PRICE®
Webinar

Hardware Lifecycle Improvements in TruePlanning 16.2

Presented by:
Gurney Thompson

Estimate with Confidence™

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Cost Analytics


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Search & extract data from the PCA Ecosystem	Manage & Analyze Data Sets	Predictive Models	Integration Framework	Customer Data Mapping	Basis-of-Estimate Generator	Access PCA Engine from Excel


Excel


Word


Project

Today's Presenter

Gurney Thompson

Senior Cost Researcher

- 13 years of research and model building experience
- Leads the hardware research team in researching and designing costing solutions for emerging technologies:

  IT/electronic system deployment projects, common elements, additive manufacturing (3D printing), and future rotorcraft concepts and technologies.

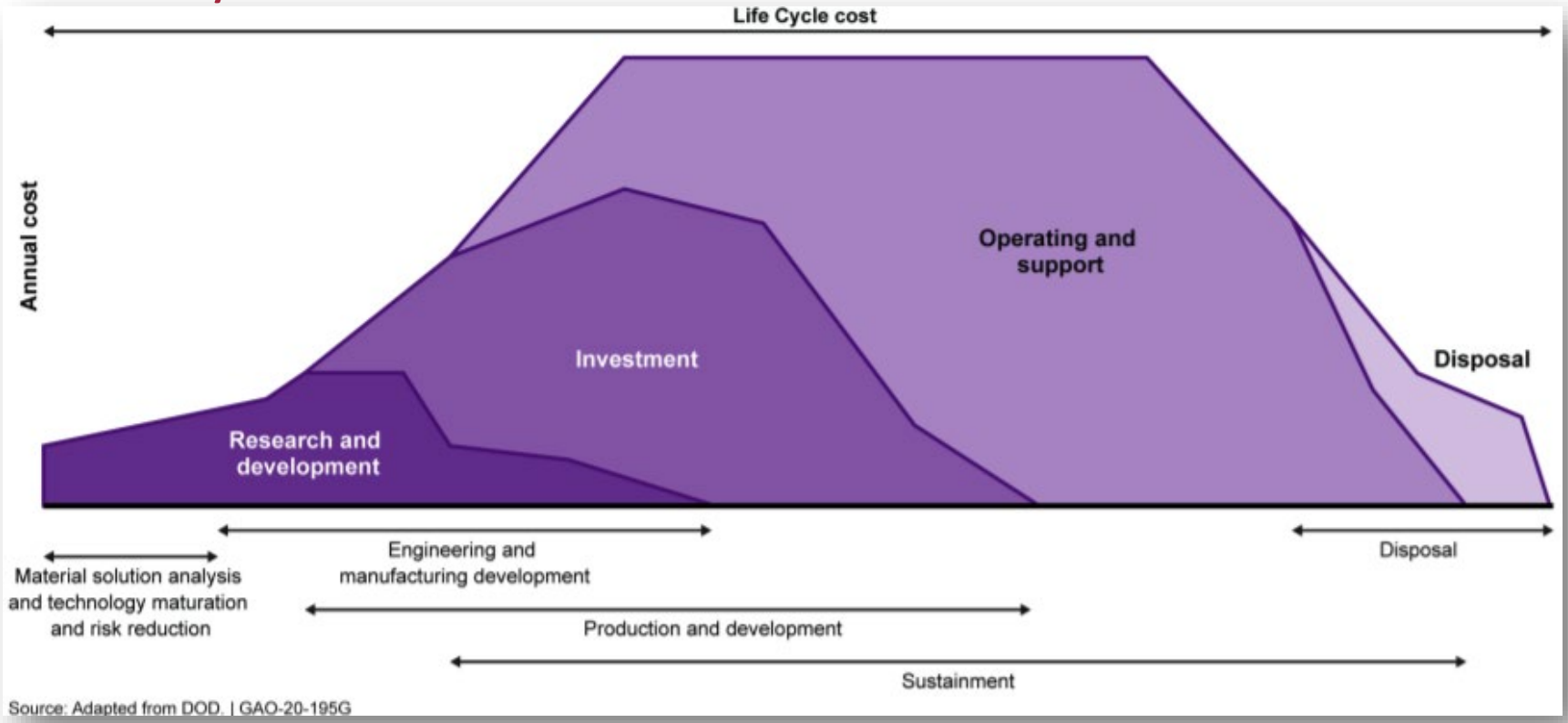
- B.S. in Systems Engineering from the University of Virginia.

