

# Prime Expert

Functionality

Expert Systems

2006

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## The Prime Expert Analytic System

In a dynamic, fast-changing market environment, it's a tough tradeoff where to take your business next. There are so many ways that your company's resources and products can be used to build and shore up your competitive edge, but this dictates a new understanding of what it means for a business to be successful, and how to analyze and plan your business long-term.

Investment decisions are a powerful tool to gain competitive edge. Investment decisions must be made all the time, not from time to time and not solely for the purposes of long-term planning 3, 5 or 10 years ahead, if one wants to be able to capitalize on new opportunities and promptly react to changes. A company needs to proactively update its investment plans with an eye not only on the investment project at hand, but all its investment operations.

The ultimate goal of all investment decisions and all operations is to add value to the company, defined in terms of growth in its projected discounted cash flows from different lines of business. With that in mind, it is important to see not merely how any individual investment projects add to the value of the business, but also what day-to-day operations do to increase its value.

Prime Expert is an analytic system providing an arsenal of tools for investment planning and decision-making, aimed at adding value to the business.

Prime Expert models financial operations using a process-focused description method, and analyses how and where value is created within the company.

The program will model the projected operation of an existing or emerging business and describe its business environment.

Prime Expert will model investment decisions for business startup, acquisition and business development: new market entry, new sales outlets, new product launch, new technology implementation, and so on. It will also support informed decision-making for reengineering end-to-end business processes within the company.

- **The main functions of the program are:**

- modeling of the business and its external economic environment;
- financial projections;
- comprehensive model analysis, including multiple alternative scenarios, financial analysis, investment analysis and analysis of value chains.

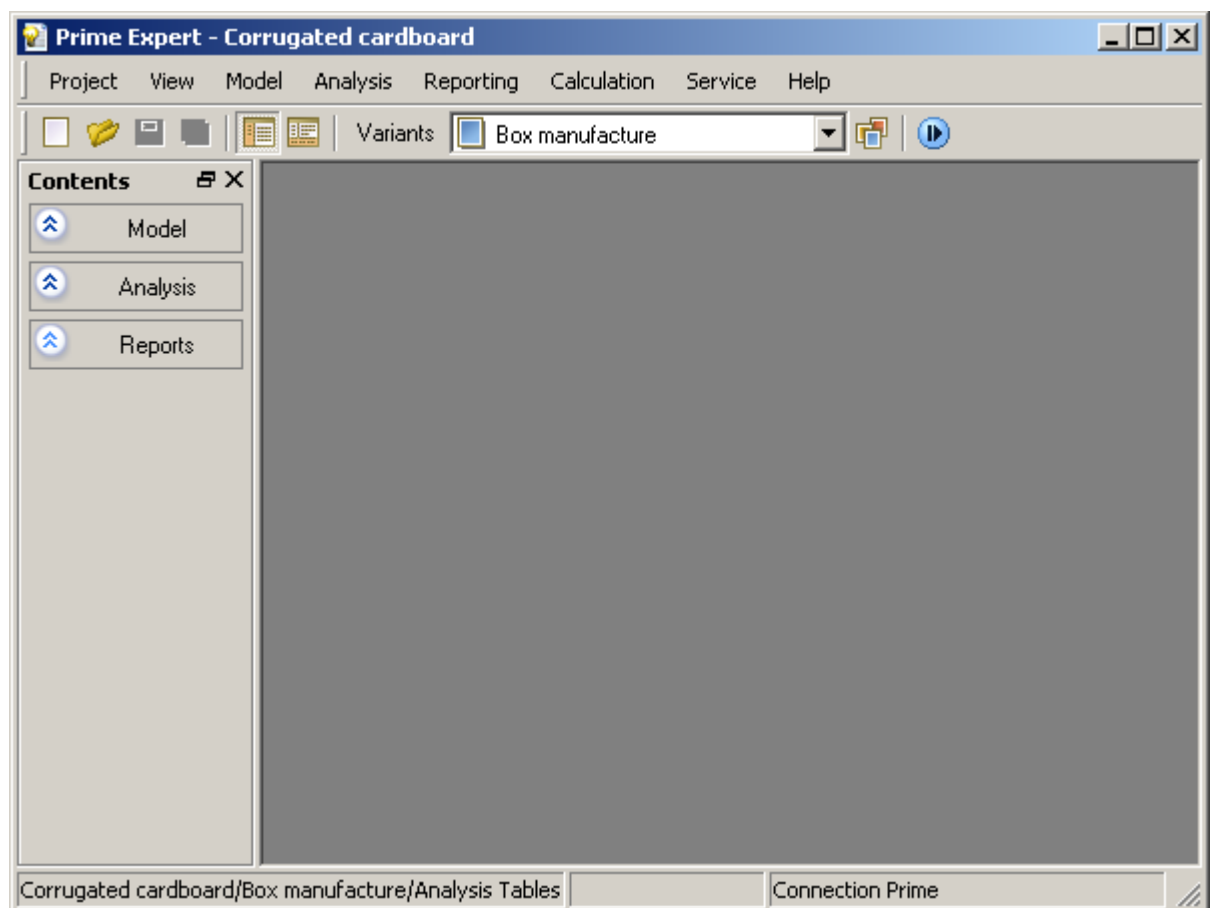


Fig. 1. Prime Expert: Modeling and Analysis of Planned Investment Decisions.  
Main Menu

## External business environment

Prime Expert will factor the external economic environment into its business model.

The program supports:

- **Multi-currency cash flow accounting**

Prime Expert supports data input and viewing of calculation results in different currencies, and will display exchange rate curves.

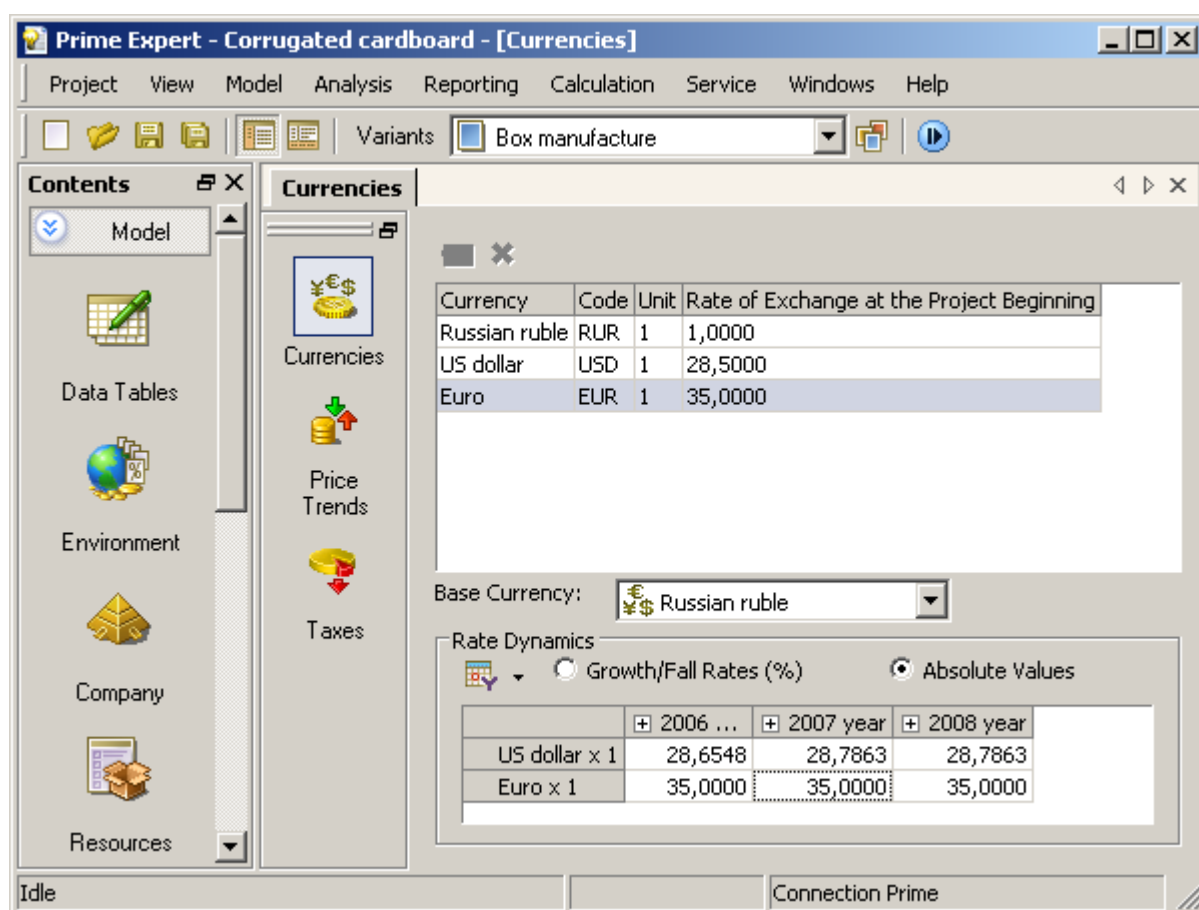


Fig. 2. Selecting currencies and modeling exchange rate trends

- **Price trends**

Prime Expert shows change dynamics by resource cost period (inventories, fixed assets, finished products, wages, production costs and general logistics expenses).

- **Taxation**

Prime Expert lists major taxes levied under Russian law and shows which level of government they go to. The model may be augmented to include more tax types. It will also determine the taxable base of any tax according to a formula, and show how taxes are levied and filed. For example, the model will demonstrate how excess VAT is refunded after a stated time period.

