# VALUATION REPORT
# №2005_32

**Fixed Assets Valuation of**
**OOO Tbilaviamsheni and**
**AO Tbilaviamsheni**

July 4, 2005

OOO Tbilaviamsheni
181 B. Hmelnitskogo St., Tbilisi, Georgia

Chief Executive Officer
Pantiko Tordia

**Fixed Assets Valuation**
**OOO Tbilaviamsheni and AO Tbilaviamsheni**

Dear Mr. Tordia,

as per our agreement1, ZAO Otsenka-Consulting has performed a valuation of the fixed assets and capital investments of OOO Tbilaviamsheni and AO Tbilaviamsheni.

Valuation was performed as of January 1, 2005. Its purpose was to account for the companies' fixed assets and capital investments at fair-value according to International Financial Reporting Standards (IFRS 16). Valuation was performed based on International Valuation Standards (IVS).

We regarded OOO Tbilaviamsheni and its daughter enterprise AO Tbilaviamsheni as one enterprise (henceforth jointly – the Company or Tbilaviamsheni), assuming that these two companies represent an economically indivisible complex.

The fair-value of a property is generally considered to be equivalent to its market value, i.e. "the estimated amount for which a property should exchange hands on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing, wherein the parties had each acted knowledgeably, prudently and without compulsion"[2]. In valuating specialized property, which is rarely if ever sold on the open market other than as an integral part of a going-concern business and therefore not subject to valuation in the market value sense, expenditures on restoration or replacement are treated as a depreciation deduction or restoration cost deduction.

In our opinion, the target property should be treated as specialized, given its considerable scale and specialized technical equipment. Thus, the depreciated

[1] Agreement № 050322-TP.

[2] International Valuation Standards. Standard 3: Valuation for financial accounting and appropriate accounts, p. 3.4.1.

reproduction cost concept may be applied. At the same time, individual assets within the complex have a market and can be evaluated at market value. We have applied the depreciated reproduction cost concept to the main productive assets and the market value concept to the non-core and surplus assets.

Of the three approaches normally taken in valuating specialized properties (comparative, expense and income), we deemed the expense approach to be the most appropriate for the given property and therefore employed it in the present valuation. The expense approach includes a valuation of expenditures on asset restoration/replacement and a determination of various kinds of depreciation - physical, functional and external.

To estimate the replacement value of buildings, facilities and networks, we used the resource method and the specific indicators method. The replacement cost of technical equipment was calculated by analyzing the cost of analogous equipment at manufacturing enterprises or by utilizing the specific indicators method. Equipment expenditures include expenditures on transportation and installation. Expenditures associated with project design and construction were also taken into account.

When estimating depreciation, we reviewed physical, functional and external depreciation factors. External depreciation was analyzed by creating a model of the cash flow generated by the property and by comparing the Company's financial and economic indicators with those of other companies in the aircraft industrial sector.

The Company's fixed assets valuation results, which take into account the above-mentioned, assumptions, are presented in Table 1.

**Table 1. Fair-Value Accounting Results**

| Target | Book value, thousand 'USD | Net book value, thousand 'USD | Fixed assets replacement cost, thousand 'USD | Fixed assets fair value, thousand 'USD |
|---|---|---|---|---|
| Buildings | 8,775 | 5,023 | 94,924 | 40,689 |
| Facilities | 402 | 183 | 3,626 | 1,544 |
| Transfer units | 559 | 267 | 1,753 | 1,317 |
| Machinery and equipment | 5,384 | 1,234 | 28,773 | 8,086 |
| Transport | 2,631 | 1,717 | 40,850 | 2,479 |
| Other* | 1,385 | 828 | 2,161 | 1,238 |
| Land | 8,112 | 8,112 | 8,112 | 8,112 |
| Capital investments | 189 | 189 | 504 | 242 |
| **Total in Company** | **27,437** | **17,553** | **180,703** | **63,707** |

* Fittings, instruments, plants

Source: ZAO Otsenka-consulting estimates

We have been pleased to provide fixed assets valuation services for OAO GMK Norilsk Nikel. The prepared report includes a detailed description of the valued assets, a description of our methodologies and basic assumptions and a valuation summary. Should you have any questions or require additional information, please do not hesitate to call us at (7 095) 204-16-46.

Best regards,

Natalya Morina
Chief Executive Officer
ZAO Otsenka-Consulting

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## 1.1. BASIC FACTS AND BRIEF SUMMARIES

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| ENTERPRISE: | OOO Tbilaviamsheni, AO Tbilaviamsheni. |
| PURPOSE OF VALUATION: | Accounting of PP&E at fair-value according to International Financial Reporting Standards (IFRS 16). |
| STANDARD OF VALUE: | Fair-value |
| VALUATION DATE: | January 1, 2005. |
| SUBJECT OF VALUATION: | Property complex, its fixed assets and capital investments. |
| LOCATION: | 181 B. Hmelnitskogo St., Tbilisi, 0136, Georgia. |
| NET BOOK VALUE: | USD 17,553 thousand[1]; including capital investments - USD 189 thousand. |
| VALUATION RESULTS | |
| FAIR-VALUE: | USD 63,707 thousand; including capital investments - USD 242 thousand. |

[1] Including the value of plots of land not listed as fixed assets.

## 1.2. TARGET SETTING AND VALUATION APPROACHES

The purpose of this engagement was to perform a fair-value estimation of the core assets of OOO Tbilaviamsheni and AO Tbilaviamsheni according to International Financial Reporting Standards (IFRS 16). These included fixed assets, equipment to be installed and the companies' capital investments.

We regarded OOO Tbilaviamsheni and its daughter enterprise AO Tbilaviamsheni as a single enterprise (henceforth the Company or Tbilaviamsheni), having assumed that the Company is an economically indivisible complex.

A property's fair-value is usually its market value[2], i.e. "the estimated amount for which a property should exchange hands on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing, wherein the parties had each acted knowledgeably, prudently and without compulsion"[3].

In valuating specialized property, which is rarely if ever sold on the open market other than as an integral part of a going-concern business and therefore not subject to valuation in the market value sense, expenditures on restoration or replacement[4] are treated as a depreciation deduction or restoration cost deduction.

In our opinion, the target property should be treated as specialized, given its considerable scale and specialized technical equipment. Thus, the depreciated reproduction cost concept may be applied. At the same time, individual assets within the complex have a market and can be evaluated at market value. We have applied the depreciated reproduction cost concept to the main productive assets and the market value concept to the non-core and surplus assets.

We used the cost approach in estimating the replacement cost - following depreciation deductions - of specialized property. Under the cost approach, the cost of an object includes expenditures on its construction net the different types of depreciation - physical, functional and external. This approach prevailed in the present analysis. Within the framework of the cost approach we used the comparative approach, which is based on an analysis of the sale and purchase prices of similar items on the open market in order to estimate fixed assets replacement cost. To estimate the external depreciation of the property we also used the income approach based on the assumption that there is a direct relationship between the income generated by an object's exploitation and its market value.

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[2] IFRS 16, pp. 29—31.

[3] International Valuation Standards. Standard 3: Valuation for financial accounting and appropriate accounts, p. 3.1.

[4] International Valuation Standards. Standard 3: Valuation for financial accounting and appropriate accounts, p. 3.4.1.

We used the comparative approach to estimate liquid assets market value.

## 1.3. VALUATION PROCESS AND INFORMATION SOURCES

The valuation process included the following:

1) visiting the production site in Tbilisi, surveying the property complex, interviewing department managers and the Company's leading specialists;
2) analyzing fixed assets accounting data: inventory items structure, book value structure of the fixed assets, classification of items by type, and distribution of items into segments;
3) acquiring information on the technical characteristics of the accounting entities, their position in the processing chain, state, degree of utilization and identification of non-operating assets;
4) acquiring information concerning retrospective and predictable technical and economic indicators of the Company's activity, development and modernization plans;
5) estimating the replacement cost of the fixed assets and the complex as a whole, including extra expenditures on research, professional tracking and management of the project;
6) estimating physical depreciation of the assets;
7) analyzing functional depreciation of the assets;
8) calculating market value of the non-productive liquid assets;
9) constructing a cash flow model and estimating external (economic) depreciation of the property complex; and
10) comparing obtained results with sector companies' indicators.

The present valuation was based on the following sources of information:

1) the fixed assets register and list of capital investments of OOO Tbilaviamsheni and AO Tbilaviamsheni;
2) estimates of the reconstruction and construction of buildings and facilities, including an eight-storey administrative building;
3) land title documents;
4) cargo customs declarations for the delivery of industrial equipment;
5) administrative records 2001-2004;
6) accounting records 2000-2003;
7) description of completed projects, sales volumes and planned prices by Company management; and
8) contracts between Tbilaviamsheni and the Ministry of Defense and the Turkmenistan Border Service as of 2005.

## 1.4. ASSUMPTIONS AND LIMITING CONDITIONS

The results of this report are to be used solely for the purposes of the Company's financial accounting and cannot be used for other purposes without the consent of ZAO Otsenka-Consulting.

We regarded OOO Tbilaviamsheni and its daughter enterprise AO Tbilaviamsheni as one enterprise (henceforth the Company or Tbilaviamsheni), having assumed that together they represent an economically indivisible complex. We performed neither a division of the fixed assets list nor an individual analysis of the technical and economic indicators of the two enterprises' activity.

Valuation was based on the assumption that the Company will continue its operations and current method of fixed assets disposal.

We performed no inventory of the assessed property and based our analysis on the data in the fixed assets register. We have reviewed and identified the most expensive items listed in the register.

Analysis and identification of each evaluated asset was performed in accordance with its title in the fixed assets register. We are not responsible for any difference(s) between the actual assets and those we determined.

We performed no legal evaluation of the subject property and have assumed that the estimated rights are equal to proprietary rights free of any limitations, except for those mentioned in the Report.

We performed no technical assessment of the property, and assumed, unless otherwise informed, that its operational status corresponded to its chronological age.

The age of each asset was determined on the basis of the data in the fixed assets register and reconstruction period (for real estate) data provided by the Company.

We possess no information regarding Company purchase of secondhand property. We assume no responsibility for any differences between actual property age and that determined by us resulting in price variations.

During the valuation process we found no items in use and related to the evaluated fixed assets that were neither accounted for in the fixed assets register nor currently rented by the Company. The exception is a piece of land owned by the Company as of valuation date and included by us in the list of evaluated assets. Thus, we have assumed that the valuation process has determined the value of the entire property complex necessary for the Company's production activity.

During valuation we discovered available assets (space and equipment) not used by the Company as of valuation date. We have assumed that these items will not be used by the Company in the future[5].

During valuation we regarded functionally unified items as indivisible - irrespective of the manner in which they were registered as fixed assets. Thus, when assessing transfer mechanisms, we took into consideration the general characteristics of the power and water supply networks and other networks. The same was true for several factory buildings accounted for in the fixed assets register at several inventory positions. The replacement value of each inventory position was estimated proportional to book value. We understand that this valuation approach may lead to divergences from individual fair-value for certain items.

