SIP/2004-WP12
Business case

Special Implementation Project

Financial Analysis and Funding

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Workshop on the development of business case for the implementation of CNS/ATM systems
Cairo, 6–9 September 2004

Objective of the financial analysis

- To provide the proof of the financial profitability and viability of a project

Content of a financial analysis

- The financial analysis section of a business case shows the expected cash flow implications of the project proposal, in terms of both revenues and expenditures
- It includes assumptions, methods and rationale for the estimation of revenues and expenditure

Expenditures

- Lifecycle costs are to be considered

Expenditures

- Capital costs:
  - ✓Land
  - ✓Facilities
  - ✓Equipment
  - ✓Software
- Other non-recurring costs:
  - ✓Project staff, consultants and contractors including studies, procurement, travel, documentation, etc.
  - ✓training costs

Expenditures

- Recurring costs:
  - ✓Operation
  - ✓Maintenance
  - ✓Lease and rental costs

Revenues

- For air navigation service providers, revenues correspond to the user charges collected from airspace users;
- For airspace users, the cost savings resulting from flight efficiency is considered as a cash inflow (revenue).

Methods & Techniques

- Accounting rate of return (ARR)
- Pay-back period
- Net Present Value (NPV)
- Benefit-to-cost ratio (profitability index)
- Internal rate of return (IRR)

Accounting rate of return (ARR)

The accounting rate of return measures the return of a project in terms of income, as opposed to using a project cash flow.

Accounting rate of return = Average income / Investment

Pay-back period

The time required to recover the original investment

Pay-back period = Original investment / Annual cash inflow

Net Present Value (NPV)

Net Present Value = difference in the present value of the cash inflows and outflows associated with a project

Benefit-to-cost ratio (profitability index)

Benefit-to-cost ratio = Ratio of the present value of the cash inflows to the present value of the cash outflows associated with a project

Internal rate of return (IRR)

- The discount rate which equates the present value of cash inflows to the present value of cash outflows

Analysis process

- Main assumptions and parameters
  - ✓Project time horizon
  - ✓Analysis base year
  - ✓Traffic forecasts
  - ✓Cost of capital
  - ✓Efficiency rate
  - ✓Average a/c operating cost
  - ✓Cost recovery period

Analysis process (cont'd)

- Air navigation service provider
  - ✓ Cash flow streams of expenditures
  - ✓ Cash flow streams of revenues based on the expected user charges
  - ✓ Net present value
  - ✓ Benefit to cost ratio
  - ✓ Pay-back period

Analysis process (cont'd)

- Airspace users
  - ✓ Cash flow streams of expenditures
  - ✓ Cash flow of streams of benefits based on the expected flight efficiency
  - ✓ Net present value
  - ✓ Benefit to cost ratio
  - ✓ Pay-back period

Sensitivity analysis

- To examine how variations in the parameters of the analysis affect results
- Uses the extreme values (maximum and minimum) of the range of each parameter separately

Funding

Funding requirements

- The cash flow analysis provides an excellent forecast of when funding is needed
- Typically, cash disbursements are high at the beginning of the project life cycle and diminish gradually

Sources of funds

- Government funds
- Accumulated profits
- Bonds
- Loans
  - ✓Public (World Bank, UNDP, etc.)
  - ✓Private (Private banks and financial institutions)
- Equity capital (institutions, individuals, etc.)

Outcome of the analysis

- Statement of financing needed
  - ✓ Amount of funds
  - ✓ Timing
- Sources and application of funds