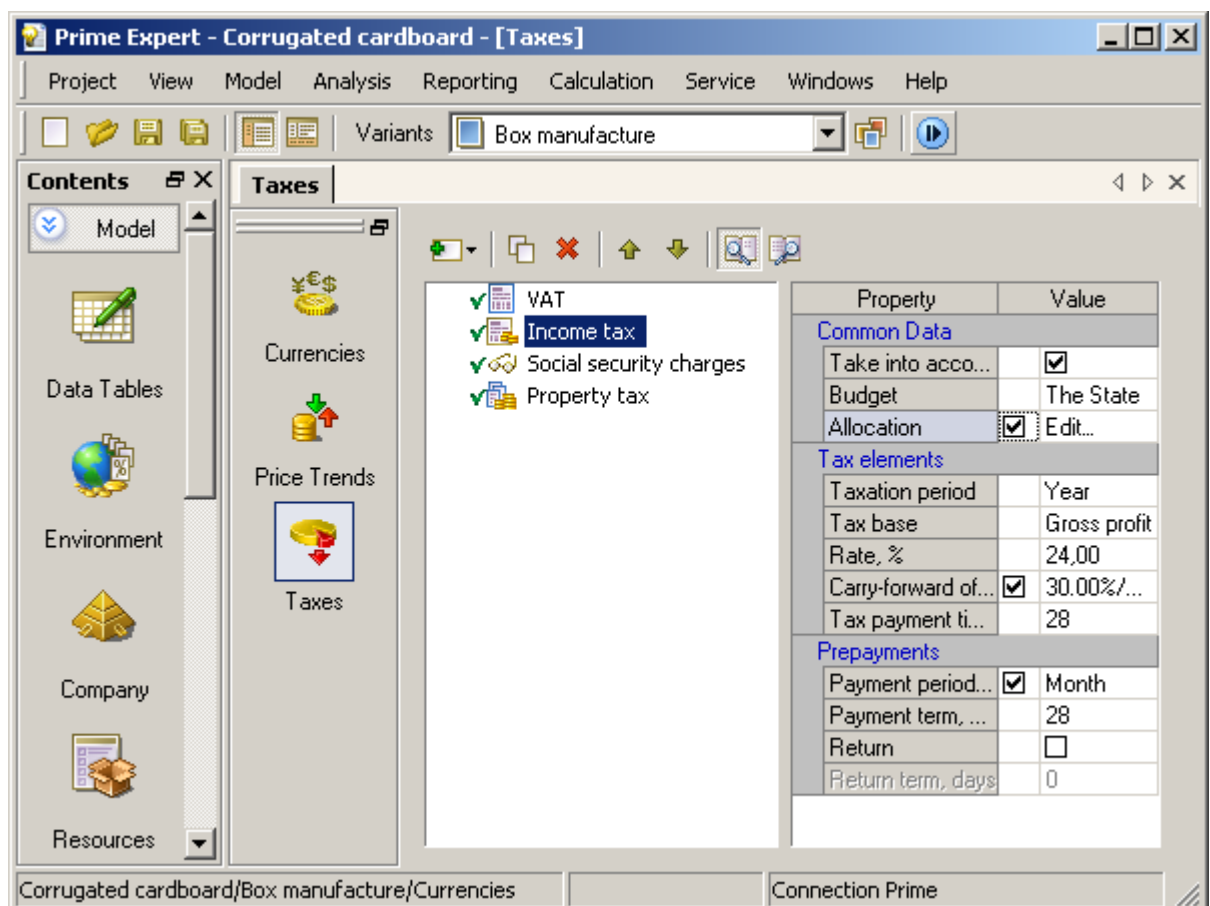


Fig. 3. Tax description

- **Integration of suppliers and contractors**

In Prime Expert, the model of a company will incorporate contractual relations with suppliers, fiscal bodies, investors, creditors, invested businesses and consumers. The model will break contractual relations down by category or individual contractor to evaluate suppliers and assess earnings by customer.

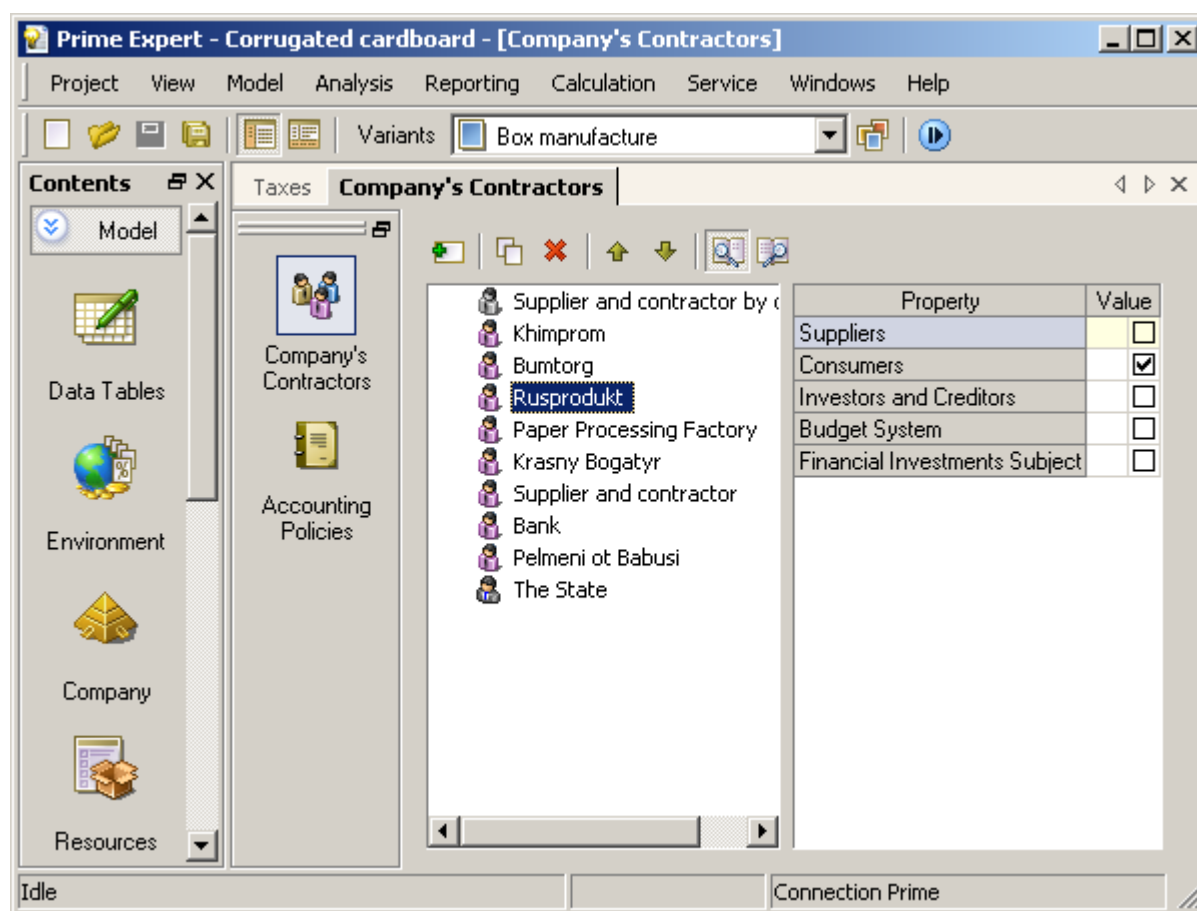


Fig. 4. Company's contractual relations

By integrating consumers into the model, Prime Expert will help identify target segments for analysis (in product/consumer combinations) with an eye on the specificity of doing business with individual consumer groups. When this is done, Prime Expert will help allocate the overheads and calculate value chains for each segment or each individual customer.

## Accounting policy

The Prime Expert model will reflect the company's accounting policy: its inventory valuation methodology for individual items and inventory groups, depreciation of fixed assets and amortization of intangibles, share capital formation using ordinary and preferred stocks and dividends paid on them, as well as bank account activity and spare cash management.

With a minimum account balance preset by user, Prime Expert will assess daily balances and, when necessary, automatically simulate purchase or sale of highly liquid financial instruments as needed to keep to the preset account balance values.

Prime Expert will also simulate overdraft borrowing, calculating amounts needed to cover the cash gap with to-the-day precision.

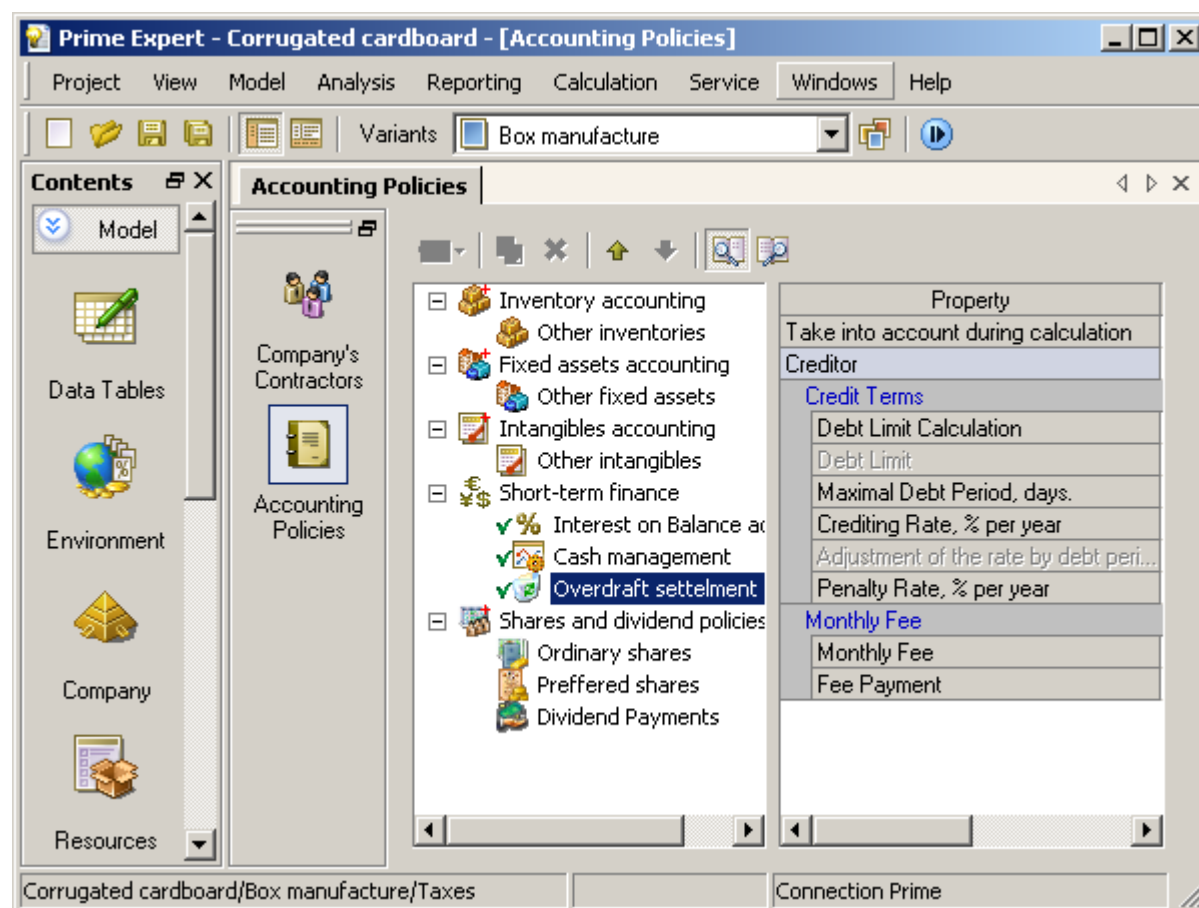


Fig. 5. Company's accounting policy



## Modeling for planned business

Prime Expert uses a process-focused approach to model planned business, when all business is broken down by core and auxiliary processes. The core processes include purchasing, production (operations), sales and after-sale services; auxiliary or support processes include overall operating support for the company, human resources management and finance.

The resources used in process modeling include inventories, raw materials and half-finished products, third party services, staff, office and production equipment, and intangible assets.