In valuing fixed assets purchased last year and incomplete capital investments, we assumed that the Company's actual investments in these assets, or book value, reflected fair expenditures on further activity[6]. In this connection:

- fair-value estimation of such assets was based on their book value; and
- no additional forms of depreciation, as revealed by valuation (beyond physical depreciation following asset purchase), were applied to these assets.

When evaluating liquid assets not used by the Company at market value, we did not take into consideration expenses involved in property sale.

Valuation was performed net of reimbursable expenses, including VAT.

[5] We based this assumption on the fact that due to the specialization of fixed assets and their functional depreciation, a curtailment of production output and military aircraft maintenance in the short-term and decline in the installation of appropriate fixed assets will not be compensated for by the growth in civilian production, including the new Tam-Air-Jet aircraft.

[6] Absolutely free (not occupied by any proprietor) objects excepted.

## 1.5. VALUATION CERTIFICATE

We, the below-signed valuation consultants, concerning the performed valuation of the fair-value of the Company's fixed assets, certify that:

- in accordance with our data, the statements of fact contained in this report are true and correct;
- the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are our personal opinions and conclusions;
- we had no interest in the assessed property and its valuation results and no bias with respect to the parties involved; and
- our compensation was not contingent upon any action or event resulting from the analyses, opinions and conclusions in, or use of, this report.

N.A. Morina
Chief Executive Officer

A.A. Gusev
Senior Consultant

E.A. Markelova
Consultant

# 2. COMPANY AND PROPERTY DESCRIPTION

## 2.1. COMPANY DESCRIPTION

### General information

AO Tbilaviamsheni and OOO Tbilaviamsheni were established following the reorganization of AO Tbilaviastroy, formerly Tbilissky Aircraft Plant №31. OOO. Tbilaviamsheni holds a 90% stake in AO Tbilaviamsheni, purchased at the end of 2004 from the state on the basis of an edict issued by the President of Georgia on November 12, 2004.

The enterprise was founded in November, 1941. The first production buildings with a total area of 1,015,000 sq. m. were constructed in 1941-1942. The enterprise received equipment salvaged from the Taganrog Aircraft Plant and the Sevastopol Aircraft Repair Plant. During WWII, the plant produced approximately 3,200 military aircraft of various modifications.

In the late 50s-early 60s, the plant optimized the manufacture of the MIG-21 fighter. Subsequent reoutfitting in 1958-1967 resulted in the creation of 48,000 sq. m of additional production space.

Today, Tbilaviamsheni is one of Georgia's largest enterprises with USD 81 mln. in sales volume in 2004. The enterprise currently employs about 2200 people, including 445 engineers.

Seeking to enter international markets, the Company was the first in Georgia to carry out a quality system audit in 2001-2003. Based on the results of the audit carried out by the German certification authority TUV CERT, the plant received its ISO 9001:2000 certificate, making it the only ISO-certificated Georgian enterprise.

### Production activity

Throughout its history, the plant has specialized in the manufacture of military aircraft. It presently carries out the following operations:

- production, reconstruction, major repair, current maintenance and modernization of the SU-25 strike-fighter;
- major repair, current maintenance and modernization of MIG-21 aircraft;
- repair of MI-type helicopters; and
- production of aircraft parts and units from composite materials.

In 2003-2004, 16 Su-25 and Su-25 UB aircraft were assembled on order from Turkmenistan, and corresponding repair work was carried out. However, the plant is still not operating at full capacity. The plant was established as a defense sector

enterprise designed for the large-scale production of military aircraft. In the 1980s, the plant produced more than 140 war-planes per year, providing jobs for more than 15 thousand people. In recent years, the facility was transformed into an aircraft repair plant. There has been a trend towards increased civilian production, such as gas heaters, water heaters and micro-hydroelectric stations (with capacities between 0.5 and 1,500 kW).

**Table 2.1. Company output of products and services 2000-2004**

| Indicator | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|
| **Output of products and services** | | | | |
| Military production, units, including: | | | | |
| Assembly of SU-25 and engine change | 0 | 0 | 4 | 9 |
| Capital repair of SU-25 | 12 | 6 | 0 | 0 |
| Kitting of SU-25 | 0 | 8 | 0 | 0 |
| SU-25 maintenance check and warranty work | 0 | 0 | 1 | 5 |
| Kitting of SU-25 UB | 0 | 2 | 0 | 0 |
| Assembly of SU-25 UB | 0 | 0 | 2 | 1 |
| Repair of MI-24, MI-8MT, MI-8 helicopters | 0 | 0 | 0 | 8 |
| Maintenance check of Mig-21 aircrafts | 4 | 0 | 4 | 4 |
| Kitting of Mig-21 aircrafts | 0 | 1 | 4 | 2 |
| Capital repair of aircraft engines | 0 | 0 | 0 | 1 |
| Civilian production, units, including. | | | | |
| Gas heaters | 1,371 | 1,926 | 2,026 | 5,001 |
| **Revenue, thousand 'USD** | | | | |
| Military production | 12,355.1 | 51,358.5 | 37,801.2 | 79,782.2 |
| Civilian production | 224.6 | 319.4 | 299.7 | 1,123.7 |
| **Total: military and civilian production** | 12,579.7 | 51,677.9 | 38,100.9 | 80,905.9 |

Source: Company data

### Description of the manufacturing process

The Company is a typical aircraft plant, where the construction of aircraft includes the following:

- production of sections from plate material by casting, hot forging or other means;
- production of parts by machining, forging, pressing or locksmithing;
- thermal and galvanic treatment, paint-and-lacquer coating of parts;
- assembly of blocks and units;

- final aircraft assembly; and
- aircraft ground and air test.

To support the above-mentioned operations, the plant has six main and three auxiliary production units:

- Main production:
  - forging (№589);
  - mechanical and special units production (№587);
  - metallurgical production (№588);
  - assembly (№586);
  - aircraft testing (№585);
- Auxiliary production:
  - mechanical repair (№583);
  - production of custom tools and instruments (№584);
  - energy production (№591).

The wide range of the plant's equipment makes it possible to produce - beyond aircraft parts and units - various machinery and metal products, as a series and/or individually.

**Development prospects**

Company prospects are, first and foremost, associated with civilian production growth. The fundamental obsolescence of the military aircraft produced by the Company today and the lack of its own engineering database in this sphere means the Company has no competitive market advantage. The SU-25 strike-fighter, which the plant is capable of producing, is a third-generation aircraft, while the aircraft in demand on the global market are fourth-generation (Mig-29, Su-27, Su-30, Su-35), their modifications (Su-30MKI, Su-30MKK, Su-30KI, Su-37) and advanced models (S-37), all of which are produced in Russia.

In the short-term, there is a demand for aircraft and the provision of aircraft and helicopter modernization services from Turkmenistan. In the long-term, the enterprise is planning diversification and the expansion of civilian production. The most promising new projects appear to be:

- production of small and business-aircraft (Tam-Air Jet project);
- increase in output of gas heaters;
- production of non-aircraft goods;
- production of hydro turbines;

- production of high-density polyethylene tubes; and
- production of cross wind generators.

The Company's most significant new project involves the optimization of the production of personal ultra-light jet aircraft. The Company began realizing this project in cooperation with Maverick Jets Inc. In 2003, models of the four-seater aircraft Tam-Jet were created, but testing and implementation were relayed due to the breakdown of partner relationships.

Since 2004, the Company has been collaborating with the American company Aircraft Investor Resources (AIR), which constructs and promotes the six-seater jet aircraft Epic LT on the U.S. market. The aircraft, named Tam-Air-Jet, is being constructed on the basis of the new FJ-33 jet engine (Williams Corporation), certified in September, 2004. It is the smallest jet engine in service today.

The Tam-Air-Jet is expected to be assembled at Tbilaviamsheni. To realize this project, a joint venture was established, registered in Delaware (USA). According to Company management data, Tbilaviamsheni owns a 50% stake in Tam Air. Under the agreement between the project participants, Tbilaviamsheni will produce fuselages, wings and other aircraft parts and assembles the aircraft, with only final assembly to be conducted at the AIR plant in the city of Bend (Oregon, USA). According to Company management data, the Georgian side will account for 90% of the labor cost of aircraft production.

Aircraft construction will include the following:

- certification of the aircraft type (model) and its production with the Federal Aviation Agency (FAA, USA) before early 2008, which will require about USD 30 mln. in investments; and
- new equipment acquisition and installation at Tbilaviamsheni and facility preparation; investments as a contribution to the charter capital of the Company - USD 6.0 mln.

The prototype (Epic LT) has already been exhibited at the light aircraft show in the city of Oshkosh (USA) in 2004. At the beginning of 2005, 50 requisitions were collected without deposit from potential customers. In anticipation of beginning production of experimental models in 2006, SP signed an agreement and paid a USD 1.5 mln. deposit for the supply of 60 engines.

## 2.2. SUBJECT PROPERTY

### Cost description

Book value structure is presented in Table 2.2.

**Table 2.2. Cost description of the subject property**

| Cost groups | Net Book Value as of 01.01.05 USD | Depreciated cost as of 01.01.05 USD |
|---|---|---|
| Buildings | 8,775,000 | 5,023,000 |
| Facilities | 402,000 | 183,000 |
| Driving gears | 559,000 | 267,000 |
| Plant and equipment | 5,384,000 | 1,234,000 |
| Transport | 2,631,000 | 1,717,000 |
| Other fixed assets/ PPE* | 1,385,000 | 828,000 |
| Land[7] | 8,112,000 | 8,112,000 |
| Capital investment[8] | 189,000 | 189,000 |
| **Total:** | **27,437,000** | **17,553,000** |

* Inventory, instruments, plantings

Source: Tbilaviamsheni

The subject property may be divided into the following groups:

- tangible assets, including land, including:
  - major tangible assets;
  - service assets;
- intangible assets:
  - airline property;
  - idle assets; and
- capital investments.

[7] Equal to land repurchase price.

[8] Costs summarized in the corresponding balance sheet statements.

## Tangible assets

Tangible assets are located at 181 Bogdana Khmelnitskogo St., Tbilisi, Georgia. These include the plant's industrial site, situated 10 km from the city center, and a test airdrome, situated 3 km from the industrial site.

The industrial site occupies 55.9 ha. The total area of the enterprise's buildings is approximately 232,000 sq.m.

The total area of the airdrome exceeds 200 ha. The sector belonging to *Tbilaviamsheni* does not include runways. In order to provide for the normal functioning of the take-off test complex, the Company rents that portion of the airdrome that it does not already own and navigation equipment from the state.

The enterprise is powered by a 6/10 kW step-down substation, connected to Tbilisi's grid. There are no power-generating stations at the plant. The supply of heat and steam is produced by a boiler-house with four Y 1/9 boilers, each with a capacity of 1 t/h. Water is supplied by the Kura river. Compressed air is delivered by 4 BM 10-120/9 high pressure air compressors.

