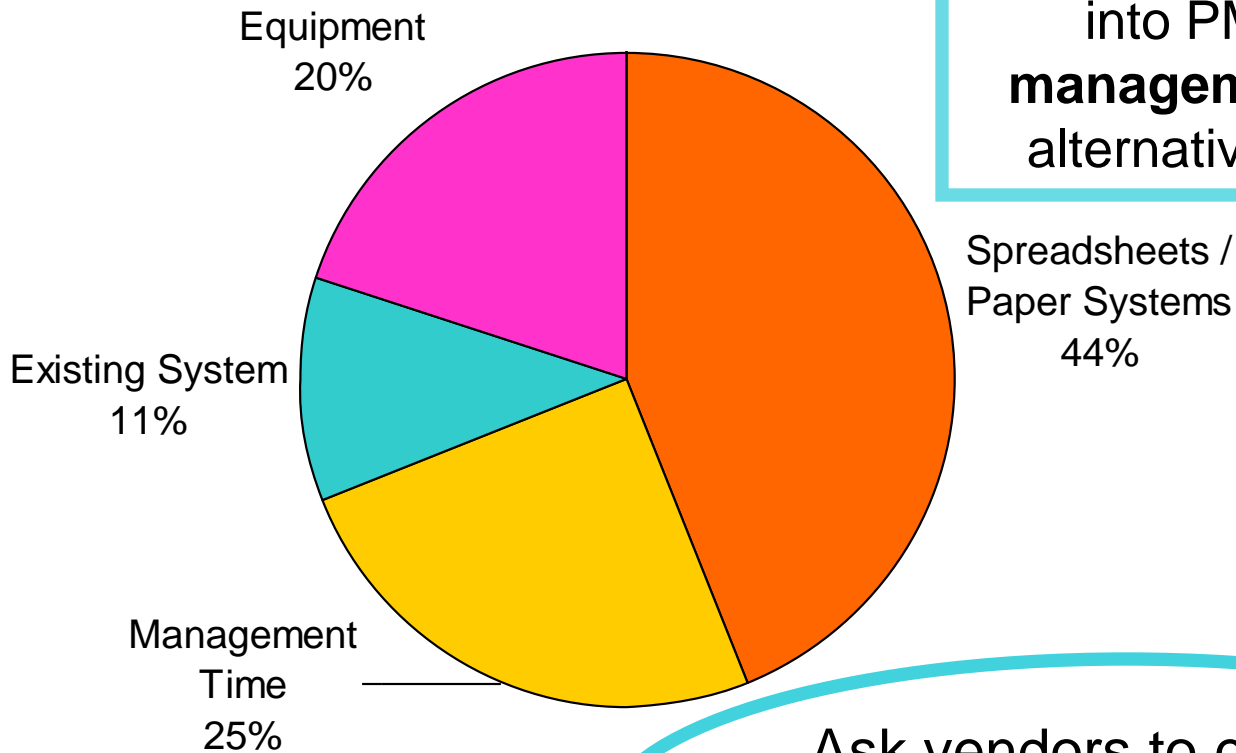
Project teams are formed to address a **problem**; the initial charter is to understand **options**.

What's your key manufacturing issue?

Project Team

- Team members come from:
 - Project management
 - Manufacturing engineering
 - Information technology
- Team or team members have multiple projects:
 - ERP
 - Scheduling
 - Quality issues
 - Factory flow
- Scope
 - Team defines the problem and scope of alternatives
 - Team reviews alternatives
 - Fuzzy timetable

The Competing Solution Is Based on:



Project teams are generally looking into PMS as an **alternative management process**, not as an alternative to adding equipment.