The Spreadsheet Model

The Models Objectives

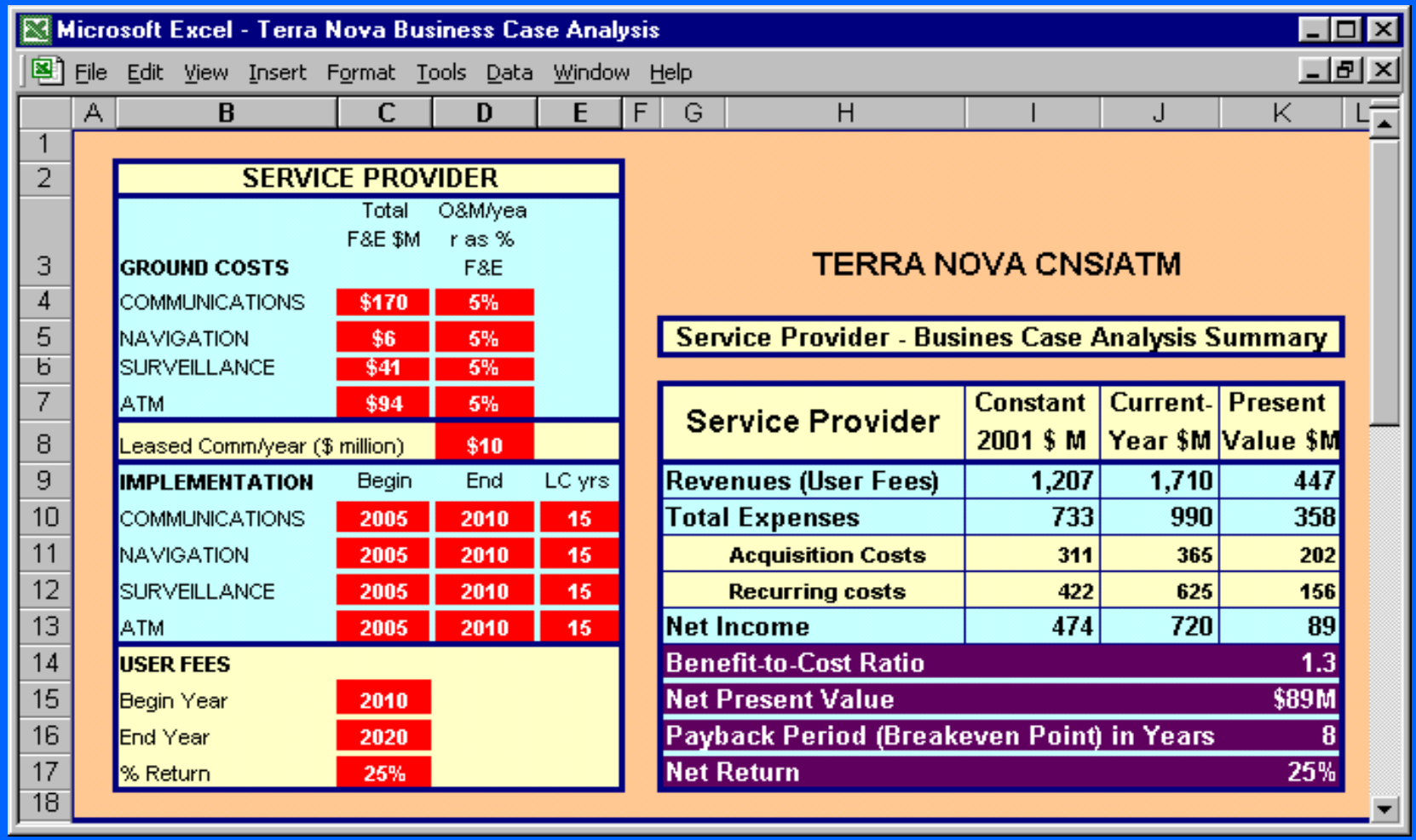
Objectives:

- To develop a user-interactive model for business case analysis covering the details of cash-flow analysis, life-cycle costs and life-cycle benefits for both the service provider and user (airlines).
- The model accepts user-specific inputs and provides instantaneous output.