### Land

The company owns two parcels of land: one under the plant's industrial site and the other as a part of the airdrome's take-off test complex. The former covers 559,238 sq.m., and the latter occupies 441,385 sq.m.

In late 2004, both parcels were purchased by the Company to become its wholly-owned property[9] with the following identifiers: the plant's industrial site - №Q-667-2, a part of the airdrome's take-off test complex - №Q-667-1. The annual land tax rate was 0.17 Lari/sq.m. for the industrial site and 12 Lari/sq.m. for the airdrome. The standard repurchase price was established by Georgia's Ministry of Economic Development to be equal to a hundredfold land tax rate. The total repurchase price was GEL 14,803,666 (USD 8,112,000,000), including GEL 9,507,046 for the industrial site and GEL 5,296,620 for a part of the airdrome.

### Real estate

The total area of the main industrial buildings is approximately 135,000 sq.m. These include buildings and facilities for assembling, stamping, blanking, machine and metallurgical production and take-off testing. A description of the main real estate properties is presented in Table 2.3.

[9] The letter of Georgia's Ministry of Economic Development of 08.24.2004 № 16/1226/3-4; Isani-Samgorsky court's decision of 08.26.2004 №7/5-92.

**Table 2.3. Description of main industrial buildings**

| Item | Commission date | Total area, sq.m. | Description |
|---|---|---|---|
| Building №1 (forging and pressing) | 1942 | 12,101 | Precast concrete |
| Building №3 (aggregate and general assembly) | 1942 | 55,620 | Precast concrete frame, brick walls |
| Building №4 (engineering and manufacturing) | 1941 | 12,625 | Precast concrete |
| Building №6 (assembly) | 1967 | 51,206 | Precast concrete frame, brick walls |
| Building №7 (machining) | 1942 | 28,295 | Precast concrete |
| Building №8 (foundry) | 1942 | 3,790 | Precast concrete frame, brick walls |

Source: Tbilaviamsheni

The main real estate properties were constructed in the 1940s–60s. As a result of reconstruction conducted in the 1960s and 1980s, between 25% and 50% of the total space in the forging and pressing, general assembly (№ 3) and engineering and manufacturing buildings were reconstructed.

Non-industrial buildings occupy approximately 97,000 sq.m., including constructions necessary for main production. Among them there are administrative and residential buildings, boiler houses, pump houses, compressor houses, transformer units and storage facilities. The age of these properties ranges from 18 to 45 years.

Recently restored and repaired buildings include an 8-storey administrative and residential building with a total area of 6,840 sq.m. located at the plant management office. Building construction began in the 1980s when the frame was built. It was completed in 2002.

Equipment

Basic production equipment is comprised of the following groups:

- metal-cutting equipment - machining, boring, drilling, planning, turning, milling, and polishing units;
- forging and pressing equipment - crank, screw-down and hydraulic presses with press forces ranging from 2.5 to 12, 000 t;
- thermal equipment - induction furnace, used for thermal treatment of details and blanks, small capacity (up to 3 tons) melting furnaces for melting ferrous and non-ferrous materials; and

- welding equipment - machine welding, hand spot welding and plasma cutting units.

Almost all the equipment was manufactured in the USSR (Russia, Ukraine). Average age is approximately 25 years.

Non-production equipment includes hoisting, pumping, capacitive, electric units, commercial and passenger vehicles and other machinery.

**Intangible assets**

The airline company

The airline company is a plant division and performs passenger (regular, charter and mail flights) and cargo operations.

Airline property includes nine aircrafts:

- airplanes: Yak-40 (three), A-22 (two), Il-62, Tu-134, and An-26; and
- helicopters: Mi-8T (one).

The oldest airplane was manufactured in 1975, the newest - in 1990. Two Yak-40 airplanes can no longer be used. The helicopter was manufactured in 1981.

Apart from aircraft, the airline company owns computer facilities, telecommunication equipment and furniture.

Idle assets

The Company leases space in buildings №3, 7, 9 and 32, and equipment installed in buildings used for workshops, machine and metallurgical production and the production of non-standard and consumer goods.

The total area of leased space is 6,221 sq.m., covering approximately 3% of the total area of all buildings belonging to the plant. Empty space at the plant occupies about 26,000 sq.m., situated mainly in buildings №3 and №7 and in the storage facilities. The total area of idle space is 32,048 sq.m. and covers approximately 14% of the total area of all the buildings.

Leased equipment consists of 50 items, including various machine units, presses, hoists, welding units, vessels and implements. Idle assets also include 75 items of reserve equipment, notably 47 machine units, 12 presses and shears and 6 assembly lines. These represent mostly special-purpose equipment needed for manufacturing the structural parts (wings, fuselage) of battle aircraft airframes and, therefore, cannot be applied in civil manufacture or require significant expenses to be modernized.

## Capital investments

Real estate objects currently under construction include secondary industrial buildings: the frame of a foundry building, the frame of a Kislovodsk-type storage facility, and part of a sewer system. The former two objects are not completed and not exploited. A portion of the sewer system is used by the plant.

The list of unassembled equipment includes a 1,500 kW diesel generator, designed to provide backup power supply for main production and technological objects in case of power interruptions. According to information obtained from the Company engineering team, the equipment is new, has never been exploited, complete and installed in a room specially designed for that purpose.

# 3. MARKET OVERVIEW

## 3.1. MACROECONOMIC OVERVIEW OF GEORGIA

Georgia is a small state with a transition economy and population of about 5 mln. As a result of the civil war in 1991, Georgia gained sovereignty. After the collapse of the USSR and its declaration of sovereignty, the country suffered a significant economic recession, resulting from - among other challenges - the loss of access to markets of the former USSR. In the early 1990s, the production volume decreased by 70%, exports by 90%.

In the mid 1990s, the recession ended and a positive trend of economic development emerged. In 2004, Georgia registered economic growth, although compared to 2003 levels its pace had slowed. According to the *Economist Intelligence Unit*, the GDP growth in 2004 was 8.4%, while the corresponding figure for 2003 was 11.1%. The rate of GDP growth in Georgia was still higher than that of developed industrial countries, which in 2004 stood at 4.4% for the USA, 2.1% for the European Union and 7.1% for Russia. The basic parameters of Georgia's macroeconomic development in 2000-2004 are summarized in Table 3.1.

**Table 3.1. Basic indicators of Georgia's macroeconomic development**

| Indicator | 2000 year | 2001 year | 2002 year | 2003 year | 2004 year* |
|---|---|---|---|---|---|
| GDP, GEL, mln. | 6,013 | 6,638 | 7,457 | 8,884 | 10,906 |
| GDP, USD, bln. | 3.0 | 3.2 | 3.4 | 4.1 | 5.7 |
| GDP, % compared to the previous year | 101.8 | 104.7 | 105.6 | 111.1 | 108.4 |
| Industrial output, % compared to the previous year | 105.3 | 95.5 | 107.8 | 114 | 112.2 |
| Export, USD, mln. | 459 | 496.1 | 601.7 | 830.5 | 999.3 |
| Import, USD, mln. | 970.5 | 1045.6 | 1084.7 | 1466.7 | 1828.8 |
| Average annual inflation rate, % | 4.1 | 4.6 | 5.6 | 4.8 | 5.6 |
| Average annual GEL/USD rate (according to Georgia's CB) | 1.98 | 2.07 | 2.20 | 2.15 | 1.92 |

* Estimate

Source: Economist Intelligence Unit, May 2005.

In 2004, Georgia's largest GDP component was agriculture at 16.2%. Industry accounted for 13.2% of GDP, trade - 13.4%, transport and communications - 14.0%;

agricultural production volume declined by 6.7%[10]. The total volume of industrial output in 2004 rose by 12.2%, in 2003 the corresponding figure was 14.0%. However, this growth rate will not be sufficient for the country to achieve mid-1980s economic levels in the near future.

One of the major problems facing Georgia's economy is the considerable depreciation of fixed assets at enterprises representing major industries. Increased capital investment is therefore regarded as as key requisite for continuing Georgian economic development. Since 2001, the level of investment in the economy has been growing. Most investment targets the transportation industry. In 2003, there was a significant increase in foreign investments, which exceeded domestic investments. The history of foreign and domestic investment in Georgia's economy in 1999-2003 is presented in Table 3.2.

**Table 3.2. Investments in Georgia's economy 1999-2003, GEL, mln.**

| Industries | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|
| Transportation | 150.5 | 139.3 | 149.3 | 192.3 | 621.3 |
| Construction | 80.4 | 92.2 | 77.6 | 106.5 | 139.4 |
| Real estate | 34.9 | 17.7 | 24.6 | 51.5 | 55.9 |
| Heavy industry | 14.8 | 17.6 | 7.1 | 34.7 | 34.0 |
| Energy, natural gas and water supply | 56.1 | 13.4 | 63.6 | 10.0 | 23.5 |
| Other industries | 52.7 | 81.5 | 104.8 | 29.0 | 115.5 |
| Total | 363.5 | 348.9 | 399.7 | 475.0 | 944.4 |
| including foreign investments | 168.6 | 118.8 | 140.2 | 78.0 | 542.5 |

Sourse: State Statistics Department of Georgia

In 2004, foreign investment in the Georgian economy continued to grow. According to the *Economist Intelligence Unit*, the total volume of direct foreign investment in 2004 amounted to USD 365,900,000; in 2003 the corresponding figure was USD 334,100,000.

Over recent years the country's inflation rate has been steady, equaling 4-6%. Consumer market inflation was 5.6 % in 2004 - the corresponding figure in 2003 was 4.8%.

According to *Economist Intelligence Unit* estimates, the value of the Georgian Lari strengthened against the US dollar in real terms. Growth in the GEL/USD rate created favorable conditions for foreign investment inflow to Georgia and increased foreign borrowings.

[10] Source: Economist Intelligence Unit, May 2005.

## 3.2. AIRCRAFT MARKET IN THE CIS AND IN THE WORLD

### Military aircraft industry in the CIS and the world

The global military aircraft market has overcome a period of stagnation and is accelerating its growth pace. Performance figures were lowest in 2002 when USD 6,700,000,000 was spent to manufacture just 159 military jet aircrafts. In 2003, the situation began to improve: 246 military aircrafts were supplied to different armies of the world; their aggregate value was USD 10,700,000,000. In 2004, 290 aircraft were manufactured for a sum of USD 16,800,000,000. According to the 2004-2013 forecast prepared by the independent expert *Teal Group,* growth in the world military aircraft market will continue with 346 aircrafts produced in 2013 for the sum of USD 16,800,000,000. Market volume in 2004-2013 will therefore grow by approximately by 45% against the previous decade. The revival of this important segment of the weapons market is conditioned by the planned re-equipment of the U.S. and a number of European Air Forces and by the increase in arms contracts with Asia.

The largest aircraft companies on the world military aircraft market are *Boeing, BAE Systems, Lockheed Martin, Northrop Grumman, EADS and Dassault*.