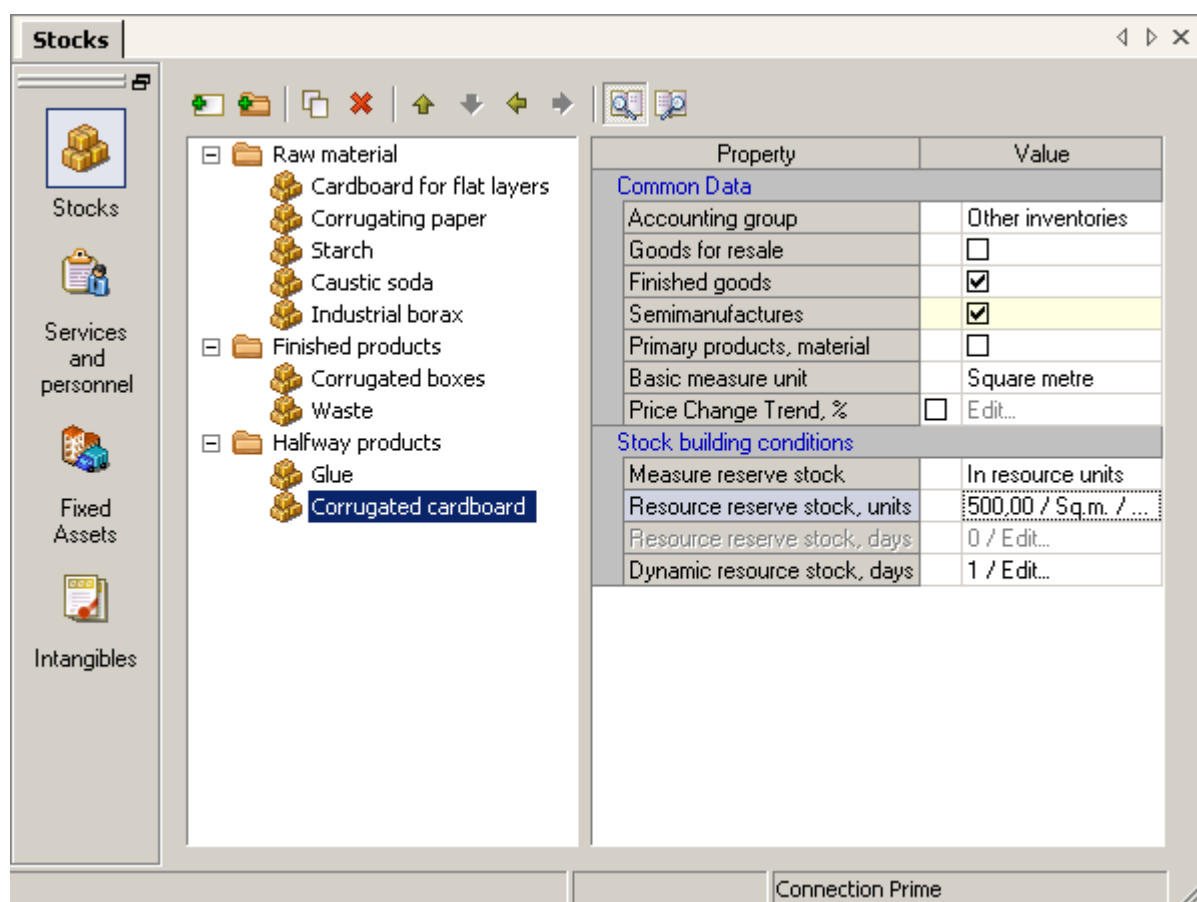


Fig. 6. Resources used in production

## Modeling for purchasing and sales

Prime Expert will model the company's supplies of raw materials, half-finished products and resalable goods by simulating the supply processes: purchasing, transportation and storage performed on different terms by different suppliers, at different prices, according to different payment methods, delivery deadlines, and so on.

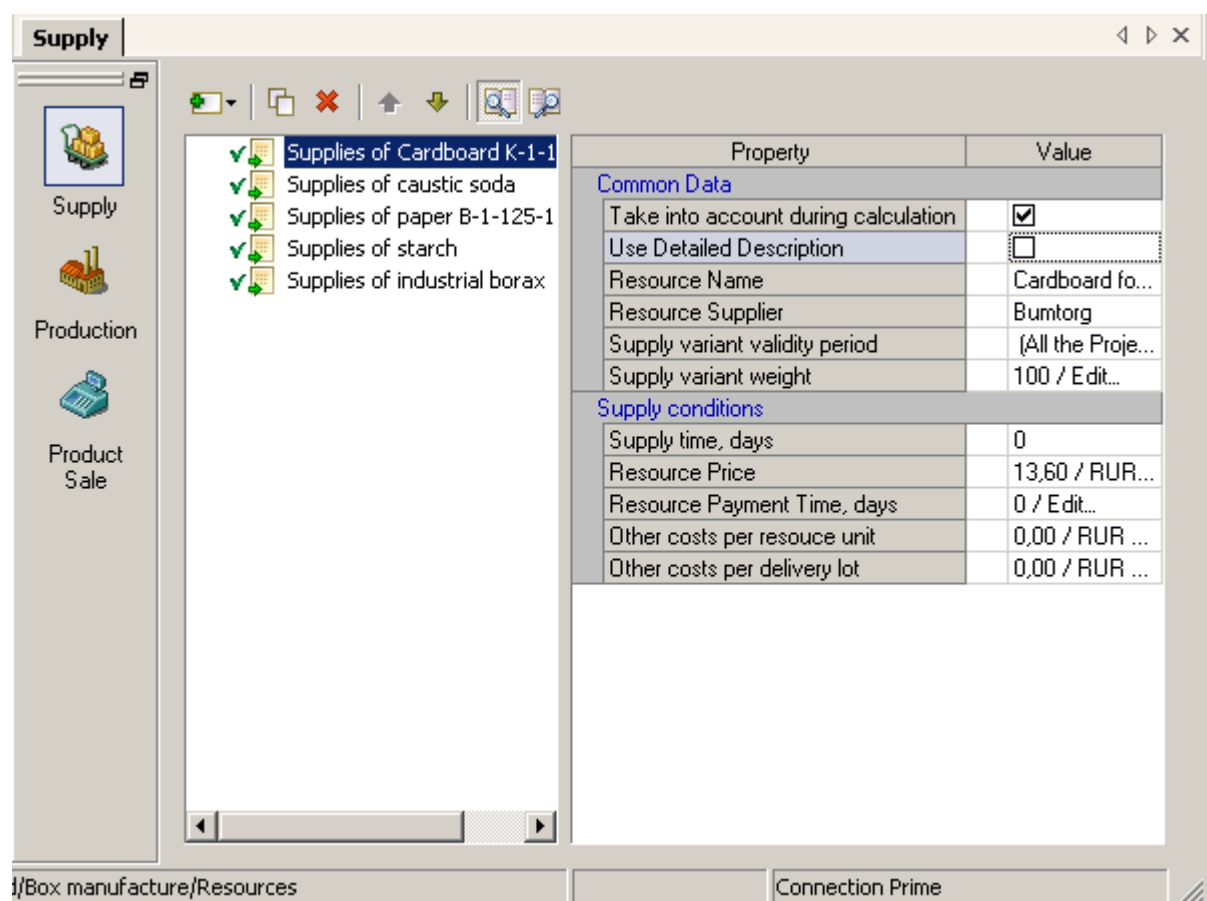


Fig. 7. Supply modeling

## Modeling for production processes

Prime Expert supports highly detailed modeling options for production and processing. The Prime Expert model will view production processes:

- By scale: mass, serial or fully customized production;
- By nature of production process: assembly (synthetic production), processing (analytical production), or direct production when one product type is manufactured from one type of raw material;
- By how customized production is to meet the customer's needs: made-to-stock or made-to-order.