Agenda

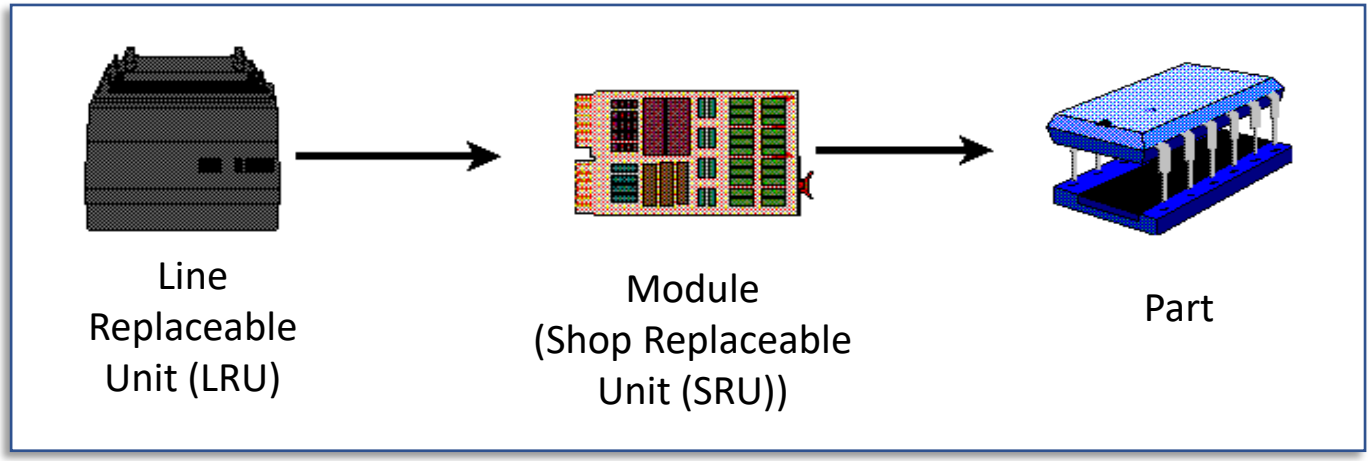
- Basics of Hardware Lifecycle estimating in TruePlanning®
- New Features in TruePlanning® 16 SR2
  - Standalone “Hardware Lifecycle” model
    - *Link with HW/Assembly/IATC/Rotorcraft*
  - Autocalculate inputs
  - TPXL - Manage Large HL projects
  - Mixed Maintenance Concepts
  - Many PRICE HL Global options implemented in TP
  - Nonconstant Failure Rates
- Future Work
  - Technology Obsolescence Mitigation
  - Predetermined Maintenance
  - Condition-based Maintenance

Life Cycle Cost Definition

- The total cost to the Government or organization of the Acquisition and Ownership of a system over its Complete Life Cycle



TruePlanning® Equipment Hierarchy



- Possible combinations:
  - LRU
    - *LRU only*
    - *LRU made of Modules only (no Parts)*
    - *LRU made of Parts only (no Modules)*
    - *LRU made of Modules made of Parts*
  - Module
    - *Module only*
    - *Module made of Parts*
  - Part