It is also necessary to point out global trends in the aircraft industry, which may influence the positions of competing market participants:

- integration between different countries and their aircraft companies; and
- the development of next-generation aircraft as a natural consequence of the functional obsolescence of first-fourth generation models. Global projects aimed at designing a fifth-generation aircraft include the American ATF (F-22 model) and JSF (F-35 model) projects, Russian MFF (multifunctional front fighter) and PAC FAF (prospective aircraft complex of front air forces) projects and the joint European program ETAR.

Following the collapse of the USSR, the reliable stream of large military orders from the Soviet Air Force dried up - as a result, the military aircraft industry suffered a crisis. Globally-competitive military aircraft production was preserved only in Russia, where leading development design offices and industrial units are situated. Major military aircraft production companies in CIS countries are the Russian *Sukhoi, Irkut, MiG, Iliyushin, Tupolev* and *Kaskol*. Among CIS states, Georgia's *Tbilaviamsheni* has been able to maintain its production activity.

In recent years, aircraft companies have received defense orders for supplying new aircraft abroad, mainly to China and India. Tbilaviamsheni also provides aircraft equipment to Turkmenistan.

The major demand on the CIS domestic market is not for manufacturing new aircraft equipment, but for modernizing current models, which means, first and foremost, upgrading aircraft avionics.

The decline in military-industrial activity accounts for the fact that many military plants plan - at least in part - to switch to civil manufacturing (*Iliyushin, Kaskol* and others), as in the case of *Tbilaviamsheni*.

**Civil aircraft industry trends in the CIS and the world**

In 2004, following two years of stagnation, global passenger operations are once again growing rapidly. According to the ICAO (International Civil Aviation Organisation), the number of passengers on regular flights in 2004 was 1,800,000, representing a 14% increase as compared to 2003 and improving on the high-water mark set in 2000. Over the last two years (2002-2003), the deceleration of the global economy and the 9/11 attacks brought about a decline in demand for air transportation services.

Global GDP growth is a key factor propelling increased demand for air transportation services. According to the 2005-2024 forecast conducted by *Boeing*[11], passenger operations will register an annual 4.8% increase (km) if annual GDP grows by 2.9% over next 20 years. The world's passenger aircraft fleet (with a take-off weight of 9 t) will follow operational growth to include 35,287 aircraft in 2024 - more than doubling against 2004 levels.

Today, CIS states have almost recovered from the economic decline registered in the 1990s. As a result, there is a rising demand for air transportation services in CIS states. According to data obtained from the State Scientific Research Institute of Civil Aviation (GosNIIGA), Russian air transportation increased threefold in 2001-2003, with the pace of growth reaching 23% in the first half of 2004. Nevertheless, the volume of the CIS air transportation market was 40% smaller in 2004 than in 1990.

According to the forecast prepared by GosNIIGA and the Central Aerohydrodynamic Institute (TsAGI), air transportation will increase at an annual long-term growth rate of 9-10%, which is almost twice that forecasted for the world market. Consequently, the aircraft fleet will expand.

The CIS air fleet is comprised of an excessive number of outdated aircraft, making the achievement of today's quality and efficiency levels impossible. New-generation aircraft account for only 7% of current air transportation in Russia, while the number of these aircraft in the world air fleet exceeds 50%.

Even in its day, the Soviet civil aircraft industry, developed mainly in Russia and Ukraine, had no particular influence on the global aircraft market. CIS manufacturers have focused on satisfying domestic demand. In recent years, output of medium- and long-distance aircraft has been moderate, though rising, totaling 18 aircraft in 2004. Russian sales volume on the world civil aviation market has decreased from 25% in the Soviet-era to tenths and even one-hundredths of a percent at present.

[11] Source: Boeing Current Market Outlook.

## 3.3. BUSINESS AIRCRAFT MARKET OVERVIEW

### Business aircraft market trends

Today, business aircraft represents a rapidly-developing segment of the civil aircraft market. This category includes small aircraft owned by airlines and personal airplanes.

After the decline of 2002-2003, business aircraft manufacturing experienced 16% growth in 2004, according to data gathered by *Forecast International*[12]. This growth is expected to maintain its pace in 2005 and continue for the next 10 years through 2014.

The U.S. market now registers more than 8,300 private owners of business aircraft and shows the best development in this segment. This trend is the result of the manner in which the domestic air transportation network is developing. The U.S. economy is observing continued decentralization, with companies relocating out of major cities. The airport network is congested with passenger traffic reaching near-crisis levels. Today, 82% of U.S. airline passengers pass through 22 hub airports, a system which is no longer sufficient to support growing air transportation volumes. Moreover, following the 9/11 attacks, business tourists - particularly on first class flights representing the main source of airline income - became concerned about the protracted and time-consuming procedure of customs control and check-in, frequent flight delays and relatively low security levels. It is these first class passengers who have created the demand for business aircraft in recent years.

Business aircraft present considerable advantages to passengers and owners:

- time-saving aspect, direct one-plane flights connecting at small local airdromes;
- favorable working conditions - aircraft are outfitted with office equipment, meaning work is not interrupted or interfered with by strangers, and even represent a convenient venue in which to conduct negotiations;
- information safety - information leakage is reduced to a minimum as there is no undesirable contact with strangers;
- private security - according to statistics, business jet aircraft flown by experienced pilots ensure a higher level of security than public aircraft, reduce the risk of a terrorist attack;
- complete freedom to schedule flights - it is always possible to adjust flight details; and
- enhanced corporate image.

[12] *Forecast International/DMS Inc*. - the leading market research company for aircraft, spacecraft and military equipment industries.

Anticipated congestion at large airports and traffic jams on the roads encouraged NASA (National AeroSpace Agency, U.S.) to develop a SATS project (Small Aircraft Transportation System) aimed at facilitating transportation between 5,400 U.S. airports. This project includes the popular 'aerolimousine' concept, used for air-taxi corporate transportation, which ensures a high-degree of comfort, convenience and security. The air-taxi network will be based on small high-speed airplanes, which can make places beyond the range of major airline routes accessible. Within the context of this project, NASA supports the development of highly-efficient small aircraft engines installed on airplanes of this kind.

**Market segment structure, types of aircraft**

The U.S. accounts for approximately 70% of the global business aircraft market. Europe has a significantly smaller share - about 10%, South America - 9%, with other global regions - Africa, Asia, Central America, Oceania (Australia and a number of Pacific islands) together accounting for 11%.

As far as types of aircrafts are concerned, the business aircraft market is structured in the following manner[13]:

- Jet aircraft:
  - Light and medium jet airplanes with a maximum take-off weight of 13,619.5 kg constitute 35 % of the market segment. The most popular models within this category are *Cessna Citation* (*Cessna*, USA) and *Learjet* (*Bomdardier*, Canada). This group also includes *Westwind* and *Astra* (*Israel Aircraft Industries*, Israel) and *Hawker* and *Beechjet* (*Raytheon Aircraft Company*, USA).
  - Heavy jet airplanes with a maximum take-off weight more than 13,620 kg account for approximately 16 % of the market segment. *Gulfstream* series are the most popular within this category. Other popular models of this type include *Falcon* (*Dassault*, France), *Challenger* and *Global Express* (*Bombardier*).
- Turbo-powered aircraft:
  - Turbo-powered airplanes with a take-off weight not exceeding 5,675 kg account for approximately 16% of the entire business aircraft market. *Beech King Air* (*Raytheon*) is one of the most popular models. Manufacturers of small multi-engine turbo-powered aircrafts include *Cessna, Fairchild, Piaggio and Piper*.
  - Turbo-powered airplanes with a take-off weight exceeding 5,675 kg constitute 5% of the entire business aircraft market. The most popular aircrafts within this category are *Bombardier* and *Fairchild Dornier* (Germany).

[13] Source: we used the NBAA (National Business Aviation Association) classification, which, in our opinion, provides the most comprehensive concept.

- Piston aircraft account for over 20% of the market, 40% of which are single-engine. Almost all piston aircrafts are manufactured by American *Beech, Cessna* and *Piper*.
- Helicopters:
  - Helicopters with a take-off weight up to 5,675 kg account for 8%. The most popular manufacturers are *Bell Helicopter Textron* (USA), *Sikorsky Aircraft* and the French-German joint enterprise *Eurocopter*;
  - Helicopters with a take-off weight exceeding 5,675 kg account for 0.1% of the market.

Today, the most rapidly-growing market segment is represented by ultra-light aircraft, typically airplanes with a capacity of 6 people (including crew) and with prices ranging from almost USD 1,000,000 to USD 2,800,000. This category includes *King Air* and *Beachcraft Baron* (*Raytheon Aircraft Company*), *Malibu Meridian* and *Malibu Mustang* (*New Piper Aircraft*); the best-known recent models are the *Cessna Mustang* (*Cessna Aircraft*), *Eclipse 500* (*Eclipse Aircraft*), *A700* (*Adam Aircraft*) and *S26* (*Safire*). *Epic LT* and *Tam-Air-Jet* (similar to *Epic LT* but twin-engine) projects belong to the same class. The specifications of this type of aircraft are presented in Table 3.3.

**Table 3.3. U.S. ultra-light aircraft models**

| Model | Engine | Maximum speed, km/h | Altitude, m | Flying range, км | Price, USD |
|---|---|---|---|---|---|
| King Air C90B (Raytheon Aircraft) | P&WC PT6A-21 turbo-powered | 456 | 9,100 | 2,000 | 2,700,000 |
| Citation Mustang (Cessna Aircraft) * | PW PT615F turbo-powered | 630 | 12,000 | 2,400 | 2,300,000 |
| Malibu Meridian PA – 46 – 500TP (New Piper Aircraft) | P&WC PT6A–42A turbo-powered | 485 | 9,144 | 1,980 | 1,730,000 |
| Epic LT (Tam-Air-Jet) (Tam-Air Comp.) * | Williams FJ33 turbo-powered | 630 | 10,000 | 2,500 | 1,500,000 |
| A700 (Adam Aircraft) | Williams FJ33 turbo-powered | 675 | 8,000 | 2,368 | 1,340,000 |
| Eclipse-500 (Eclipse Aviation) * | Williams FJ22 turbo-powered | 408 | 12,500 | 2,965 | 1,300,000 |
| Maverick Jet 1500 (Maverick Jets Inc.) * | Maverick MC-750 turbo-powered | 650 | 9,450 | 1,852 | 1,200,000 |
| Malibu Mirage PA – 46 – 350P (New Piper Aircraft) | LYC TIO–540–AE2A turbo-powered | 407 | 7,620 | 2,488 | 1,120,000 |
| S26 (Safire) * | Williams FJ33 turbo-powered | 695 | 12,500 | 2,400 | 1,000,000 |

| Model | Engine | Maximum speed, km/h | Altitude, m | Flying range, км | Price, USD |
|---|---|---|---|---|---|
| Seneca V (New Piper Aircraft) | TCM TSIO–360–RB | 725 | 7,620 | 1,502 | 740,000 |

* newly-released models currently undergoing testing or certification

Source: data obtained from manufacturers and open information sources

Another popular class of airplane is light aircraft with a maximum capacity of 10-12 people. It comprises a number of aircraft such as *Cessna Citations* (*CJ1/2/3*), *Beechcraft Premier I* (*Raytheon*), *Learjet 40* (*Bombardier*) and *SJ30-2* (*Sino Swearingen*). Prices range from USD 3,500,000 to USD 8,000,000.