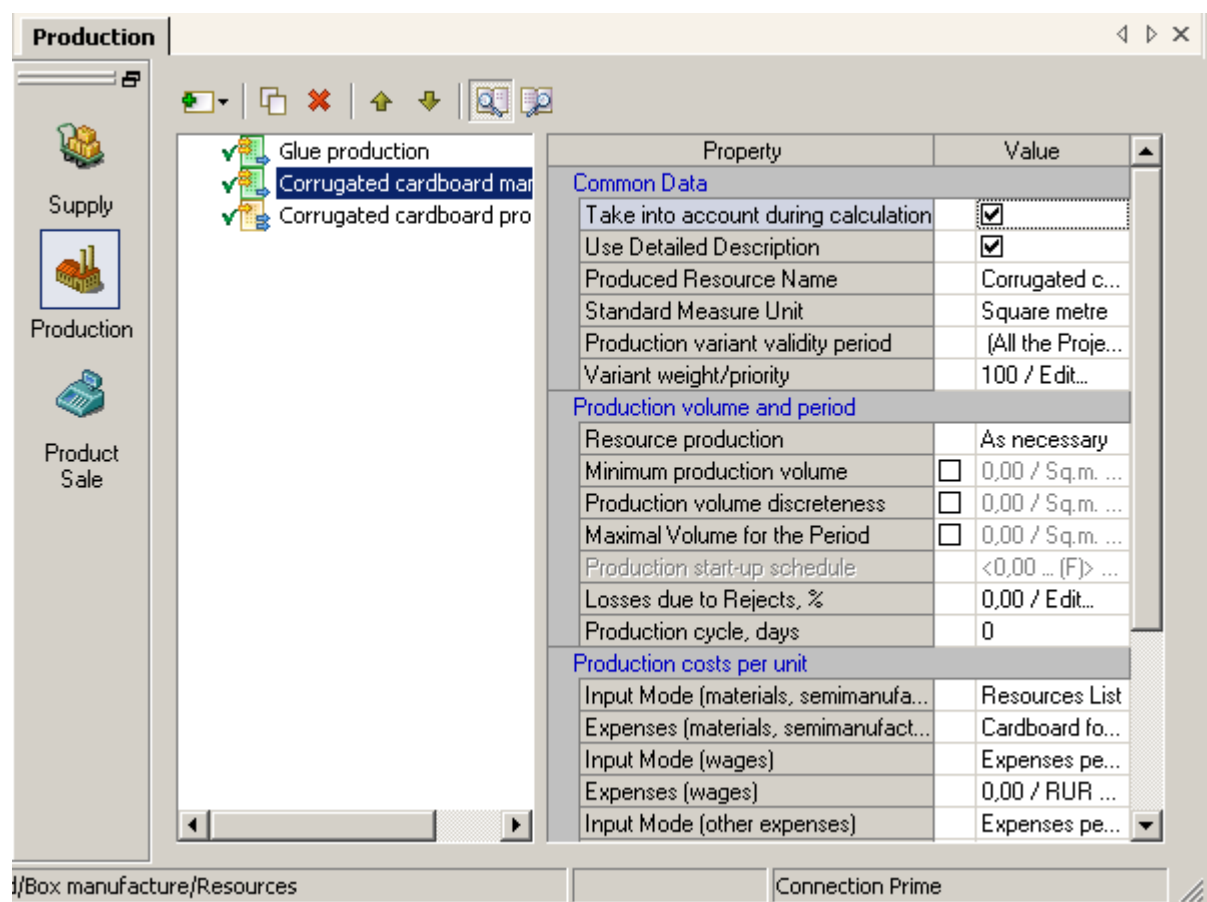


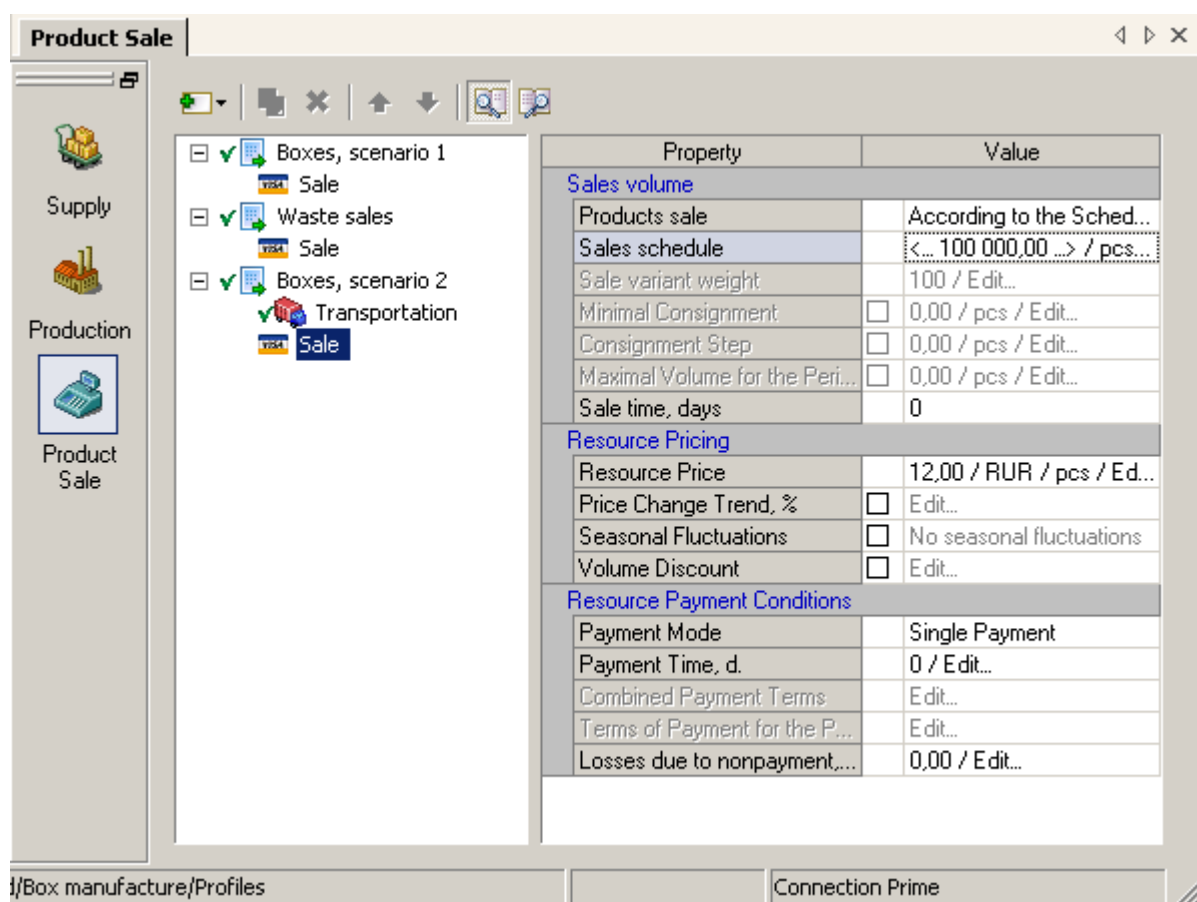
Fig. 8. Production process modeling

When describing production that involves several stages or remakes, Prime Expert will model individual production processes (process stages) and coordinate their inputs and outputs by title and resource volume. The Prime Expert production model will reflect the production schedule, rated processing outputs and losses, production cycle duration, use of resources per cycle, as well as resource and labor consumption per output unit, and use of external services.

Production modeling is a good way to weigh the benefits of manufacturing an interim or finished product in-house versus outsourcing it for the company's use and/or for subsequent resale.

## Sales

The sales process as modeled by Prime Expert describes the company's relations with consumers. The model will reflect not only sales transactions (which imply the passage of title), but also packaging, shipping and storage of the products to be sold.



**Product Sale**

Supply  
Production  
Product Sale

- Boxes, scenario 1
  - Sale
- Waste sales
  - Sale
- Boxes, scenario 2
  - Transportation
  - Sale

Property	Value
<b>Sales volume</b>	
Products sale	According to the Sched...
Sales schedule	<... 100 000.00 ...> / pcs...
Sale variant weight	100 / Edit...
Minimal Consignment	<input type="checkbox"/> 0,00 / pcs / Edit...
Consignment Step	<input type="checkbox"/> 0,00 / pcs / Edit...
Maximal Volume for the Peri...	<input type="checkbox"/> 0,00 / pcs / Edit...
Sale time, days	0
<b>Resource Pricing</b>	
Resource Price	12,00 / RUR / pcs / Ed...
Price Change Trend, %	<input type="checkbox"/> Edit...
Seasonal Fluctuations	<input type="checkbox"/> No seasonal fluctuations
Volume Discount	<input type="checkbox"/> Edit...
<b>Resource Payment Conditions</b>	
Payment Mode	Single Payment
Payment Time, d.	0 / Edit...
Combined Payment Terms	Edit...
Terms of Payment for the P...	Edit...
Losses due to nonpayment,...	0,00 / Edit...

Box manufacture/Profiles Connection Prime

Fig. 9. Sales modeling

Prime Expert offers numerous sales scenarios for modeling. For example, when you input payments over a stated time period, you can model subscription earnings for a periodical. Prime Expert is equipped to model sales of services, not only products.

## Investment modeling

Investment modeling in Prime Expert covers such activities as preparation for business startup, production launch, construction and remodeling of fixed assets and creation of intangible assets. Prime Expert will generate a capex plan, and its model will provide cost estimates by project phase and describe how assets are created and disposed of. Prime Expert will show how assets are created in a very graphic, realistic way.

Payments for purchased assets may be presented as cash amounts, equity shares, or as both; alternatively, the transaction can be modeled as an asset donation.

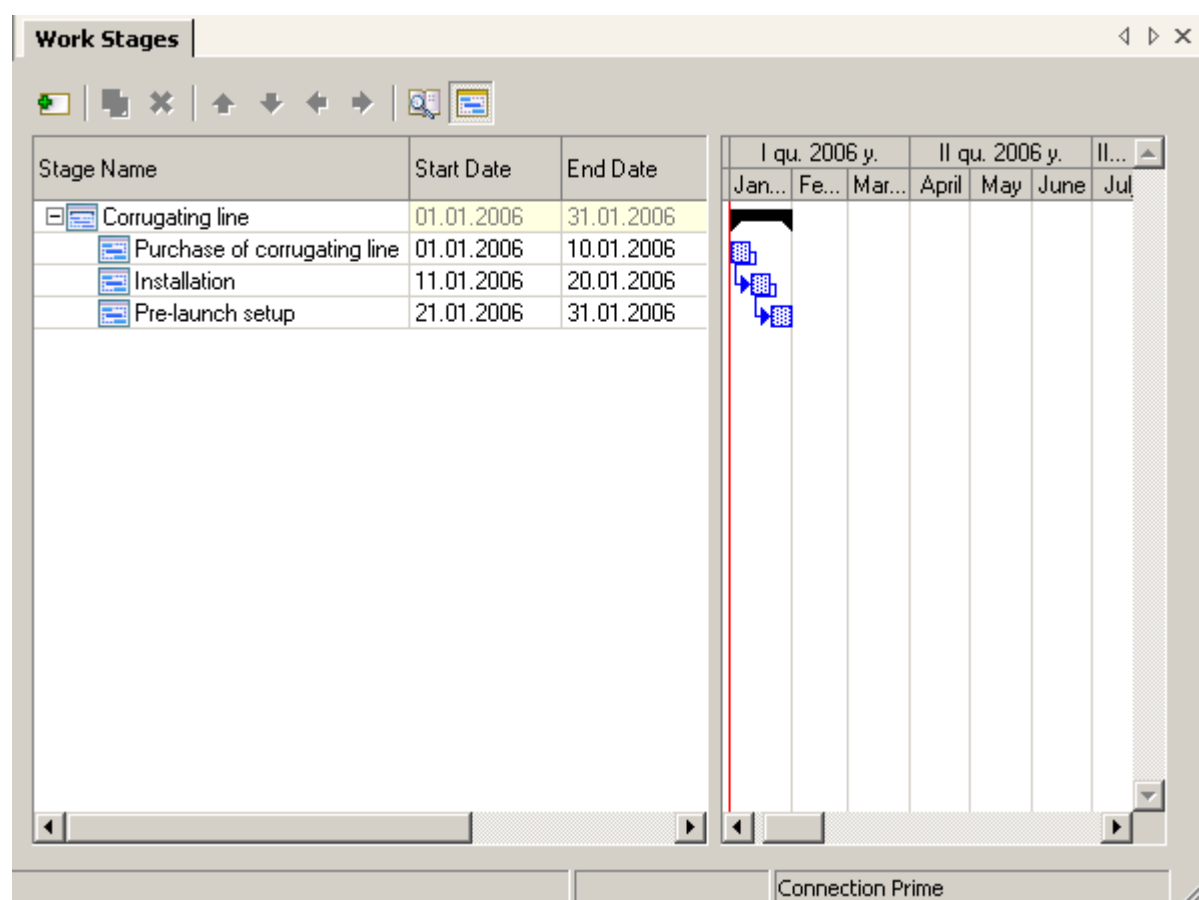
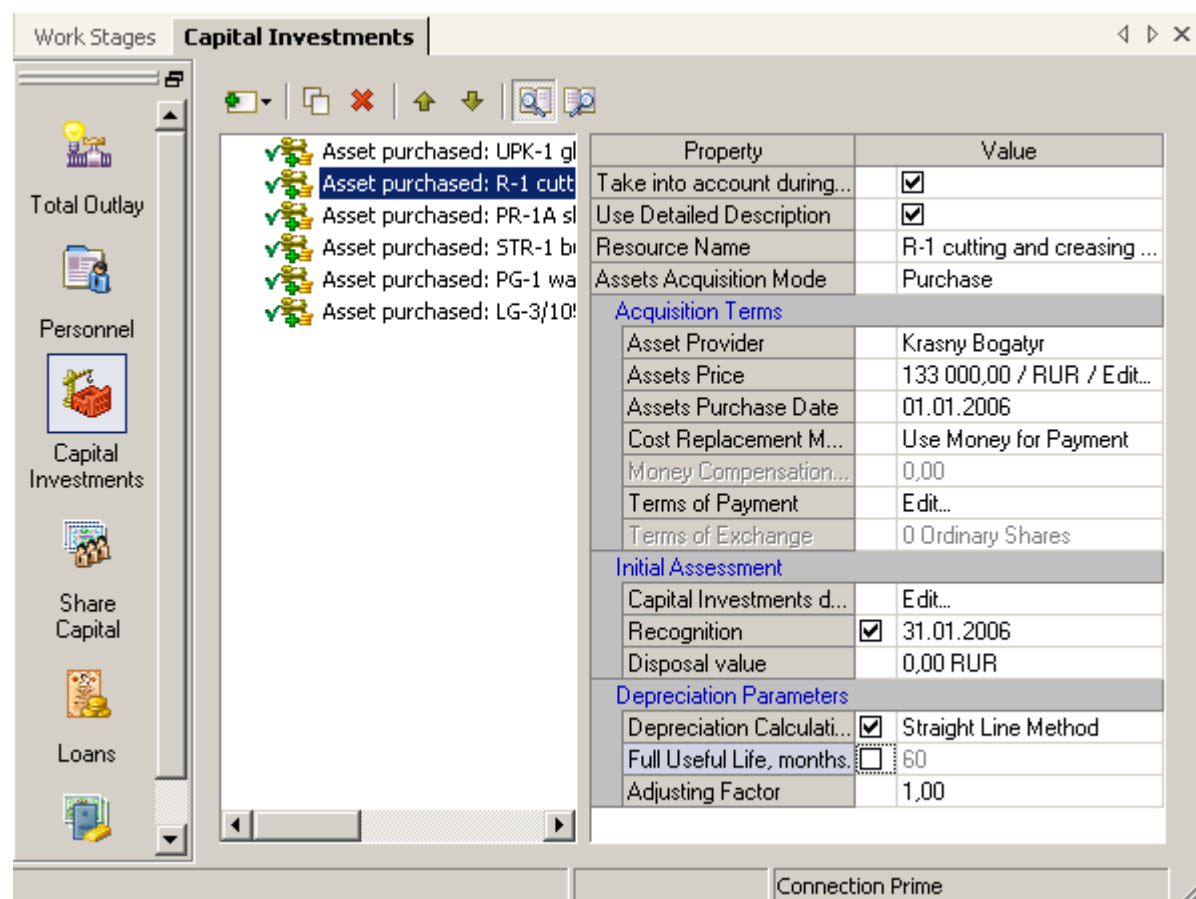


Fig. 10. Capex plan as a Gantt chart

The capex plan generated by Prime Expert will describe the acquisition of fixed and intangible assets necessary for the company's overall business (e.g. purchases of computer hardware and office equipment, cars, furniture, licenses, etc.) that do not require any special operations to be launched, upgraded or conserved, and are not expected to change hands.