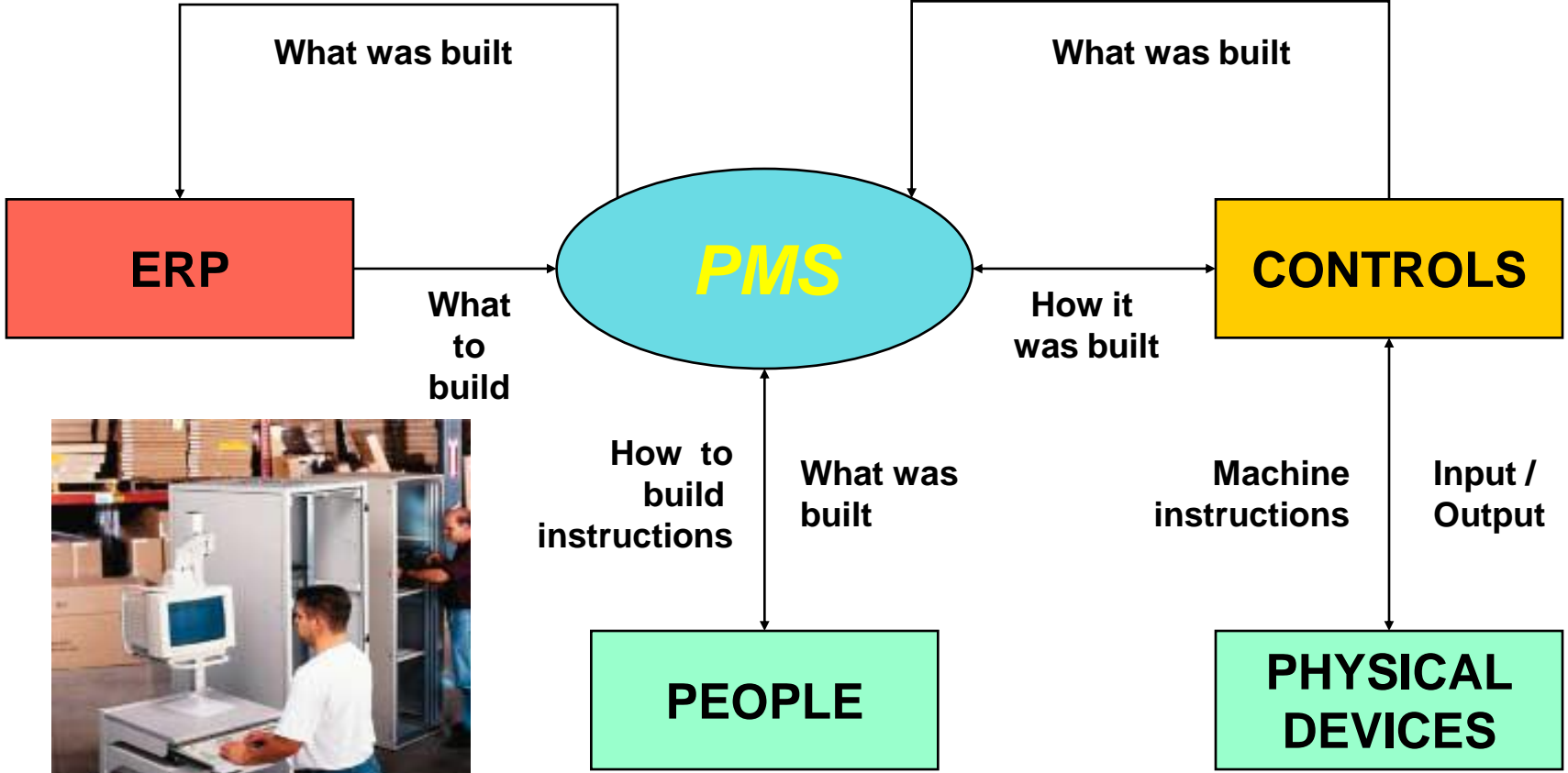
Ask vendors to compare their solution to **YOUR** alternative.