Manufacturers' heightened activity and a wide variety of new ultra-light aircraft models have been prompted by the recent development of new light engines, some of which are now undergoing testing and certification. New airplanes are more fuel-efficient and provide improved technical performance while their price is lower than that of previous models.

### Light and ultra-light airplane manufacturing

In 2004, almost all manufacturers recorded an increase in business aircraft sales, particularly for light and ultra-light aircraft.

In 2004, *Cessna Aircraft* manufactured 179 *Citation* aircraft and received orders for an additional 330 aircraft. 235 *Citation* aircraft are expected to be produced in 2005. The company has concluded 185 contracts for 2006, including contracts for recently-released models (*CJ1+/2+, Mustang*).

In 2004, *Bombardier* manufactured 128 business aircraft surpassing the previous year's output (89 aircrafts) by 44%; for example, 14 *Learjet 40* aircrafts in 2004 as compared to 4 in 2003.

*Raytheon Aircraft* manufactured 104 *King Air* aircraft and 98 *Beechcraft Bonanza* and *Baron* aircraft - output in 2003 was 86 and 82 aircrafts respectively.

According to company management, 2004 was the best year in *Gulfstream* history: 57 aircrafts sold in 9 months.

A record-high number of models was released in 2004. According to the FAA (Federal Aviation Administration, U.S.), more than 10 new models were granted certification. The best-known models are *Cessna Mustang* (*Cessna Aircraft*) and *Eclipse 500* (*Eclipse Aviation*), with certification scheduled for 2006 and significant anticipated market share. Others, such as *A700* (*Adam Aircraft*) and *S26* (*Safire*), have not achieved comparable market penetration but have left experts with numerous questions.

*Eclipse Aviation* - one the newest aircraft design companies - was founded in May 1998 as a branch of *Williams International*. By 2011, the company plans to improve its annual sales volume of turbo-jet *Eclipse 500* to 1,500 aircraft. According to data provided by the company, it has received more than 2,000 prepaid orders and 1,660 non-prepaid orders.

Adam Aircraft is another aircraft design and manufacturing company catering to the civil aviation market and government demand. One of its projects - the *A500* piston aircraft - is currently under certification. The company is also in the process of testing its new *A700* turbo-jet aircraft, which has already received more than 75 orders.

*Safire,* which has recently entered the market, is currently working on its *S26* turbo-jet aircraft project. According to company management, it has already received about 900 orders, but the company's unwillingness to disclose information have raised experts' doubts about the successful completion of the project.

The growth of business aircraft production is expected to continue for the next 10 years. According to the FI forecast, *Cessna* will maintain its leading market position with a production volume of 3,268 aircraft and market share of 30.2%. *Bombardier* is predicted to hold second place with a production volume of 1,699 aircraft (15.7% of the market). *Eclipse Aviation* will account for 12.2% with an output of 1,317 aircraft. *Gulfstream* and *Raytheon* will manufacture 1,083 aircraft each (10% each).

# 4. VALUATION PROCESS

## 4.1. SUBSTITUTION VALUE ESTIMATE

### Valuation methodology

In the calculation of substitution value, three approaches have been used:

- market approach - comparison of new analogue sale-purchase prices;
- resource approach - calculation of cost elements in current prices; and
- cost indexation approach - analyzing the historical costs of the company in creating the object and bringing them to valuation date price levels.

During the valuation process, we factored in expenses that would be incurred in the creation of a property-complex of equal functionality, including expenses involved in the acquisition of land, building construction and outfitting, purchase and calibration of equipment and professional project accompaniment and management.

Costs involved in property-complex project financing that account for investor profit and that are usually included in property-complex substitution value have not been taken into account in the present valuation. This was determined by the disparity between the initial phase of large-aircraft factory construction in the target location and current market conditions. This is reflected in Company activities - a significant reduction in the production of basic target aircraft and the search for new projects including general engineering and consumer goods.

### Real estate substitution value

Buildings and facilities

The substitution value of two large factory buildings - the main administrative building and engineering facility № 6 - has been determined by the resource approach, including a cost calculation for the completion of administrative building construction (contractor: Tbilaviamsheni capital construction department) and our independent calculation for the engineering facility.

In calculating the substitution value of other major real estate properties, the specific indices approach based on cubic meter value (for industrial buildings), square meter value (for administrative buildings), whole object value (for relocatable buildings) and linear meter value (for utility networks) has been used. Total indices have been determined with the support of collected information regarding the averaged costs of analogous property construction in Russia based on Moscow region target prices.

Conversion to Georgian construction values has been made using a regional coefficient calculated by comparing the costs involved in the construction of identical

properties in Russia and Georgia and building materials prices and salary levels in both countries. The resulting regional coefficient is approximately 0.7 (Table 4.1.).

**Table 4.1. Regional coefficient calculation**

| Name | Value (exclusive of VAT), thous. US dollars | | Parity (Georgia/ Russia |
|---|---|---|---|
| | Georgia | Russia | |
| Administrative-domestic building (building № 6) | 3,203 | 4,218 | 0.769 |
| Medium pressure gas pipeline from GDS to boiler house | 18 | 26 | 0.671 |
| Building materials and works basket | | | 0.691 |
| **Average** | | | **0.707** |

Source: ZAO Otsenka – Consulting estimates

Moreover, substitution value has been corrected by taking into account requirements for building construction in seismically active areas. The increase in building construction costs for Tbilisi is 4%[14].

Specific indicator values modified to Tbilisi construction conditions are presented in Table 4.2.

**Table 4.2. Building construction specific costs**

| Real estate object | Unit of measurement | Specific indicators range, US dollars |
|---|---|---|
| Major engineering buildings | cub. m | 40-45 |
| Warehouses | cub. m | 30-45 |
| Administrative buildings | sq. m | 300-430 |
| Roads, areas | sq. m | 20-25 |
| Power lines (cable lines) | m | 7-10 |
| Conduits | m | 18-100 |

Source: ZAO Otsenka – Consulting estimates

Where reliable data has been unavailable concerning inventory item parameters required under the specific indices approach and in making resource calculations for capital investment properties - balance-sheet value indexation was used. Indexation was pursued from the date the property became operational, but not earlier than the

[14] "Building in seismically active areas (SNiP II-7-81)", Russian Minstroy, Moscow, 1995.

date of the last revaluation of fixed capital assets (July 9, 1997). Price increase indices of Georgian industrial producers (source: CIS Interstate Statistical Committee collection) have been used as appreciation indices.

Land

The industrial land market is not highly developed in Georgia. There have been no land sales registered in the country involving properties comparable in size to that of the target property. There is, however, data concerning the sale of smaller plots of land not exceeding 10 hectares. According to information obtained from the Tbilisi brokerage company *Erdo Real Estate Group*, redemption prices range from 10 to 20 US dollars per square meter.

In August 2004, the Company redeemed an industrial area and airfield parcel[15]. The costs of acquiring these lands were 9.30 and 6.60 US dollars per square meter, respectively. Total land redemption costs were 8,112 thousand US dollars.

Taking into consideration the fact that the Company recently acquired land and that these lands are relatively large, rare and specific (airfield land), we have assumed that land redemption costs correspond to current market conditions.

**Equipment and other movable property substitution values**

The equipment installed in the factory was produced mainly in the USSR (Russia and Ukraine), which is why in calculating machine and equipment substitution values we took into account the pricing data of the Russian machine-building market.

That is why Стоимость замещения металлорежущего оборудования была определена на основе цен заводов-изготовителей и информации специализированных торговых площадок на аналогичное новое и подержанное оборудование. При этом нами были использованы данные следующих источников: ОАО «Михневский ремонтно-механический завод», ООО «Станкомашторг-М», ООО «Станком», ЗАО «Эконика–Техно», ООО «Станкомашкомплект», промышленная группа «АСВ-Техника», ООО ТД «СтанкПрессСервис», торговых систем «Ростовский станок» и «ЦентрКом «Промышленное оборудование» и других.

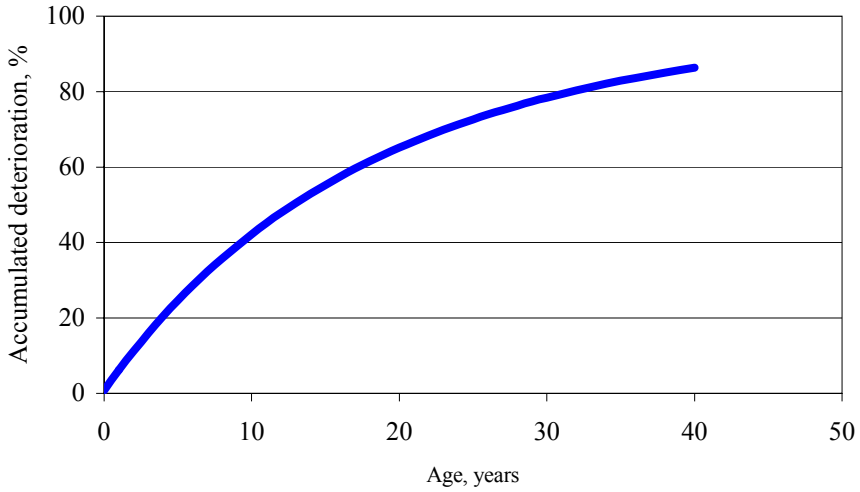
Metal-cutting equipment substitution values were determined by applying manufacturing plant prices and specialized trading floor information on analogous new and secondary equipment. We used additional data from the following sources: *OAO Mihnevsky Machinery and Repair Plant*, *OOO Stankomashtorg-M, OOO Stankom, ZAO Ekonika-Techno, OOO Stankomashkomplekt*, industrial group

[15] The area of the airfield authorized for redesignation as private property (44 out of 200 ha.) excluding runways and navigational equipment.

*ASV-Tehnika, OOO TD StankPressService*, trade systems *Rostovsky Machine Tool*, *TsentrKom Industrial Equipment* and others.

If the target equipment is not currently manufactured and there are no close analogs - but there is secondary market - its substitution value was determined by analyzing the market value of secondary equipment adjusted for accumulated deterioration. The dependence of accumulated deterioration on age was calculated for the metal-cutting equipment group by analyzing data on the market prices of major machine tool classes. The conformity of value loss rates for various classes permitted the application of aggravated dependence in further calculations. The dependence of accumulated deterioration from age on metal-cutting equipment is depicted in Diagram 4.1.