In all the above cases, modeling for the purchases of more complex and costly assets with a long life cycle, or for such assets to be manufactured independently by the company, will rely on the "Capital Investment" utility.



The screenshot shows the 'Capital Investments' window in the Prime Expert software. On the left, there is a sidebar with icons for 'Total Outlay', 'Personnel', 'Capital Investments' (selected), 'Share Capital', and 'Loans'. The main area displays a list of assets, each with a green checkmark icon and a description. The selected asset is 'Asset purchased: R-1 cutting and creasing ...'. The right pane shows the details for this asset, organized into sections: 'Acquisition Terms', 'Initial Assessment', and 'Depreciation Parameters'.

Property	Value
Take into account during...	<input checked="" type="checkbox"/>
Use Detailed Description	<input checked="" type="checkbox"/>
Resource Name	R-1 cutting and creasing ...
Assets Acquisition Mode	Purchase
<b>Acquisition Terms</b>	
Asset Provider	Krasny Bogatyr
Assets Price	133 000,00 / RUR / Edit...
Assets Purchase Date	01.01.2006
Cost Replacement M...	Use Money for Payment
Money Compensation...	0,00
Terms of Payment	Edit...
Terms of Exchange	0 Ordinary Shares
<b>Initial Assessment</b>	
Capital Investments d...	Edit...
Recognition	<input checked="" type="checkbox"/> 31.01.2006
Disposal value	0,00 RUR
<b>Depreciation Parameters</b>	
Depreciation Calculati...	<input checked="" type="checkbox"/> Straight Line Method
Full Useful Life, months	<input type="checkbox"/> 60
Adjusting Factor	1,00

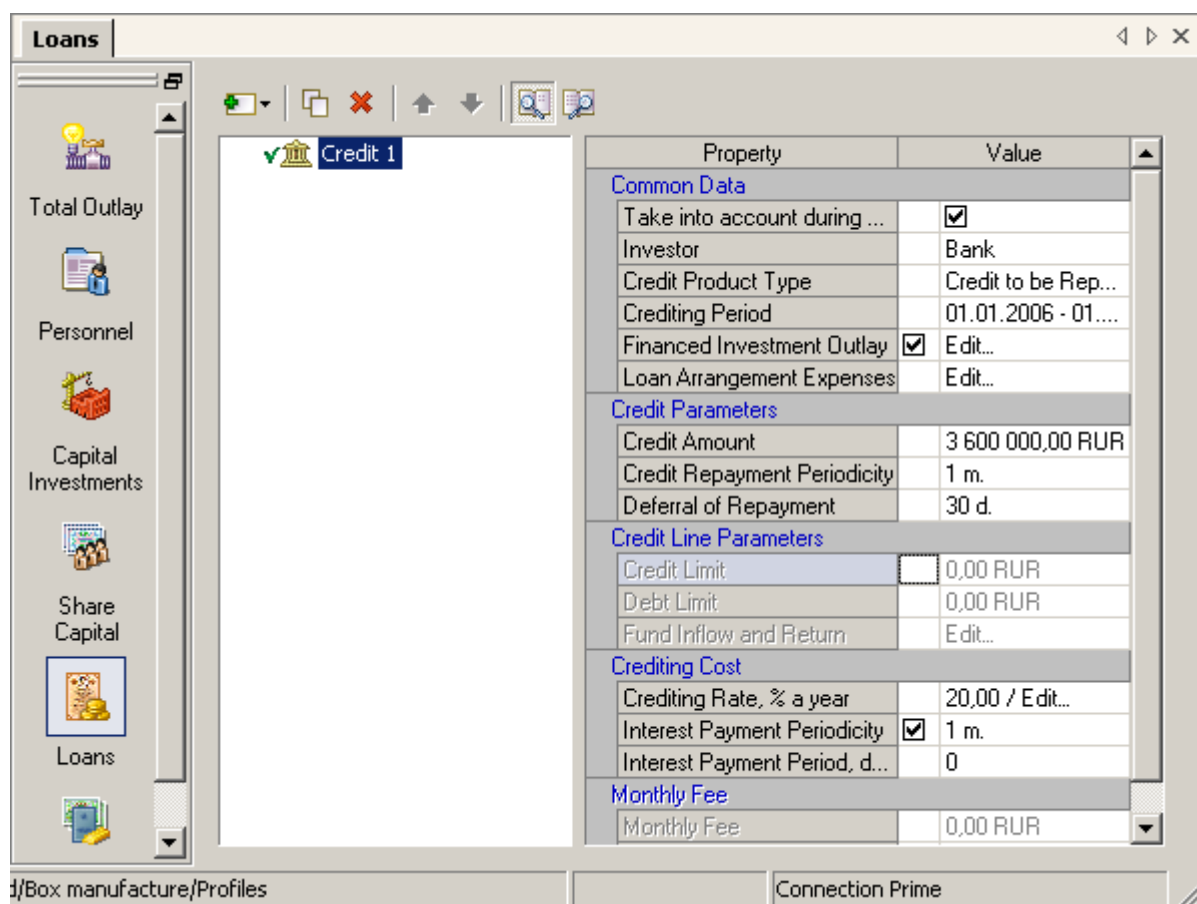
At the bottom right, there is a 'Connection Prime' button.

Fig. 11. Capital investment modeling

Prime Expert modeling will reflect how fixed assets, including construction in progress, are recognized for accounting purposes. It will also model finance lease transactions.

## Financing

In addition to finance leasing, Prime Expert will model corporate financing along the lines of new issues of both ordinary and preference shares, as well as borrowing, including credit facilities and bond issues.



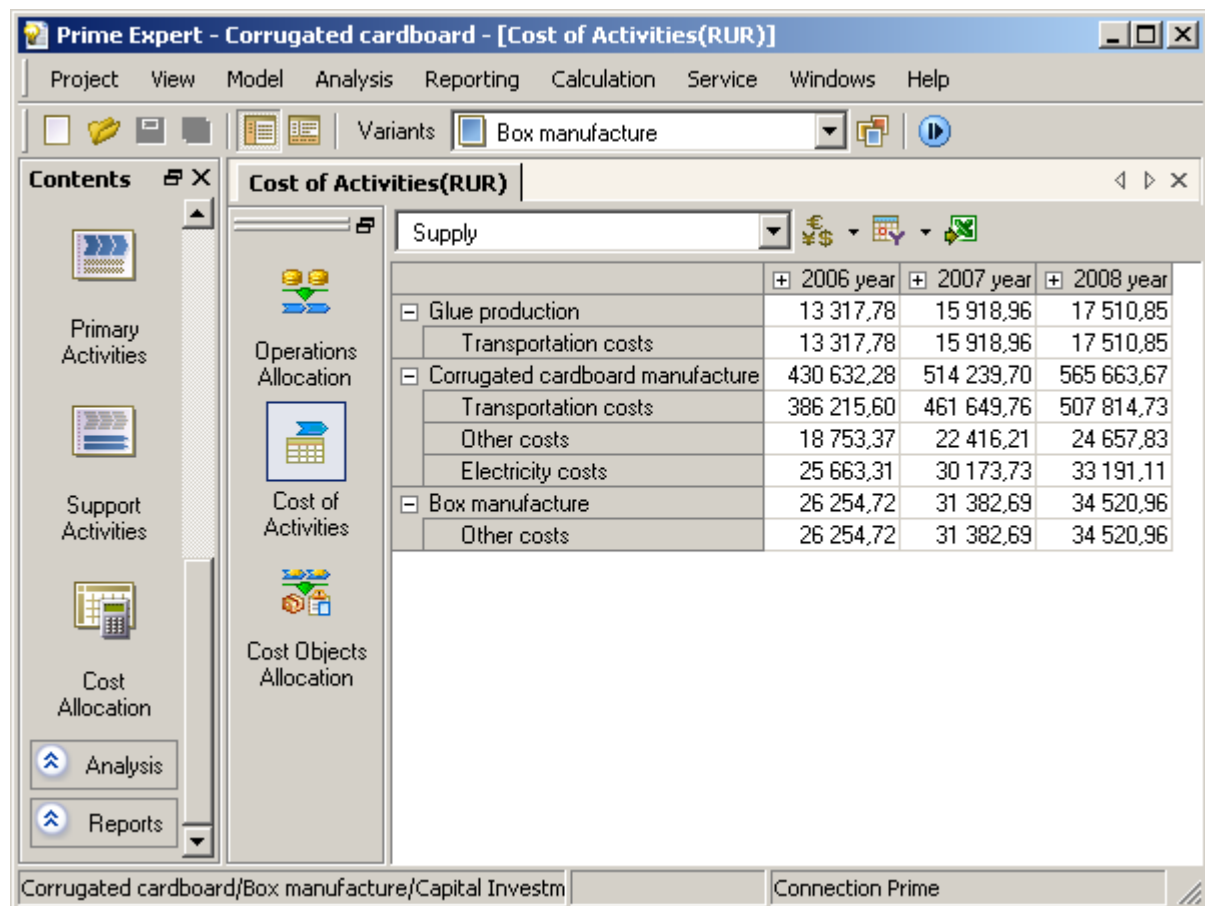
Property	Value
<b>Common Data</b>	
Take into account during ...	<input checked="" type="checkbox"/>
Investor	Bank
Credit Product Type	Credit to be Rep...
Crediting Period	01.01.2006 - 01....
Financed Investment Outlay	<input checked="" type="checkbox"/> Edit...
Loan Arrangement Expenses	Edit...
<b>Credit Parameters</b>	
Credit Amount	3 600 000,00 RUR
Credit Repayment Periodicity	1 m.
Deferral of Repayment	30 d.
<b>Credit Line Parameters</b>	
Credit Limit	0,00 RUR
Debt Limit	0,00 RUR
Fund Inflow and Return	Edit...
<b>Crediting Cost</b>	
Crediting Rate, % a year	20,00 / Edit...
Interest Payment Periodicity	<input checked="" type="checkbox"/> 1 m.
Interest Payment Period, d...	0
<b>Monthly Fee</b>	
Monthly Fee	0,00 RUR

Fig. 12. Corporate financing

Prime Expert also provides solutions for spare cash management, such as investment in other issuers' stocks, bills of exchange or bonds, as well as bank deposits.

## Cost accounting

How do you single out and post indirect costs, which usually account for a sizable share of business costs? This is not always done very accurately in conventional accounting, which sometimes gives you the wrong idea of which products/services are truly profitable, and in relation to what groups of customers. Prime Expert uses the Activity Based Costing method to post indirect costs, which is also called Process Oriented Cost Accounting or Functional Cost Accounting in different translations.



**Prime Expert - Corrugated cardboard - [Cost of Activities(RUR)]**

Project View Model Analysis Reporting Calculation Service Windows Help

Variants Box manufacture

**Contents**

- Primary Activities
- Support Activities
- Cost Allocation
- Analysis
- Reports

**Cost of Activities(RUR)**

Supply

	+ 2006 year	+ 2007 year	+ 2008 year
Glue production	13 317,78	15 918,96	17 510,85
Transportation costs	13 317,78	15 918,96	17 510,85
Corrugated cardboard manufacture	430 632,28	514 239,70	565 663,67
Transportation costs	386 215,60	461 649,76	507 814,73
Other costs	18 753,37	22 416,21	24 657,83
Electricity costs	25 663,31	30 173,73	33 191,11
Box manufacture	26 254,72	31 382,69	34 520,96
Other costs	26 254,72	31 382,69	34 520,96

Corrugated cardboard/Box manufacture/Capital Investm Connection Prime

Fig. 13. Transaction costs



According to this method, the first step is to determine the costs of individual transactions associated with the manufacturing and sales of products. Then an appropriate costing base is designed for each transaction, whereby indirect costs are eventually passed on to the company's products.