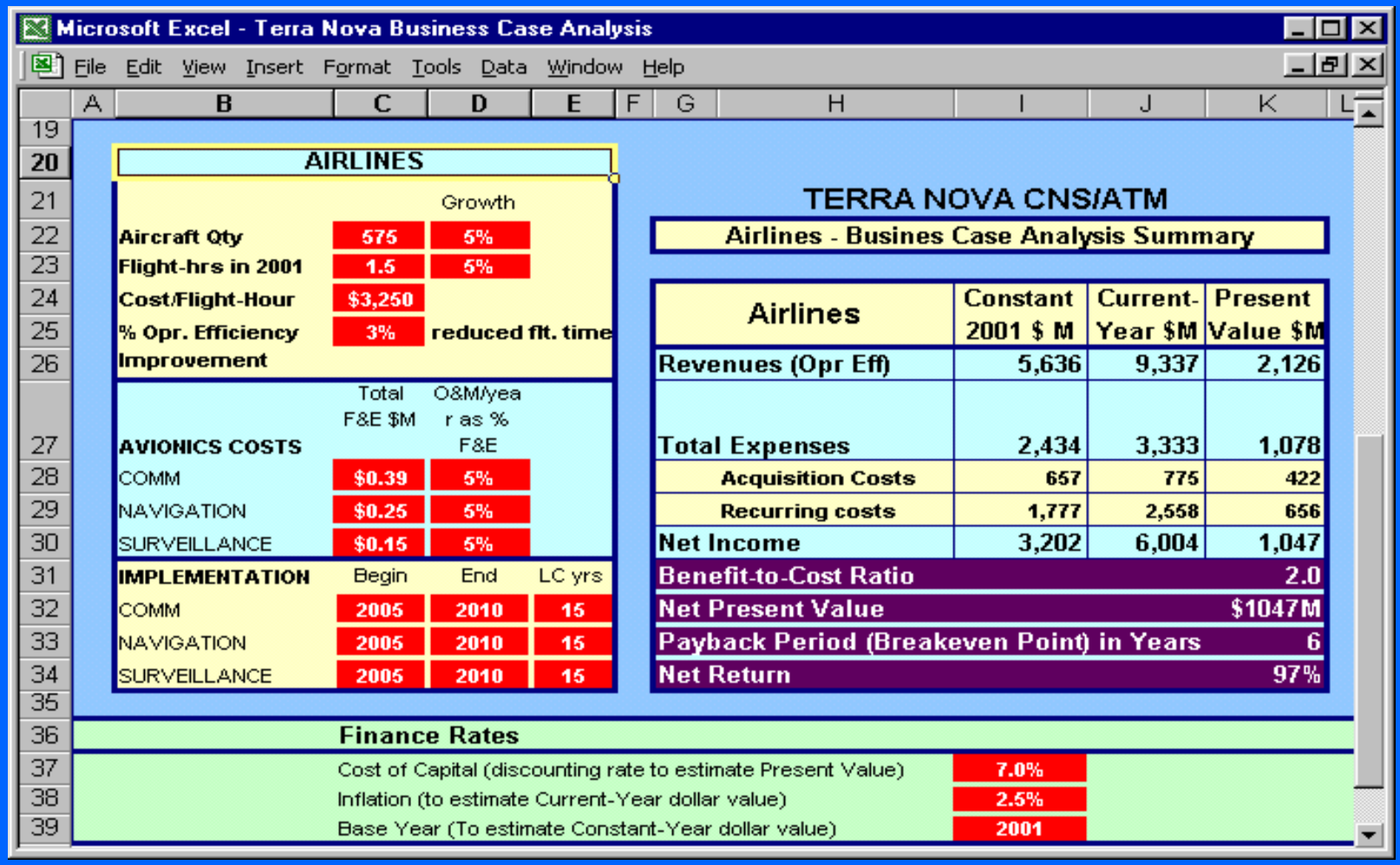
Structure

- The business case analysis model consists of three inter-related modules
- Each module is developed as an Excel Worksheet
- The entire analysis is performed considering both the service provider and the airlines