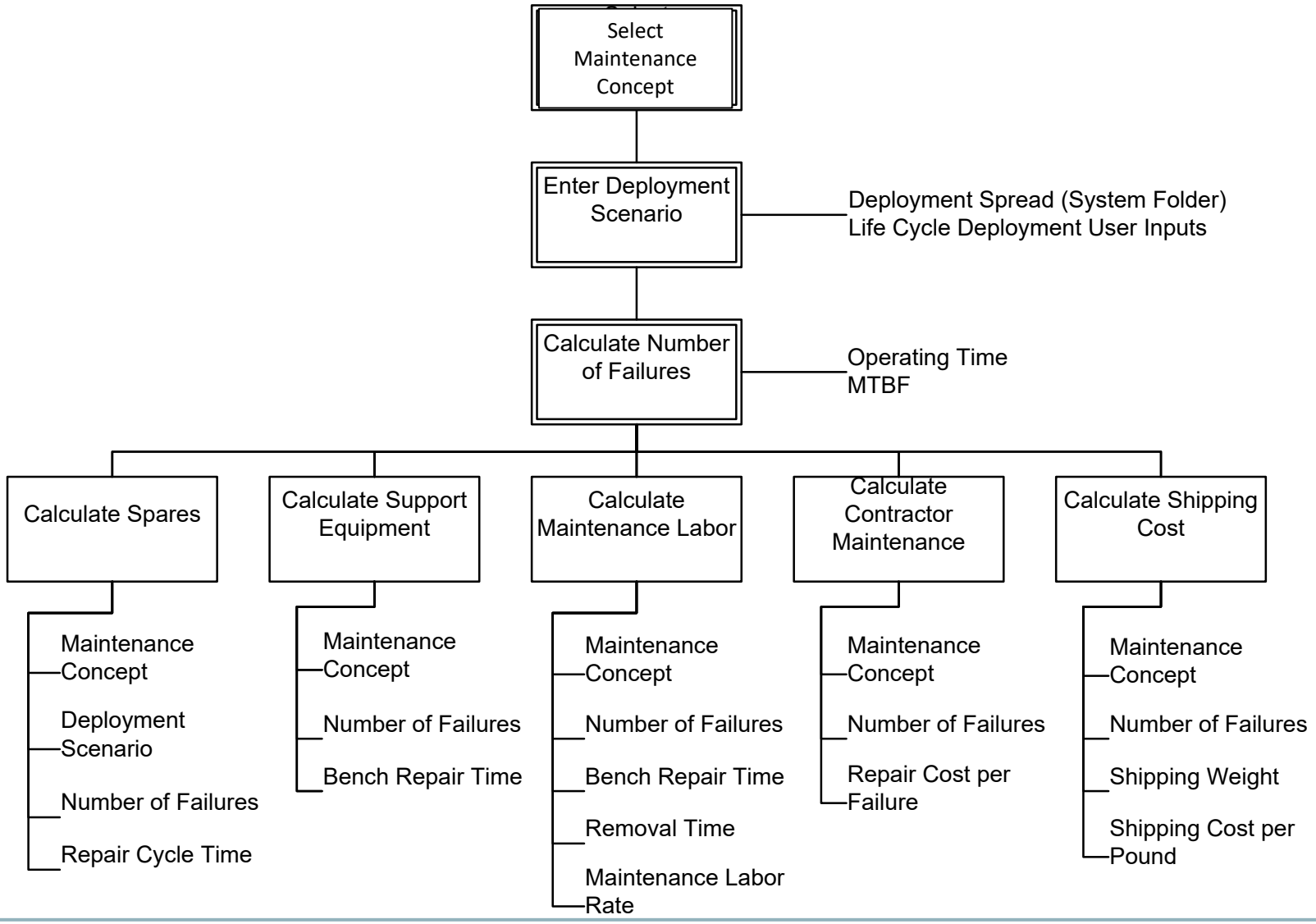
Maintenance Locations / Levels

- Locations
  - On-Equipment
    - *Maintenance performed on the end item (i.e., airplane, ship, tank)*
    - *Maintenance Actions*
      - Remove / Replace LRU
      - Remove / Replace Module
      - Remove / Replace Part
  - Off-Equipment
    - *Maintenance performed off the end item, usually in a maintenance repair facility*
    - *Maintenance Actions*
      - Remove / Replace Module
      - Remove / Replace Part
- Levels
  - Equipment
    - *On-Equipment Maintenance*
    - *No Work Shop*
    - *Often performed by crew*
  - Organization (Direct Support)
    - *Performed by organization on its assigned equipment*
    - *"Back shop" support*
  - Intermediate (General Support)
    - *Facility with Controlled Environment and Automated Test Equipment*
  - Depot
    - *Government or Contractor*

Life Cycle Cost Drivers

- Maintenance Concept
  - Determines
    - *Initial Spares*
    - *Replenishment Spares*
    - *Support Equipment Acquisition and Setup*
    - *Support Equipment Maintenance and Calibrati*
    - *Maintenance Labor*
    - *Maintenance Contractor Support*
    - *Transportation, Spares Storage*
- Number of Operational Hours
  - Operating hours per month
- Mean Time Between Failure
  - Determines number of failures
- Mean Time To Repair
- Number of supply / maintenance points

Life Cycle Basic Functional Relationships



Live Demonstration

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Separated “Hardware Lifecycle” model

- HL can now be informed by more than just Hardware
  - Assembly, IATC, Rotorcraft
- Multiple HL can be linked to a single component
  - Corrective maintenance, plus many scheduled maintenance activities
- Improves performance
- Step 1 of multi-theaters (each HL will represent a theater)

Autocalculated Inputs

- Same functionality as “Lock Inputs” from PRICE HL

TPXL - MC Optimizer

- New default option in TP
- TPXL displays detailed results

New Features

- Non-constant failure rates
- Maintenance Concept Mix
- Scrap Rates for Failed equipment
- Attempted Repair Success Rates
- Separate Learning Curves for LRUs/Modules/Parts
- Storage Space Costs for LRUs/Modules/Parts
- Maintenance Crew Sizes
- TOC Metrics

Near-Term Releases (2021)

- Condition-Based Maintenance
- Improved Predetermined/Scheduled Maintenance
- Technology Obsolescence Mitigation Strategies

How to Contact PRICE®

www.pricesystems.com

Gurney.Thompson@pricesystems.com


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