DEI
Digital Engineering Initiative

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CCAC Assoc. For Engr.
General Observations

• One deep in many skills
• Full systems design skills limited
• Workforce aging and retiring
• 10 gap in hiring
• Workload is not decreasing in some areas it is increasing
• New technologies are not being as actively pursued as they should be.
Self Examination

CORPORATE KNOWLEDGE

Current Data Storage

Finish

NEXT GENERATION

Mentoring & OJT
Goal Of DEI

• Improve Engineering Processes in LAD
• Decrease development cost and time
• Provide increased automation support to the process
• Enhance simulation capabilities
• Automate test data capture
• Provide better management oversight of process
How we propose to do it

- Pilot in the light Armaments Division of CCAC covering small and medium caliber ammunition.
- Spread across other calibers in sequence customizing for each commodity as necessary
- Incorporate this with other systems at ARDEC to include TIME and IDE. Where practical utilize available systems.
- Expand use to PEO’s / PM’s as a minimum.
- OGA and Contractors?
Pilot Program (LAD)

- Process Baseline and Improvements
- Repository Backbone (Ammo/Weapons model)
- Engineering Capacity Enhancement
- Simulation Capacity Enhancement
- Test Capability Enhancement (DAS)
- Management Capability Enhancement
Progress To date

• Overall Program Plan & Schedule completed. 3yrs, $13million
  – ($1million in LAD overhead spent to date)
  – Partial funding commitment from one customer

• Benchmarking completed

• Data Acquisition System Started
Benchmarking Results

- COTS Solutions
- Integrated Solutions
- Defined Process
- Management Support
- Acceptance Age Related
- Life Cycle (CAD/CAM)

- CAD fidelity critical
- Experienced 50-75% savings in cost and schedule.
- Funding Shift
  - More $ in engineering upfront
  - Less $ spent in testing, production troubleshooting and engineering change orders.
  - Less $ spent in evaluation of alternatives
- Enhancement of Corporate knowledge
32 Sensors:

Pressure Sensors  Humidity
Accelerometers   Wind Speed
Strain Gauges    Light
Temperature     Sound
Velocity
DAS Status

• Systems purchased for all ranges.
• EPVAT testing is now functional on DAS
• Algorithms being developed to refine data in real time and assemble in a final report
Information

• If you are interested in this program

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