**Diagram 4.1. Accumulated deterioration of metal-cutting equipment and its age**




Source: ZAO Otsenka – Consulting estimates

Substitution value estimates for the press-forging plant and lifting appliance equipment was made on the basis of the price lists and commercial offers of vendor companies producing this equipment for analogous new and secondary equipment. Main information sources were: *OOO IPK Paritet, OOO Rempressmash,* industrial group *Diukon, ZAO Pramo, OOO Optima-Souz, OOO Stankopress, OOO Technoserviceomplect* and business bulletin boards on the sale and purchase of secondary equipment.

Heat treatment machinery substitution values were determined on the basis of commercial offers by trading companies specializing in that type of equipment. In particular, we used information from the following companies: *ZAO Spetsuraloborudovanie, OOO Intertechnologiya, TSK, OOO Labo* and others.

To calculate electrical equipment values we used the prices of the manufacturing plants and suppliers of such equipment, in particular: *OAO ETK Birobidgansky*

*Pressure Transformer Factory, ZAO Energotechservice, OAO Elektroagregat*, the Internet trading system *iElectro* and others.

The valuation of auxiliary equipment was performed, where possible, based on producer prices. We used information from: *OAO Elektroavtomat, OAO Divnogorsky NVA Factory, OOO Rosenergocomplekt, OOO MIRGOR-1,* the *Vzlet* group of companies*, OOO UralSpetsTrans, OAO NIPIGORMASH, AO Uralelektrotyagmash,* databases of *ENIMS, AO Krasny Borets, Zaporozhsky Preobrazovatel Factory, OAO Elektronasosny Agregat, ZAO Technopolus, ZAO Rosgidromash, OAO MOVEN, ZAO Ventilator KOMVEN Factory, ZAO ST-Avto,* and the databases of *Puls Tsen* and *Neftegasovoe Oborudovanie.*

When we did not have a reliable description of an object for the purposes of choosing an analogue - but there was information available concerning metal structures - substitution value estimation was made using the specific indices approach, on the basis of prices for the same class of equipment in mass quantities. Specific valuations used in the valuation are shown in Table 4.3.

**Table 4.3. Specific indices for equipment values**

| Item | Substitution value, USD/kilo |
|---|---|
| Engineering tools (exclusive of programmed numerical control) | 6.0 |
| Presses | 4.8 |
| Impact-testing machines, hammers | 3.6 |
| Ball drums | 3.8 |
| Capacity (carbon steel) | 2.4 |
| Capacity (stainless steel) | 5.4 |

Source: ZAO Otsenka – Consulting estimates

Transport substitution value estimates were made by comparing the purchase prices of manufacturing plants or their major dealers. Age has been taken into account in the calculation of inventory position market value. Specialized Internet websites such as www.cars.auto.ru, www.moto.auto.ru, and www.grizovik.ru served as information sources on secondary market prices for transport.

Aircraft substitution values were determined on the basis of manufacturing plant prices (Table 4.4.).

**Table 4.4. New aircraft prices**

| Item | Substitution value, US dollars |
|---|---|
| Passenger airplane IL-62 | 17,000,000 |
| Passenger airplane TU-134 | 8,500,000 |
| Passenger airplane AN-26 | 900,000 |
| Passenger airplane Yak-40 | 800,000 |
| Helicopter MI-8t | 950,000 |

Source: producer and expert data

We used the balance-sheet value indexation approach in valuating equipment acquired during the past year - including investment objects - without any information as to technical characteristics or analogous equipment prices. This approach was applied only to auxiliary and other equipment not related to specialized technology. Indexation was performed beginning from the date when the object became operational, but not earlier than the date of the last revaluation of fixed capital assets (July 9, 1997). Indicators were determined on the basis of the price indices of industrial goods as calculated by Russia's State Statistics Committee (Goskomstat).

To substitute value estimates we took into account the additional costs involved in acquiring equipment - transfer costs (2%), tax payments (5%), dues levied (0.2%) when importing equipment into Georgia, and hook-up and commissioning equipment costs. We used information regarding transfer costs and the cost of cargo custom clearance when importing into Georgia[16], as well as the data of manufacturing plants and companies that deal with equipment hook-up and commissioning.

**Additional costs in complex creation**

In order to calculate the cost of project management, data regarding the interrelationship between the cost of such operations and the cost of construction were used. Research data on the cost structure of the construction of industrial enterprises, published in the English magazine Process Engineering (November 1997), were used as primary data. As a result, project management costs equal to 10% of substitution values were calculated.

[16] 1) Deckel Maho (Germany) invoice №310/22020763 dated 03.22.2005 for delivery of manufacturing center. 2) Utilmeccanica (Italy) waybill №126 dated 03.10.2005 for delivery of welding equipment set.

### Results of substitution value calculation

Thus, the total sum of fixed capital assets and investment substitution values, taking into account additional costs, equals 180.7 million US dollars. This includes asset substitution value, a fair value estimation of which was made on the basis of market value.

**Table 4.5. Company's fixed capital assets substitution value, by group**

| Group name | Substitution value, in thousand of US dollars |
|---|---|
| Buildings | 94,924 |
| Constructions | 3,626 |
| Transfer devices | 1,753 |
| Machines and equipment | 28,773 |
| Transport | 40,850 |
| Other* | 2,161 |
| Land | 8,112 |
| Capital investments | 504 |
| **Total** | **180,703** |

* Inventory, instruments, plantings

Source: ZAO Otsenka – Consulting estimates

## 4.2. DEPRECIATION VALUATION

### Physical depreciation

Physical depreciation ($D_{fis}$) was calculated on the basis of the remaining mechanical life ($T_{res}$) and average expected life of this kind of object ($T_{norm}$):

$$D_{fis} = (1 - \frac{T_{res}}{T_{norm}})$$

We have taken into account the fact that the breakup value of fixed capital assets at the end of service life is equal to zero.

Remaining service life is a function of chronological age, average expected life of this kind of object, major repair dates and duration of interrepair cycle. We determined this dependence for individual homogeneous objects on the basis of empirically-adjusted decommissioning rates (Table 4.6).

**Table 4.6. Expected service life, average age and physical depreciation of major asset groups**

| Group | Expected service life, years | Average age, years | Physical depreciation |
|---|---|---|---|
| Buildings | 50-60 | 33.7 | 52.8 |
| Roads | 40-60 | 31.3 | 52.2 |
| Conduits | 30-60 | 26.6 | 41.2 |
| Power lines | 20-40 | 5.1 | 12.3 |
| Metal-cutting equipment | 30-40 | 26.0 | 66.5 |
| Press-forging equipment | 15-40 | 32.3 | 79.7 |
| Electrical equipment | 10-35 | 18.0 | 70.7 |
| Lifting appliance equipment | 15-30 | 20.0 | 66.1 |
| Computing machinery and office equipment | 5-8 | 2.7 | 42.1 |
| Cars | 8-20 | 12.7 | 67.8 |
| Airplanes | 30-35 | 20.0 | 61.5 |
| Instrument inventory | 8-10 | 7.2 | 43.3 |

Source: ZAO Otsenka – Consulting estimates

The average value of the physical depreciation of fixed capital assets (exclusive of capital investments) is equal to 64.8%.

The physical depreciation of the exploited objects of capital investment, the construction of which had been suspended but which were actually put into use and therefore subject to physical depreciation, was calculated in the same way.

We used expert evaluations concerning the physical depreciation of real estate objects in poor condition or on the point of decommissioning. Physical depreciation value is 100%. Such objects include:

- warehouse № 8 (fuels and lubricants);
- wood warehouse (administrative building, 1st floor);
- parachute building (7th floor);
- boiler house (near the control tower building); and
- signalization around the fence and its posts.

An accumulated depreciation calculation was made for the machines and equipment, for which we had access to market and substitution values.

**Functional depreciation**

As a rule, irrational structure or excess capacity, which appears due to the implementation of new technologies and production modernization and insufficiently effective use of assets compared with modern technologies, is a symptom of the functional depreciation of fixed capital assets of industrial companies.

The last factory reconstruction was conducted at the end of the 1960s. There has been no significant modernization since that time. Factory capacity is functionally obsolete. This has been taken into account by setting an economically sound service life when estimating physical depreciation.

Functional depreciation connected with technological peculiarities and exploitation costs has not been determined. Exposed insufficient capacity utilization is the consequence of economic depreciation and is considered further.

**External depreciation**

Factors of external depreciation may be: a lowering of production prices, high costs not associated with technological peculiarities and a reduction in production output due to aggravated market conditions.

The Company's main external depreciation factor for its fixed capital assets is the reduction of production volumes. Factory capacity allows for production of up to 140 SU-25 airplanes annually. Actual and potential production levels are much lower - 10 Su-25s were manufactured in 2004 and 17 airplanes and helicopters were repaired. On the other hand, the Company is ready to master ultra-light business airplane construction and increase civilian production output.

We revealed surplus assets not used in Company core activities due to decreasing capacity utilization. An estimation of these assets was made on the basis of market value and excluded external depreciation analysis (total market value: 3.0 million US dollars). Neither was there a need to estimate the external depreciation of Airline property value based on market value (total market value: 2.2 million US dollars).

In order to determine the additional external depreciation of productive assets, the substitution value of which - without taking into account physical depreciation - is 58.5 million US dollars, we calculated the net current value of the cash flow that these assets generate and compared it with fixed capital assets substitution value, without taking into account physical depreciation.

A calculation was made taking into account the Company's plan to produce the relatively small Tam-Air-Jet aircraft, because, as mentioned earlier, this project is being actively promoted by the Company - a joint enterprise with Tbilaviamsheni was established for this purpose, airplane trial models have been released and agreements reached regarding collation delivery. We considered two different approaches to selling the new aircraft dynamics:

1) an approach based on the Company management prognosis that assumes production of 200 aircraft annually over 5 years, corresponding to 10% market share by 2014; and

2) a more conservative approach, achieving a production volume of 100 airplanes with growth levels not exceeding 10% annually through 2014, resulting in the control of approximately 10% of the market through 2014.

The procedure for calculating and determining main model parameters is in Appendix 2. In the calculation, we discovered that the range of probable fixed assets value, taking into account the Tam-Air-Jet start production project, is between 49 and 72 million US dollars. Fixed assets substitution value, without taking into account physical depreciation, corresponds to this range, and thus can be considered to be economically sound and not requiring any additional depreciation.

In order to check for external depreciation we compared our results with those of analogous aircraft companies. We considered some open Western aircraft companies: Pemco Aviation Inc., AAR Corp., Cpi Aerostructures Inc., Ducommon Inc., Lmi Aerospace Inc., Triumph Group Inc. and the Russian aircraft companies Voronegskoe Joint-Stock Aircraft Manufacturing Company (VASO), Nizhegorodsky Aircraft Manufacturing Company Sokol (NAZ Sokol), TANTK of Beriev and the Irkutskoe Aviation Production Association[17].

A check for external depreciation was made by means of comparing the coefficient yields of capital investments (sales volume/fixed capital assets value, S/FA) with the value of this coefficient for comparable companies on the world market. The coefficient value for the Company's fixed capital assets equals 1.38. The analogous index for Western companies is between 0.7 - 2.6 at an average value of 1.55, for Russian companies the corresponding range is 0.7 - 2.8 at an average value of 1.4 (Table P1-1 Appendix 1). In our opinion, this also demonstrates that there is no necessity to further depreciate the valued fixed capital assets.