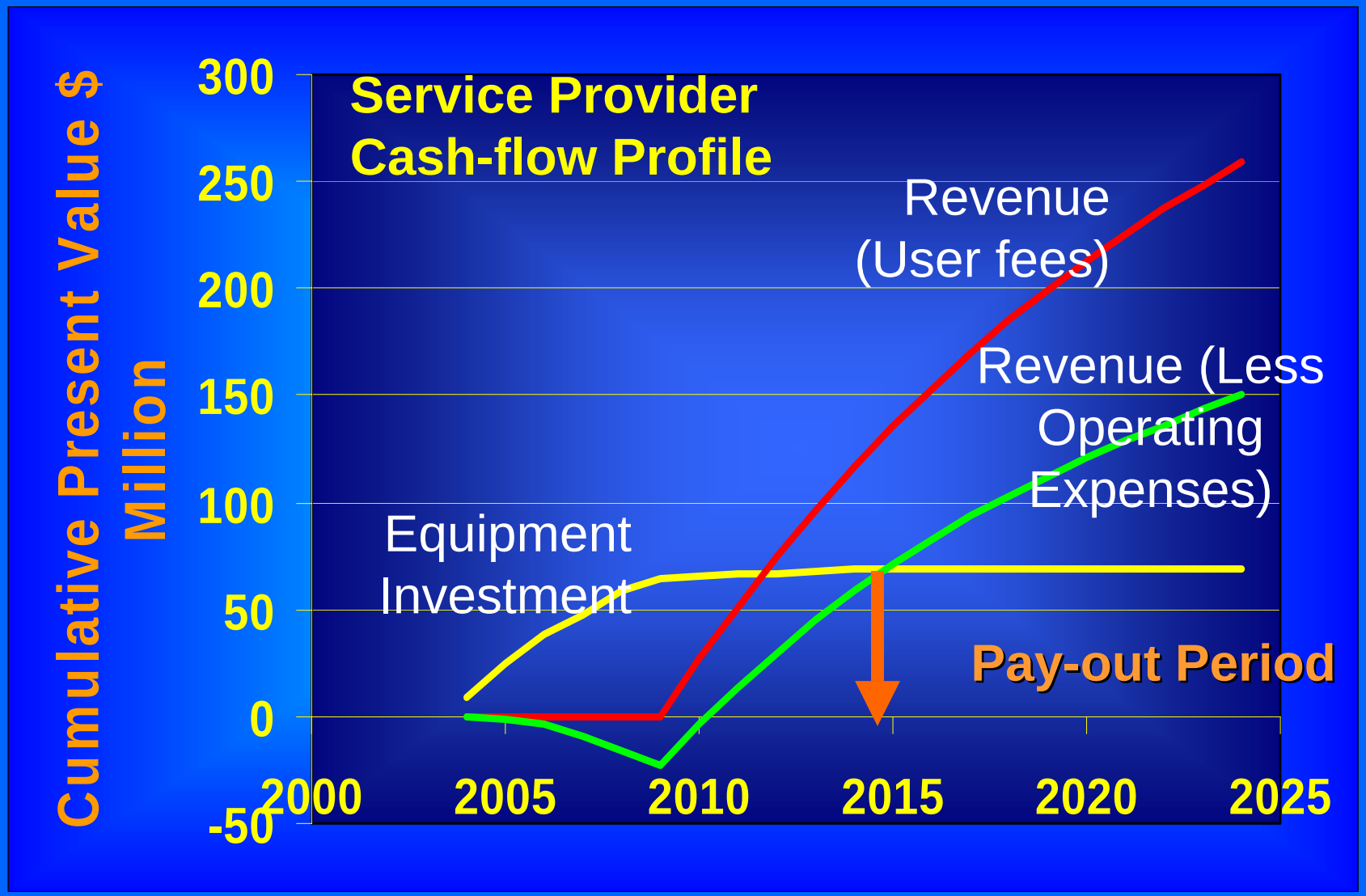
Module I – User Input Template for Service Provider Section



Module I – User Input Template for Airlines Section



Business Case – Break even chart (parametric)

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