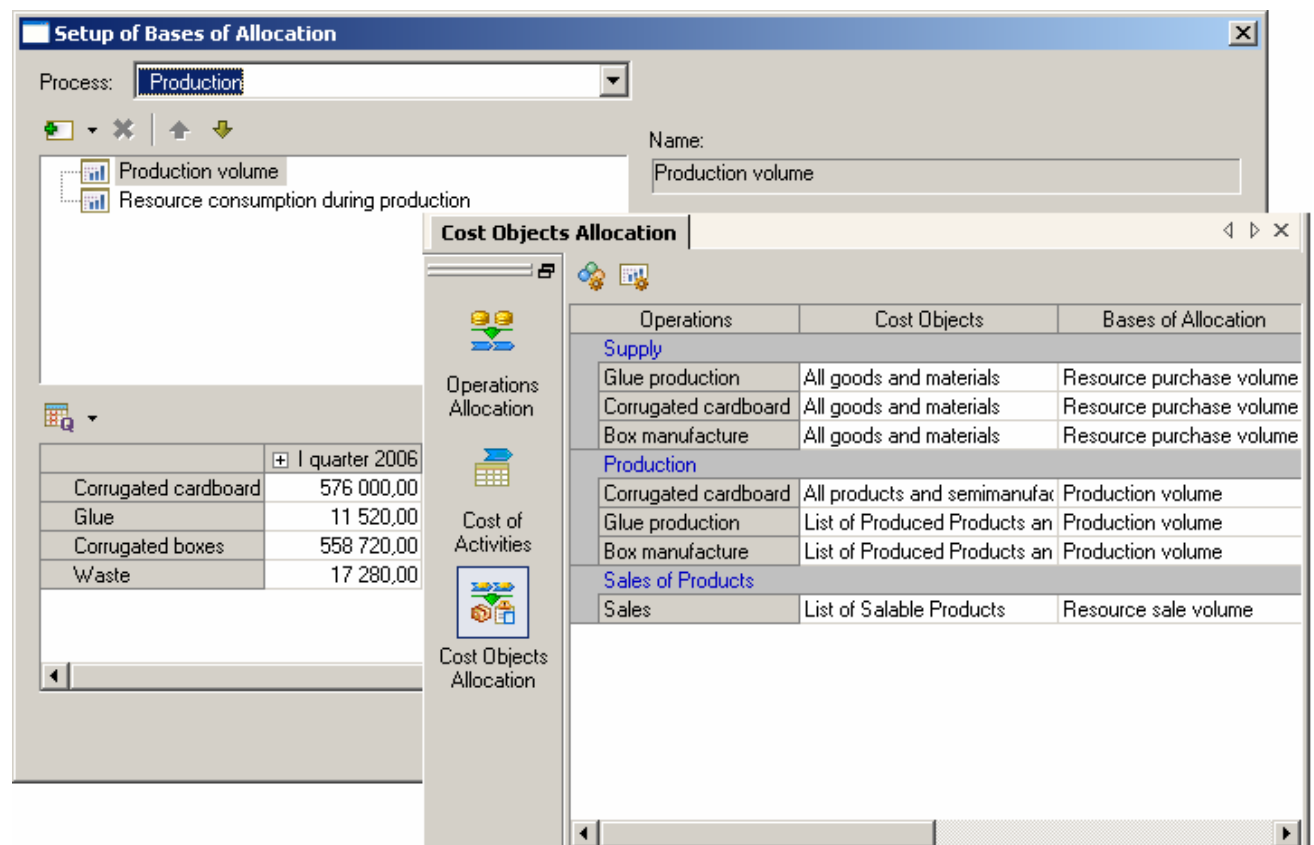
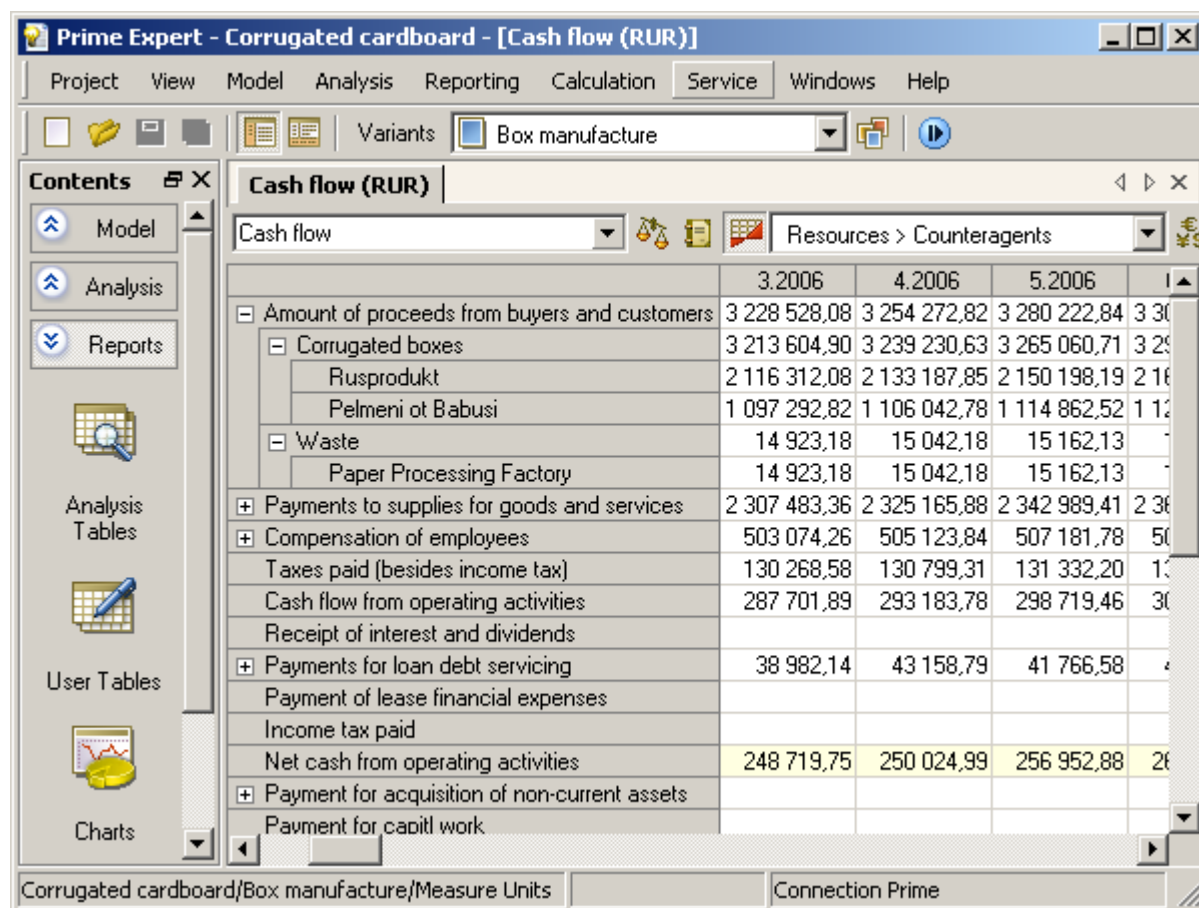


Fig. 14. Allocation by cost item

## Financial statements

A Prime Expert model will automatically generate financial statements compliant with the International Financial Reporting Standards, namely: Balance Sheets, Profit and Loss Statements and Cash Flow Statements. Each statement may be broken down by contractor, resource or end-to-end process.



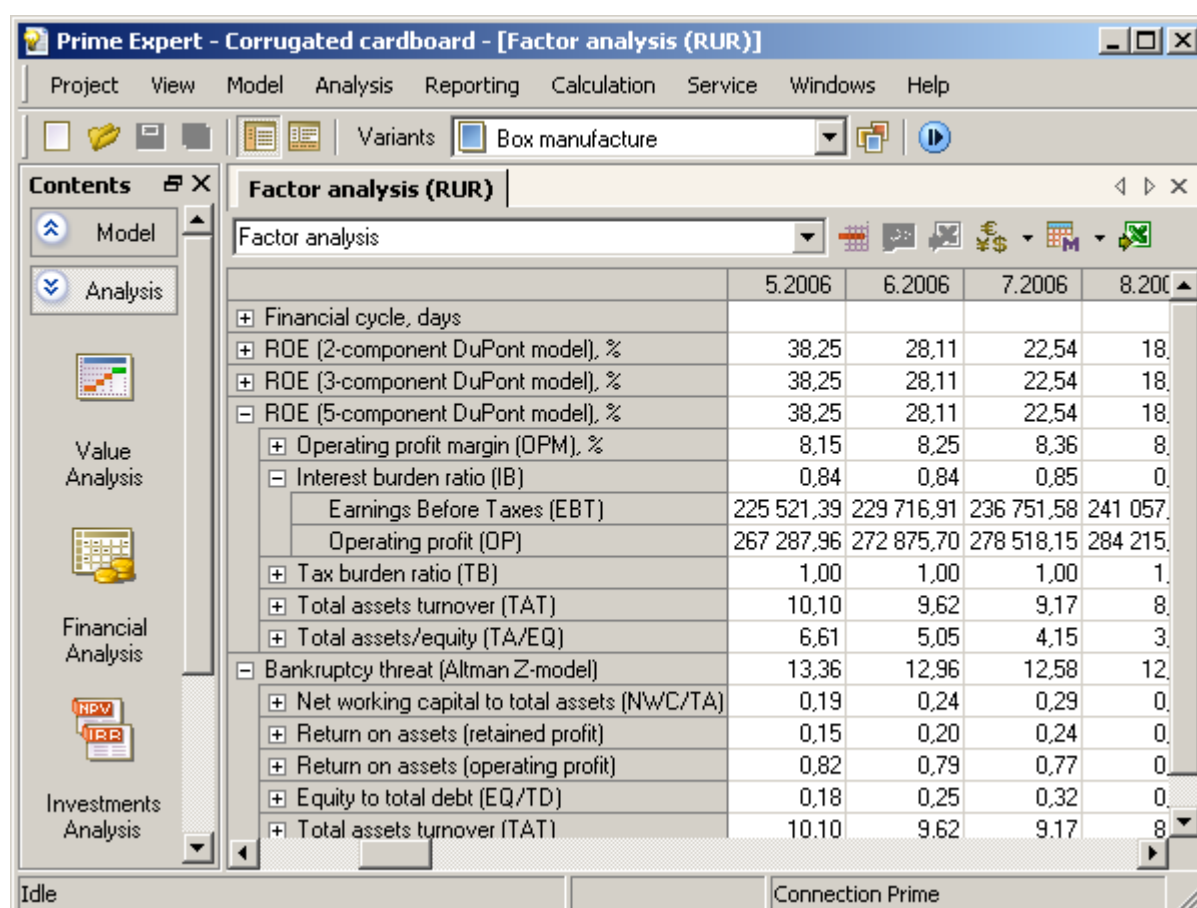
	3.2006	4.2006	5.2006	1
Amount of proceeds from buyers and customers	3 228 528,08	3 254 272,82	3 280 222,84	3 300 000,00
Corrugated boxes	3 213 604,90	3 239 230,63	3 265 060,71	3 290 000,00
Rusprodukt	2 116 312,08	2 133 187,85	2 150 198,19	2 160 000,00
Pelmeni ot Babusi	1 097 292,82	1 106 042,78	1 114 862,52	1 130 000,00
Waste	14 923,18	15 042,18	15 162,13	-
Paper Processing Factory	14 923,18	15 042,18	15 162,13	-
+ Payments to supplies for goods and services	2 307 483,36	2 325 165,88	2 342 989,41	2 360 000,00
+ Compensation of employees	503 074,26	505 123,84	507 181,78	509 000,00
Taxes paid (besides income tax)	130 268,58	130 799,31	131 332,20	132 000,00
Cash flow from operating activities	287 701,89	293 183,78	298 719,46	300 000,00
Receipt of interest and dividends	-	-	-	-
+ Payments for loan debt servicing	38 982,14	43 158,79	41 766,58	40 000,00
Payment of lease financial expenses	-	-	-	-
Income tax paid	-	-	-	-
Net cash from operating activities	248 719,75	250 024,99	256 952,88	260 000,00
+ Payment for acquisition of non-current assets	-	-	-	-
Payment for capital work	-	-	-	-

Fig. 15. Cash flows broken down by resource and contractor

More analytical data can be gleaned from detailed spreadsheets for costs (purchase costs and selling prices), turnover (purchases, spending and losses), resource balances by period, general costs, depreciation, payroll costs before allocation, and so on.