[17] Our calculations excluded design offices and enterprises such as the Ulyanovsk aviation industry complex 'Aviastar', the Moscow Research & Development Complex 'Avionika', OAO Aviacor Aviation Plant, Saratov Aviation Plant, Urals Civil Aviation Plant (UCAP) and the Rostov Civil Aviation Plant. This decision was prompted by: 1) the absence of the necessary financial information; 2) the negative fair-value capitalization of non-productive assets - based on fair-value capitalization - indicating understated capitalization and an atypical asset mix.

## 4.3. NON-PRODUCTIVE ASSETS MARKET VALUE ESTIMATION

The airline's assets (airplanes), rented property and exposed surplus fixed capital assets were estimated on the basis of market value.

In the valuation of buildings and premises, we calculated substitution value without taking into account physical depreciation - using the same valuation procedure - and then compared it with the market value range of similar properties on the Tbilisi market. According to Erdo Real Estate Group brokerage company data, the sale and purchase price for industrial property in Tbilisi ranges from 100-200 US dollars per sq. meter. Administrative-domestic buildings on the industrial site are valued at between 300-500 US dollars per sq. meter. Taking into account our experience in valuing similar properties in various Russian regions, we have assumed that prices correspond to the lower range limits, not exceeding 100 and 300 US dollars per sq. meter, respectively, for large properties at the Tbilaiamsheni site. The substitution value, without taking into account physical depreciation, has been corrected to this level. As a result, the property market value range is from 30 to 100 US dollars per sq. meter for industrial premises and 300 US dollars for administrative buildings.

The market value of non-liquid positions is equal to zero. Specialized objects (chemical warehouses, paints and carbides) and completely obsolescent objects (wood warehouse and boiler house), for which there is no market demand, were considered to be non-liquid.

Conserved equipment has also been analyzed from the point of view of liquidity. The lack of analogous new and secondary equipment sales was the criteria for determining non-liquidity. Of the 75 metal-cutting equipment inventory positions in conservation, excluding two presses, 30 were deemed non-liquid. Their market value is equal to zero. The market approach to secondary equipment sale price analysis for the Russian market was used to estimate other inventory positions. The press market price range is from 7,000 to 46,800 thousand US dollars, the maximum market value for machinery tools is 24,400 US dollars.

Aircraft market value was determined on the basis of the market approach taking into account the vessels' age. We used the data from sale-purchase transactions of analogous objects and target market trends (data sourced from OOO Aerotechservice, PDSU GA Uralaerotrans EK and the Internet trading site avia.ru. Secondary aircraft sales values on the secondary market are presented in the following table.

**Table 4.7. Secondary aircraft value range**

| Item | Value range, US dollars |
|---|---|
| Passenger airplane Tu-134 | 100,000 – 650,000 |
| Passenger airplane An-26 | 100,000 – 500,000 |
| Passenger airplane Yak-40 | 80,000 – 370,000 |
| Helicopter Mi-8t | 90,000 – 300,000 |

ZAO Otsenka – Consulting estimates

We calculated a value for aircraft that have outlived their specified service life: 200,000 US dollars for the Il-62 and 40,000 US dollars for the Yak-40.

## 4.4. VALUE CONCLUSION

On the basis of our analysis, we have reached a conclusion regarding the fair-value of Company fixed capital assets and capital investments, as presented in Table 4.8.

**Table 4.8. Fair-value calculation results**

| Group | Substitution value of main fixed assets, '000 US dollars | Fair-value of fixed assets, '000 US dollars |
|---|---|---|
| Buildings | 94,924 | 40,689 |
| Facilities | 3,626 | 1,544 |
| Transfer devices | 1,753 | 1,317 |
| Machines and equipment | 28,773 | 8,086 |
| Transport | 40,850 | 2,479 |
| Other* | 2,161 | 1,238 |
| Land | 8,112 | 8,112 |
| Capital investments | 504 | 242 |
| **Total** | **180,703** | **63,707** |

* Inventory, intruments, plantings

Source: ZAO Otsenka-Consulting

# APPENDIX 1.
# COMPARISON OF INDUSTRY COMPANIES

## APPENDIX 1. COMPARISON OF THE COMPANIES OF THE INDUSTRY

**Table П1-1 Comparative analysis of the investment efficiency of "Tbilaviamsheni" fixed assets**

| Parameter | Lmi Aerospace Inc. | Ducommun Inc. Del. | Pemco Aviation Inc. | AAR Corp. | Triumph Group Inc. New | Cpi Aerostructures Inc. | Voronezh aircraft ZAO | Nishni Novgorod aircraft factory «Sokol» | Irkutsk Aircraft Industrial association | Beriev Taganrog aircraft technical-scientific complex |
|---|---|---|---|---|---|---|---|---|---|---|
| Market capitalization, mln. US dollars | 38 | 169 | 90.6 | 510.9 | 587 | 51 | 29.1 | 56.28 | 507.2 | 21.3 |
| Capitalization with control premium*, mln. US dollars | 49.4 | 219.7 | 117.8 | 664.2 | 763.1 | 66.3 | 37.8 | 73.2 | 659.3 | 27.7 |
| Sales, mln. US dollars | 86 | 225 | 201.2 | 652 | 608 | 30.0 | 118.1 | 79.4 | 643.6 | 7.4 |
| Average annual working capital, mln. US dollars | 37 | 86 | 69.1 | 414 | 360 | 28.3 | 120.7 | 152.57 | 572.9 | 32.6 |
| Non-current assets, except fixed assets, mln. US dollars | 10 | 60 | 13.9 | 195 | 311 | 0.2 | 6.1 | 2.11 | 204.8 | 4.7 |
| Liabilities, mln. US dollars | 31 | 53.1 | 88.6 | 408 | 421 | 5.3 | 130.43 | 157.1 | 764.1 | 20.1 |
| Total invested capital, mln. US dollars | 80.4 | 272.8 | 206.4 | 1,071.8 | 1,183.8 | 71.6 | 168.3 | 230.3 | 1,423.4 | 47.8 |
| Debt to equity | 82% | 31% | 98% | 80% | 72% | 10.5% | 448% | 279% | 151% | 94% |
| Sales to working capital | 2.3 | 2.6 | 2.9 | 1.6 | 1.7 | 1.1 | 1.0 | 0.5 | 1.1 | 0.2 |
| Net fixed assets, mln. US dollars | 33.1 | 127.2 | 123.4 | 462.5 | 513.3 | 43.1 | 41.5 | 75.6 | 645.8 | 10.5 |
| **Sales to fixed assets, %** | **2.60** | **1.77** | **1.63** | **1.41** | **1.18** | **0.70** | **2.85** | **1.05** | **1.00** | **0.70** |

* 30% control premium added

Source: data from annual company reports, ZAO Otsenka – Consulting estimates

# APPENDIX 2.
# DISCOUNTED CASH FLOW CALCULATIONS

To calculate the external depreciation rate we applied the discounted cash flow method and compared its results with the replacement cost less physical depreciation and functional obsolescence.

The calculation was based on the formula:

$$Voc = \sum_{n=1}^{N} \frac{CFF_n}{(1+r)^{n-0,5}} + \frac{CFF_p}{(r-i)(1+r)^N},$$

where:

Voc – fixed assets value

$CFF_n$ – cash flow for the n-year of the forecast period without taking into account debt service expenses

$CFF_p$ – cash flow for the first year after the forecast period

N – forecast period (years)

r – discount rate for invested capital

i – pace of cash flow growth after the forecast period

We calculated debt-free nominal (i.e. accounting for inflation) cash flow associated with fixed capital assets, taking into consideration the fact that during the first year of operations a floating assets reserve will be created.

Cash flow was forecasted for ten years. In constructing the cash flow model we proceeded from the following data:

- financial accounting of the Company for the period 2000-2003 and managerial accounts for the period 2001-2004; and
- information about the aircraft industry in Russia and the U.S. (industry surveys, official statistics data and comparable companies data).

Where possible, we used average market data - average industry figures obtained by analyzing the financial accounting of aircraft companies in Russia and the U.S. – in valuating the basic parameters of the financial model. In other cases, we relied on data for past Tbilaviamsheni operations, taking into consideration Company specifics.

Income derived from the optimization of the production of light airplanes was included in our calculations in the Tbilaviamsheni share of the cash flow of SP Tam Air, which accounts for 50%.

## Cash Flow Forecast

Output volume

The Company's primary income source is the sales of military and commercial products and services:

- assembly, configuration, overhaul, maintenance checks and warranty works of SU-25 and SU-25 UB aircraft;
- overhaul of MI-24, MI-8MT, MI-8 helicopters;
- maintenance check and configuration of Mig-21 aircraft;
- delivery of spare parts and accessories; and
- commercial production.

Forecasts and Company management plans served as the basis for forecasting the potential output of each type of operational activity, which we analyzed from the market point of view.

The output of military production in kind was determined on the basis of Company orders on hand for 2005-2006 and its forecasts. The delivery of spare parts and accessories was forecasted as the average quantity delivered 2005–2006. The anticipated reduction of orders in this sphere corresponds to the market situation: the SU-25 attack aircraft model is functionally obsolescent and the current world SU-25 fleet is physically depleting the sortie rate.

At the same time, growth in commercial production output in the following promising spheres of Tbilaviamshen production is forecasted[18]:

- production of four– and six–seater airplanes of the Tam-Air-Jet business class;
- increase in gas heater production;
- production of hydroturbines;
- production of high–density polyethylene pipes;
- production of cross wind generators.

Due to the novelty of the Tam-Air-Jet project and risks associated with entering new markets, we opted to analyze two scenarios for project realization: one corresponding to the expectations of Tbilaviamshen management and another, more conservative scenario.

[18] The project involving the creation of a service center for aircraft of the Boeing and Airbus classes and the project to produce heliosystems (solar hot–water generators) were not considered in the calculations. These projects are in the first stages of development - the Company has not yet signed any agreements with partners, suppliers and/or customers regarding these projects, nor are their financial plans fully developed.

The Company plans to complete the aircraft certification process by the beginning of 2008. Before certification is completed, sales of experimental airplane models are projected to reach 40-60 vessels a year. Following certification, output volume is forecasted to reach 150-200 vessels annually. According to our estimates, this covers 10% of the market over the next 10 years.

According to the more conservative scenario, aircraft sales will commence upon completion of the certification process, accounting for 50 vessels the first year and reaching 100 vessels by 2010. Thereafter, sales will grow by 10% annually. Thus, Tam-Air-Jet will cover about 5% of the light aircraft market through 2014.

The output of gas heaters was determined on the basis of the market share that the Company plans to control. To increase the production of gas heaters, Tbilaviamshen plans to invest 1 million USD in net advertising and distribution in other cities in 2005. According to our estimates, if the present average growth rate of heater production remains stable, the Company will satisfy the demand of the latent 39% of the market, which corresponds to 97,500 heaters. Thereafter, these operations will focus on the replacement of worn-out heaters.