Finding PMS Solutions

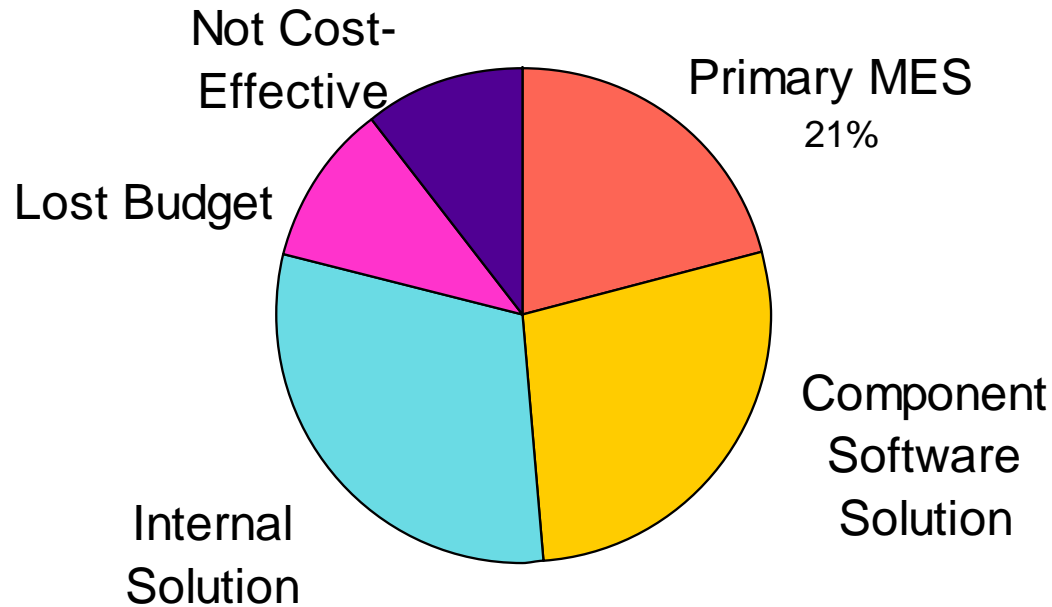
- **Chance**
 - Trade show
 - Manufacturing productivity conferences
 - Another company used PMS
 - Word of mouth
- **Suggestions**
 - Manufacturing engineering sources
 - Control vendors are viewed by some firms as a viable solution provider

Firms are now making more systematic searches for Production Management solutions.