## Financial and investment analysis

In Prime Expert, financial and investment analysis draws on built-in financial projections for liquidity, business activity, financial stability and profitability. Additionally, Prime Expert supports the analysis of financial and operational cycle duration, factor-based analysis of returns on owner's equity (the DuPont model), and forecasts bankruptcy risk (the Altman Z-score).



	5.2006	6.2006	7.2006	8.2006
Financial cycle, days				
ROE (2-component DuPont model), %	38,25	28,11	22,54	18
ROE (3-component DuPont model), %	38,25	28,11	22,54	18
ROE (5-component DuPont model), %	38,25	28,11	22,54	18
Operating profit margin (OPM), %	8,15	8,25	8,36	8
Interest burden ratio (IB)	0,84	0,84	0,85	0
Earnings Before Taxes (EBT)	225 521,39	229 716,91	236 751,58	241 057
Operating profit (OP)	267 287,96	272 875,70	278 518,15	284 215
Tax burden ratio (TB)	1,00	1,00	1,00	1
Total assets turnover (TAT)	10,10	9,62	9,17	8
Total assets/equity (TA/EQ)	6,61	5,05	4,15	3
Bankruptcy threat (Altman Z-model)	13,36	12,96	12,58	12
Net working capital to total assets (NWC/TA)	0,19	0,24	0,29	0
Return on assets (retained profit)	0,15	0,20	0,24	0
Return on assets (operating profit)	0,82	0,79	0,77	0
Equity to total debt (EQ/TD)	0,18	0,25	0,32	0
Total assets turnover (TAT)	10,10	9,62	9,17	8

Fig. 16. Factor analysis models

Investment analysis draws on individual project evaluation, and what the company “does” with the project and its whole investment project portfolio.

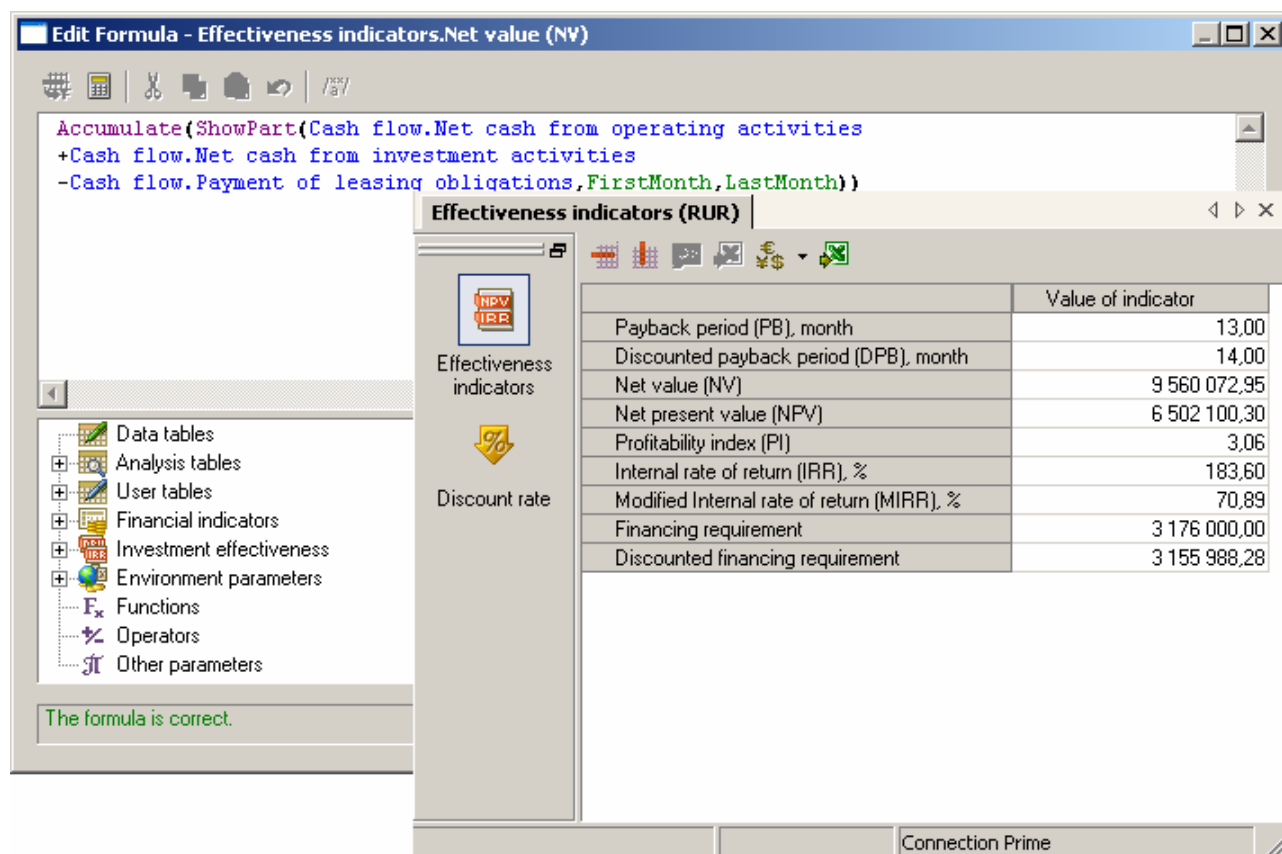


Fig. 17. Investment indicators

All calculation algorithms for financial and investment performance indicators are available for viewing, copying or modification by the analyst. Prime Expert also allows the user to devise their own analytical indicators.

Prime Expert allows for the input of several discount rates, and for making them variable over time.

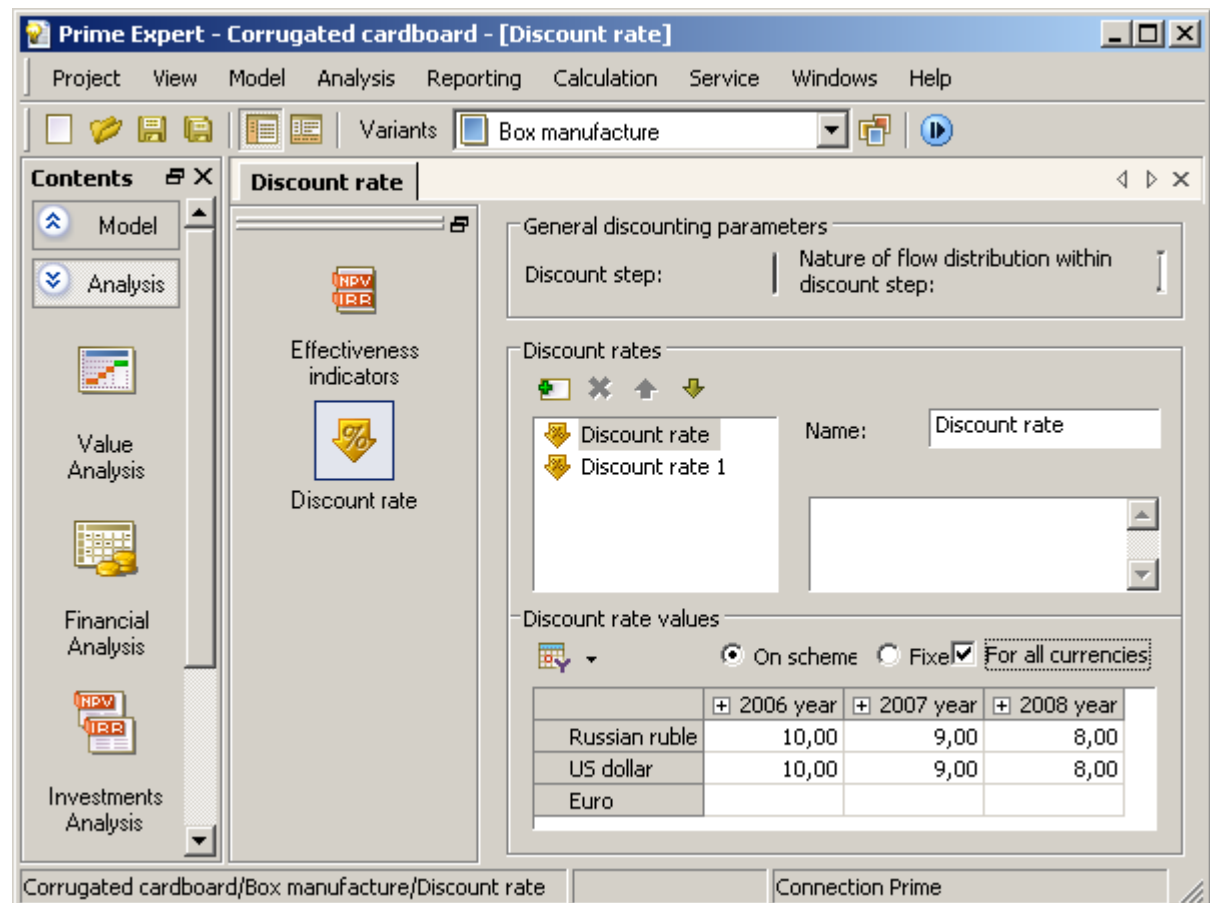


Fig. 18. Modification and use of multiple discount rates

## Value analysis

The value chain is a strategic analysis concept used as part of the cost-based method. Prime Expert will analyze value chains, pinpointing the sequence of the processes creating maximum added value for the company's products/services in relation to specific consumer audiences and market segments.

