

PERDEC: The Best Equipment Replacement Decisions

Basic Input Data:


- Acquisition and replacement cost
- Utilization profile (steady profile of usage per year, variable, intermittent)
- Inflation rate for the period
- Discount rate for the present value of future cash flows
- Tax rates
- Operations and maintenance costs
- Major repair costs
- Resale Value

Outputs:

- Equivalent Annual Cost (predicted annual cost of owning and operating the equipment)
- Best year for replacement
- Exportable Graphs of the cost curve
- "What if" analyses based on changes in assumptions
- Decision on repair or replace based on EAC

Target Industries:

- Any industry where fixed equipment is a significant part of their operations
- Any heavy industry such as mines, steel, metals processing, chemicals, oil and gas, petrochemical, pulp and paper
- Discrete manufacturing facilities – automotive, electrical, components, furniture, tires
- Process manufacturing – pharmaceuticals, food and beverages
- Municipal, state and federal departments, military, customs, airports
- Telecom, gas, electrical, water distribution companies
- Success stories in power generation, cement, chemicals and others



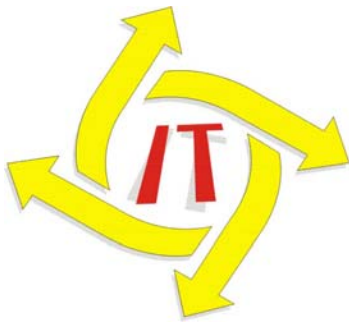
PERDEC: The Best Equipment Replacement Decisions

Purpose of Software:

- To predict the optimum time at which **machinery and equipment** should be replaced
- To balance the decreasing cost of ownership with the increasing operations and maintenance cost
- To find the lowest point on the total cost of ownership curve
- Decision support tool for Repair or Replace
- Applies statistical analysis to fixed equipment for the purposes of optimizing maintenance and replacement costs – production equipment, processing equipment, motors etc

Benefits:

- Improved decision making, reduced cost
- Shows the Equivalent Annual Cost (EAC) curve (based on purchase price, operations and maintenance costs)
- Prompts the replacement decision at the lowest EAC
- Determines the right Repair or Replace decision
- Monitors individual equipments to identify the optimum replacement or disposal time
- Predicts the cost curve based on past data (where historic data exists)
- Tracks the cost curve based on current data (where no historic data exists)
- Easy to use data entry screens requires little training
- Easy to read graphical output shows results at a glance
- Simple graph export routine to show results in PowerPoint, Excel etc
- Shows the cost impact of varying annual hours usage per equipment
- Provides "what if" model for variances in taxes, inflation and discount rate



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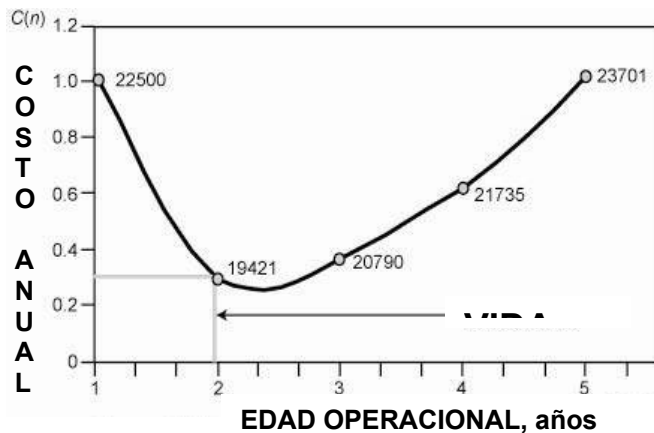
PERDEC SOFTWARE.

Plant and Equipment Replacement Decisions.

Objetivo: Determinar el tiempo óptimo económico para cambiar una maquina en operación por una nueva, tomando en consideración el costo de adquisición, el costo de recuperación y los costos de mantenimiento y operación anuales.

Ayuda a tomar la decisión de seguir operando la máquina vieja o de cambiarla por una nueva.

Si se sigue operándola el costo de propiedad ira disminuyendo por mes y por año, se le sacará mayor vida pero los costos de operación y mantenimiento serán mayores así como las consecuencias del tiempo muerto. La gráfica asociada se muestra a continuación.



PERDEC define el punto más bajo de la suma del costo de propiedad mas el costo de operación y mantenimiento.

PERDEC requiere los siguientes datos para funcionar:

1. Costo de adquisición original.
2. Costo de recuperación a través de varios años de operación.
3. Costos de Operación y Mantenimiento.

Los entregables de PERDEC son:

La edad óptima económica para reemplazar la maquina y los Costos Anuales Equivalentes CAE para cada año de operación.

En otras palabras PERDEC es un modelo matemático de cálculo del costo de ciclo de vida.

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