PMS from the Information Management Perspective

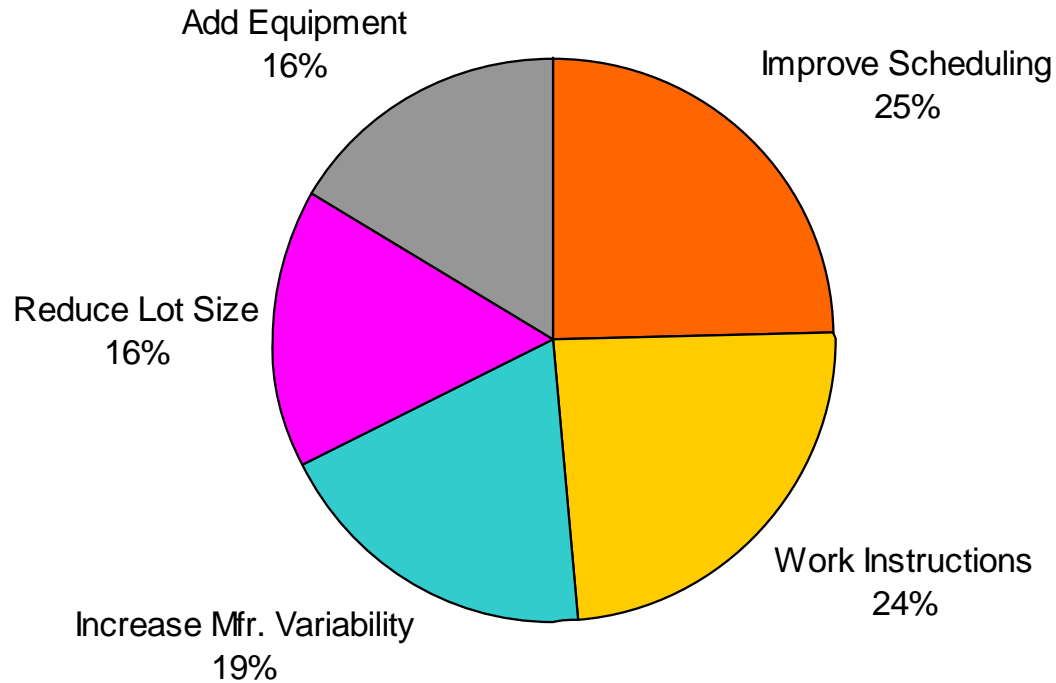


Outcome of the “MES” Project



The trend is to “component” or “internal” solutions.
Fewer opt for complete “MES” solutions.

Manufacturing Outcome of the Project



Automated work instruction and manufacturing flexibility are becoming more important.

What's the right path for you to achieve success?