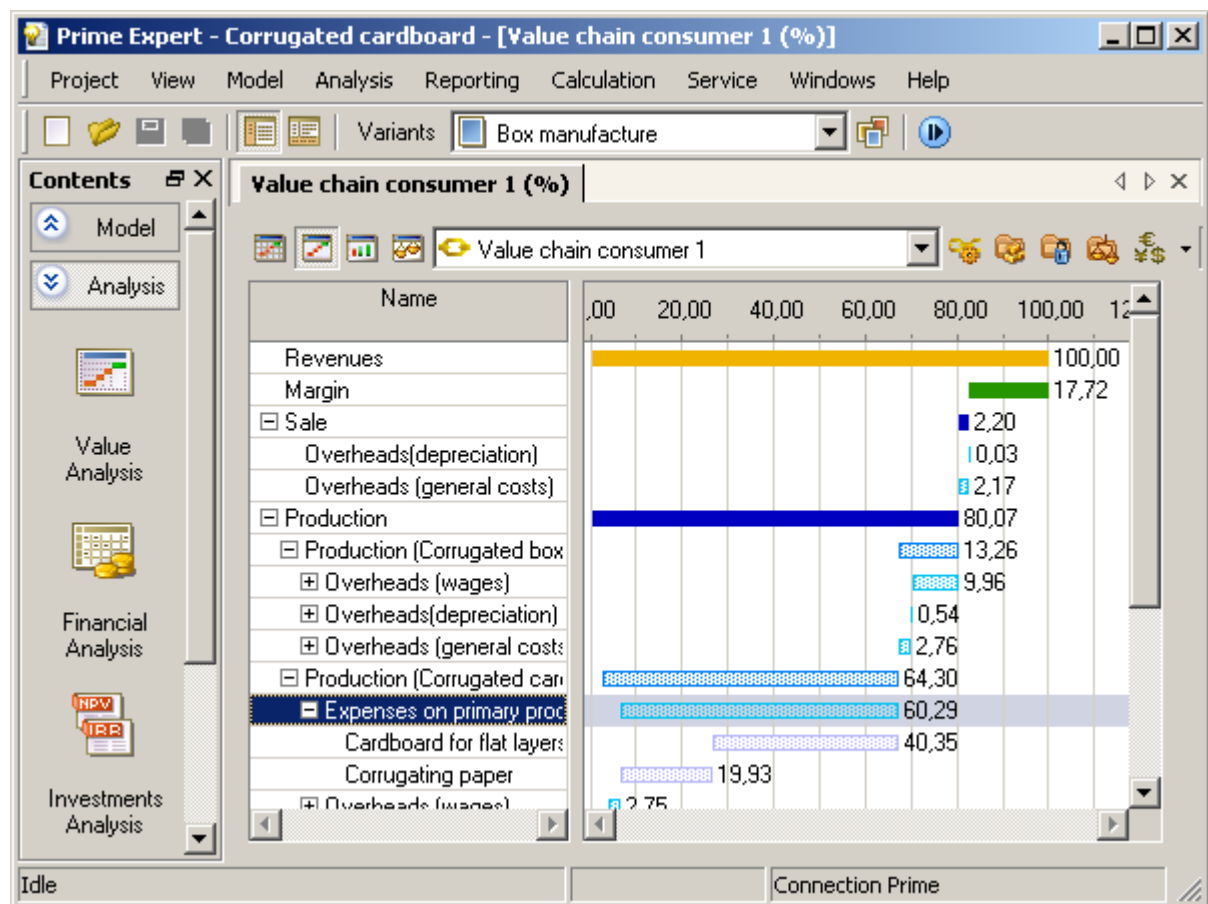


Fig. 19. The value chain by consumer

The modeling and analysis of various value chains helps identify the possible opportunities to optimize end-to-end business processes, inspiring successful investment decisions to modify them, as well as gauge client profitability and single out the most attractive consumer groups/market segments.

## Tradeoff of alternatives

Prime Expert will model a range of business scenarios and compare them based on financial statements, financial indicators, efficiency indexes, supplementary management accounting data and its built-in analytical criteria for each scenario.

## Reporting

Prime Expert will allow for all model calculations and additional source data to be exported to MS Excel. Drawing on its calculation results, Prime Expert will generate any reports with the option to set their structure, select data to be included, complement them with charts, diagrams or textual descriptions, and then export to MS Word.

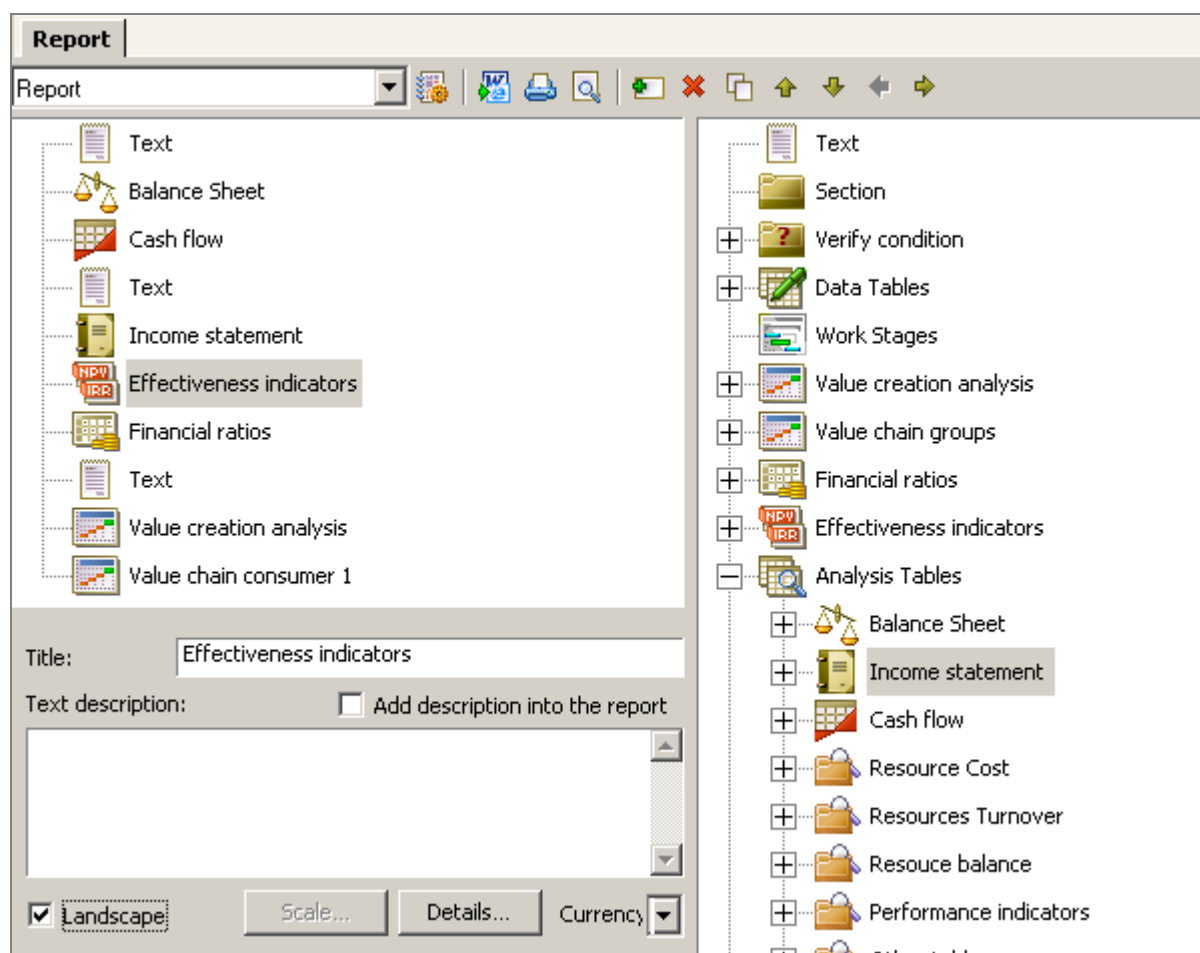




Fig. 20. Prime Expert reports

## More options

Prime Expert will diagnose resource gaps, specifying the period and size of anticipated gap.

Production

Resource Deficit Report



No.	Resource Name	Date	Quantity	Measure Unit
1	Corrugated cardboard	15.02.2006	88 000,00	Square metre
2	Corrugated cardboard	15.03.2006	188 000,00	Square metre
3	Corrugated cardboard	15.04.2006	188 000,00	Square metre
4	Corrugated cardboard	15.05.2006	188 000,00	Square metre
5	Corrugated cardboard	15.06.2006	188 000,00	Square metre
6	Corrugated cardboard	15.07.2006	188 000,00	Square metre
7	Corrugated cardboard	15.08.2006	188 000,00	Square metre
8	Corrugated cardboard	15.09.2006	188 000,00	Square metre
9	Corrugated cardboard	15.10.2006	188 000,00	Square metre
10	Corrugated cardboard	15.11.2006	188 000,00	Square metre
11	Corrugated cardboard	15.12.2006	188 000,00	Square metre
12	Corrugated cardboard	15.01.2007	188 000,00	Square metre
13	Corrugated cardboard	15.02.2007	188 000,00	Square metre
14	Corrugated cardboard	15.03.2007	188 000,00	Square metre
15	Corrugated cardboard	15.04.2007	188 000,00	Square metre
16	Corrugated cardboard	15.05.2007	188 000,00	Square metre
17	Corrugated cardboard	15.06.2007	188 000,00	Square metre
18	Corrugated cardboard	15.07.2007	188 000,00	Square metre
19	Corrugated cardboard	15.08.2007	188 000,00	Square metre
20	Corrugated cardboard	15.09.2007	188 000,00	Square metre
21	Corrugated cardboard	15.10.2007	188 000,00	Square metre
22	Corrugated cardboard	15.11.2007	188 000,00	Square metre

Fig. 21. Resource gap report



In Prime Expert, indicators, spreadsheets and models can be modified promptly and easily by copying.

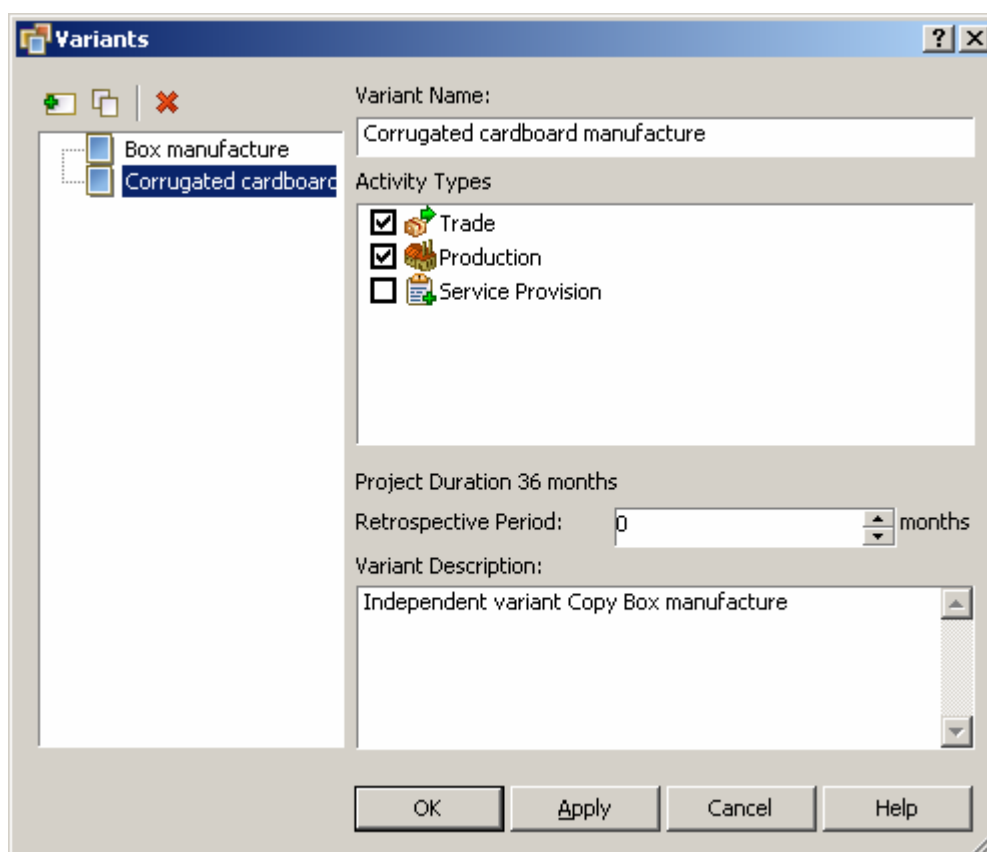


Fig. 22. Fast-track modification of a model

Find out more about Prime Expert and what it can do from our consultants by calling +7 (495) 540-4565, or email us at [demopp@expert-systems.com](mailto:demopp@expert-systems.com)