Distinguishing Characteristics of Firms that Fit PMS/MES

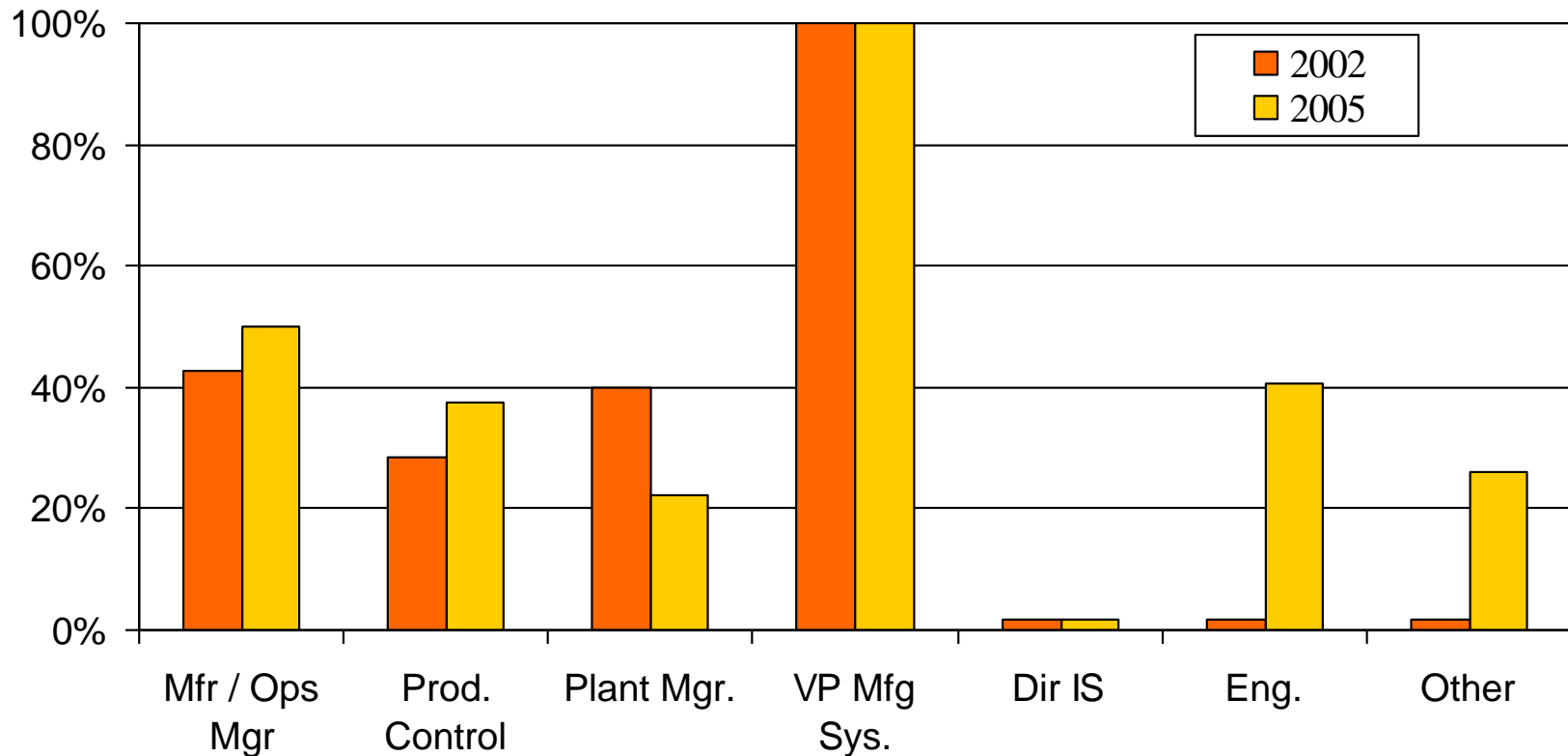
Fit	No Fit
Don't have an electronic dispatch (80%)	Vs. (55%)
Have problems with tasks being performed correctly (75%)	Vs. (56%)
Believe tracking data from the factory floor is valuable (60%)	Vs. (11%)
Have a second-tier ERP System	Have SAP, Oracle
Have thousands of SKUs	1 to 500 SKU's
Assembly lines or job shop manufacturing	Cell manufacturing

Is your organization a fit for a PMS/MES solution?

Adoption

By Title of Project Creator

% Who Added a Solution

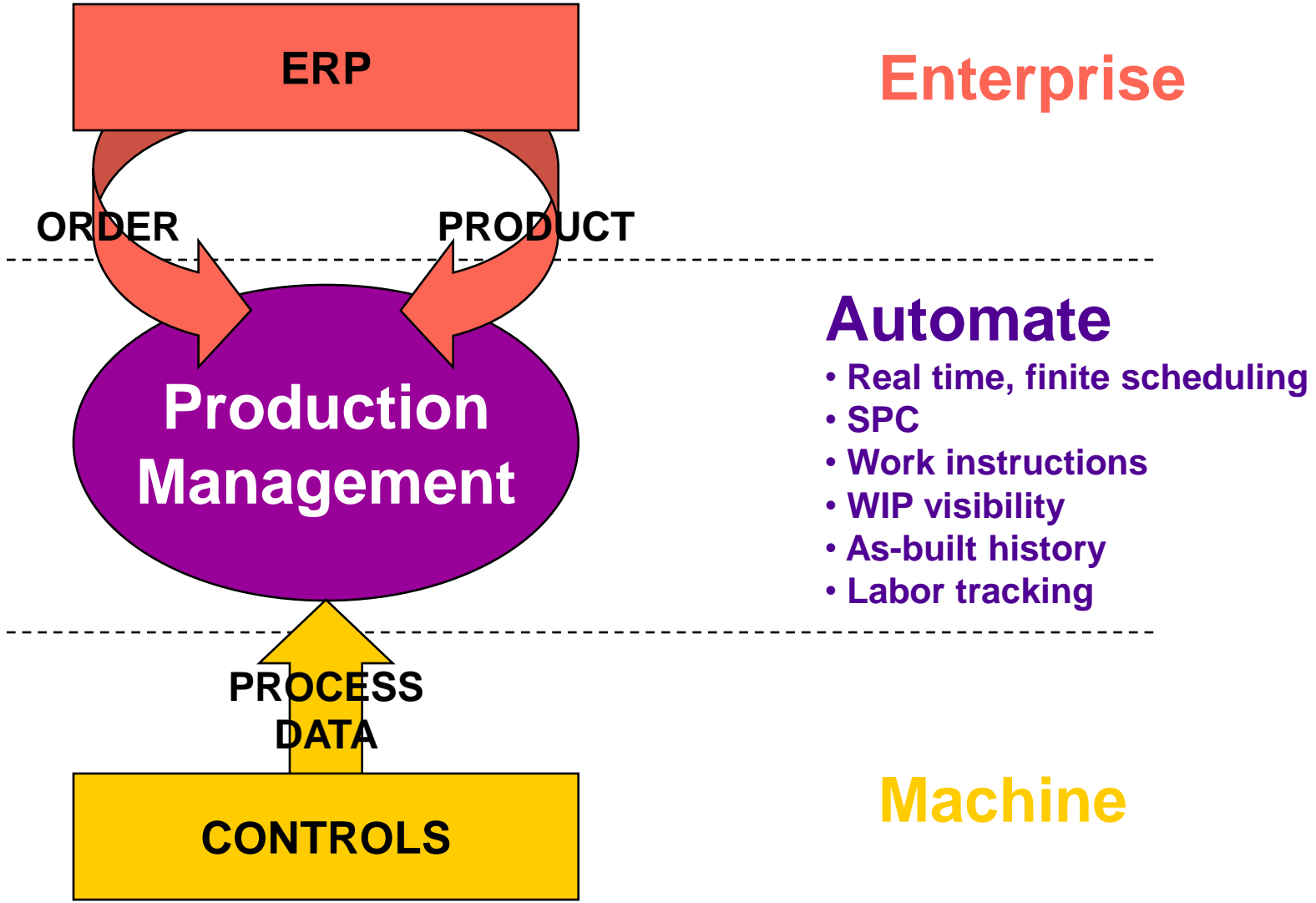


Adoption of component PMS solutions is being driven by manufacturing, operations and engineering managers.

Aggressive Management of vendors Is the Key to Finding the Right Solution for You.

- Narrow the discussion to vendors that serve your industry and type of manufacturing as quickly as possible.
 - Telling a vendor they aren't a fit saves both of you time.
- PMS/MES vendors don't know whom to take seriously.
 - Demonstrate you are a potential customer by telling them:
 - Who the team sponsor is.
 - What alternatives you have.
- PMS/MES vendors don't want to spend time educating firms that may not buy or may not buy from them.
 - Focus the vendor on comparing the MES system to your alternatives rather than other MES systems.
- PMS/MES vendors don't know when to make the right contacts. Help them align with your organization by telling them:
 - When they need to deal with the project manager / team leader.
 - When they will meet the C-level or Plant Manager and what issues will be discussed.

Factory Automation



Seven Parameters to Pinpoint the Right Solution

The solution must:

1. Interface with your ERP system
2. Interface with your existing factory floor data collection systems
 - Future compatibility is less of an issue as vendors move to common interfaces
3. Be able to handle ever-increasing amounts of data as your factory floor becomes digital
4. Address your manufacturing environment in terms of:
 - Number of SKU's
 - Dispatch (or initiating manufacturing)
 - Manufacturing approach(es) (assembly line, job shop, cell)
5. Be acceptable to team members from manufacturing engineering, lean manufacturing (if applicable), and manufacturing information systems
 - “Acceptable” means the team can use the solution to implement new manufacturing processes with new management schemes in the future
6. Have proven results in the top 2-3 drivers of your manufacturing success
7. Be able to deliver your primary goal (one business driver) during the initial implementation
 - The system's broad capabilities must not water down the near term win

Thank you.

Michael Barr

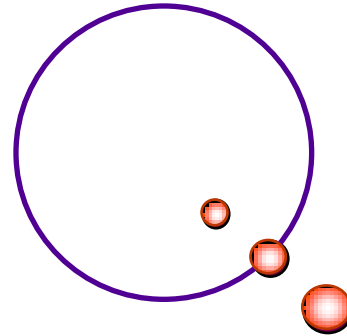
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