The output of hydroturbines was determined on the basis of Tbilaviamshen management forecasts. The demand for hydroturbines on the Georgian market is conditioned by the following factors: hydroelectric stations generate about 80% of all electric power in the country and main hydroelectric station equipment has worn out and needs replacement.

We determined polyethylene pipe output on the basis of Company management data, which indicated the total length of Tblisi's water-supply network to be 3,400 km. 25% of this network needs immediate replacement and 50% will need replacement in two years. Tbilisi's 2005 budjet has earmarked 5.3 million USD for this task and the local administration plans to double the budget over the next few years to update the city's water-supply network and gas system. The total length of the water-supply network in other Georgian regions is about 5,800 km. More than 60% of the system is currently out of service and in need of immediate replacement. Company plans to produce large-caliber pipes to replace Georgia's delapitated water-supply pipes, to follow on the heels of the project to produce water-supply pipes, was not taken into account in the present calculations, due to the lack of a sufficiently reliable forecast basis.

The output of cross-wind generators was determined on the basis of the agreement with the Government of Georgia on the production of 100 cross wind generators in 2005. It is expected that in the following years the production of cross wind generators will reach 200 items a year.

Forecasts of main Company production figures 2005-2015, according to the conservative Tam-Air-Jet project scenario, are presented in Table P2-1.

**Table P2-1 Forecasts of Company production figures 2005-2015**

| Parameter | 2005 | 2006 | 2008 | 2010 | 2012 | 2014 | 2015* |
|---|---|---|---|---|---|---|---|
| **Military production items, units, including** | | | | | | | |
| Assembly of new SU-25 | 6 | 6 | 6 | 0 | 0 | 0 | 0 |
| Overhaul of SU-25 | 9 | 10 | 10 | 10 | 10 | 10 | 10 |
| Maintenance checks and warranty works SU-25 | 0 | 10 | 10 | 10 | 10 | 10 | 10 |
| Overhaul of SU-25 UB | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| Assembly of new SU-25 UB | 2 | 2 | 1 | 0 | 0 | 0 | 0 |
| Overhaul of airplanes(YAK-52) | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Overhaul of helicopters (MI-24, MI-8MT, MI-8) | 11 | 6 | 6 | 6 | 6 | 6 | 6 |
| Maintenance checks of airplanes (Mig-21) | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Engine overhaul | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Commercial production, including** | | | | | | | |
| Assembly of business-class airplanes (Tam-Air-Jet) | 0 | 0 | 50 | 100 | 121 | 146 | 160 |
| Gas heaters, units | 6,001 | 7,201 | 9,524 | 11,524 | 13,310 | 4,796 | 4,875 |
| Low-power hydroturbines, units | 3 | 6 | 6 | 6 | 6 | 6 | 6 |
| Length of refurbished water-supply networks in Georgia, km. | 850 | 3,480 | 1,700 | 0 | 0 | 0 | 0 |
| Production of cross-wind generators, units | 100 | 200 | 200 | 200 | 200 | 200 | 200 |

* The first year of the post-forecast (stable) period

Source: ZAO Otsenka – Consulting estimates

Production cost

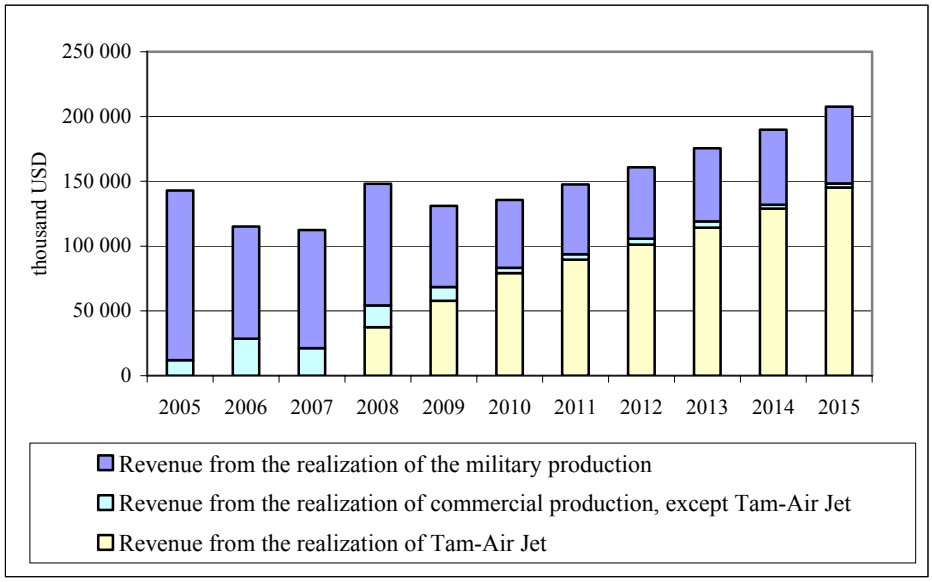
Production cost forecast was made on the basis of the Company's actual realization costs 2004-2005, corrected by taking into account the inflation index. The costs of newly-named commercial products were calculated on the basis of Tbilaviamsheni business plans.

Base costs for Tam-Air-Jet aircraft are fixed in the Company's business plan at the rate of 1.2 million USD prior to certification completion and 1.5 million USD following certification. The cost levels forecasted by the Company correspond to the market range and we did not correct them in our calculations.

The rate of production cost growth was calculated as the average growth of U.S. GDP 2000-2004 as reported by the U.S. Bureau of Economic Analysis and amounted to 2.8%.

The revenue forecast from the realization of Company production according to the conservative scenario is presented in diagram P2-1.

**Diagram P2-1 Company revenue forecasts 2005-2015, in 'thousand USD**




Source: ZAO Otsenka – Consulting estimates

Fixed and variable costs

The Company's main variable cost items include staff expenses and core production worker wages. Fixed costs include salaries of non-productive personnel, amortization, general servicing of main equipment and other administrative expenses.

The direct variable costs of Tbilaviamsheni were calculated taking into account the industry average profitability of direct costs, which was established on the basis of an analysis of global aircraft industry financial indicators. Net profit ratio for direct costs for comparable Russian companies is in the range of 9.3-39.5% with an average rate of 27%. Tam-Air variable costs were calculated on the basis of Company management forecast.

Fixed costs were calculated uniformly for the two scenarios on the basis of actual Company expenses for 2004, taking into account plans to increase expenditures on personal training, the management quality improvement program and the implementation of new management and accounting systems. Fixed costs include runway rent and testing site equipment at the rate stipulated in the rental agreement.

The salary of non-productive personnel was calculated by taking into account Tbilaviamsheni's commitment to the government to raise personnel levels by 10% for 3 years. Actual Company data for 2004 were used as the basis for the calculation.

On the basis of the Tax Code of Georgia, the forecast period provides for a social tax rate reduction from 33% to 20% as of January 1, 2005.

The current profit tax of 20%, as stipulated by the Tax Code of Georgia, was taken into account in calculating Tbilaviamsheni's cash flow; for calculation purposes, Tam-Air cash flow profits were taxed at the rate of 35%.

The rate of fixed-costs growth in the forecast period was fixed at the level of the average growth of the U.S. GDP deflator for 2000-2004, which, according to the U.S. Bureau of Economic Analysis, was 2.8%.

Required equity working capital

Required equity working capital was calculated by taking into account working capital turnover. In the first forecast year, working capital turnover was fixed as the actual working capital turnover of Tbilaviamshen, which in 2004 equaled 1.5. In following years it will reach the average industry indicator 2.0, which was calculated using data from the Russian aircraft industry and U.S. companies. Tam-Air working capital turnover was also calculated as 2.0 - an average figure based on U.S. aircraft companies, since the Company is oriented towards the American market.

Net working capital was determined by taking into account the average share of trade liabilities in the value of current assets, which accounted for 30% according to Company reporting data 2000-2003.

Thus, the calculated reserve for the creation of working capital in the first year of the forecast period amounts to 95.2 million USD.

Capital investments

The value of investments should be constant and is equal to amortization charges at the rate of 3.6 million USD, which is calculated by taking into account the physical value of the working capital less physical depreciation and remaining life. The increase in investment value in the forecast year corresponds to average annual inflation.

To carry out the polyethylene pipes production project, the Company is purchasing and installing the necessary manufacturing line. The required level of investment is 1.24 million USD.

In order to increase the volume of gas heater sales, the Company plans to make cash investments of 1 million USD in an advertising company and the creation of distribution networks in other cities.

Total investments in Tam-Air-Jet aircraft production amount to 42 million USD and include the purchase of equipment (4 million USD ), personal training (2 million

USD), aircraft certification costs (30 million USD) and experimental model production costs (6 million USD).

According to Tbilaviamsheni management data, the necessary equipment is available - if needed - for other new investment projects and no new investments are needed.

We expect that the rate of cash flow growth after the forecast period will be 2.8%, which corresponds to the average growth of the U.S. GDP deflator for 2000-2004, according to the U.S. Bureau of Economic Analysis.

**Discount rate**

The discount rate was calculated as the weighted average cost of capital and used for discounting the debt-free nominal (i.e. taking into account inflation) cash flow in USD.

$$WACC = r_e \times E/V + r_d \times (1 - \tau) \times D/V,$$

where:

$r_e$ - rate of return on the equity capital of companies with comparable risk levels;

E/V - share of equity capital in the Company's capital;

$r_d$ - rate of return on borrowed capital;

D/V - share of borrowed capital in the Company's capital;

$\tau$ - profit tax rate.

The calculation of the rate of return was made on the basis of the Capital Assets Pricing Model (CAPM) with the aid of the following formula:

$$r_e = r_f + \beta_{leveraged} \times (r_m - r_f) + C + S,$$

where:

$r_e$ - rate of return on equity capital;

$r_f$ - risk-free rate of return;

$\beta_{leveraged}$ – systematic risk coefficient, taking into account the typical financing structure of companies within a certain industry;

$r_m$ -average rate of return on highly-liquid market shares;

$r_m$-$r_f$ - market premium to the most reliable issuers for investing in corporate stock;

C - country risk premium;

S - Company specific risk premium.

As risk-free return, we used the return on 30-year old U.S. Government bonds, which amounted to 4.73% as of valuation date.

Country risk premium was calculated as the average market premium for the investment risk on the market of CIS country capitals, taking into account ratings issued by Standard & Poor's on the valuation date; it amounted to 7.5%.

Specific risk premium allows considering the specific features of the valued Company. In determining the rate of specific risk premium, we considered the presumptive size of the Company's capitalization. Tbilaviamsheni capitalization is much lower than the average capitalization of companies included in the S&P 500 index. The size premium was calculated on the basis of the composite scale of Stern's Business School of New York University and accounts for 4.63%. The 2% risk premium rate of 2 %, connected with the reduction of the Company's traditional market and realization of programs for entering new markets, was also taken into account in the specific risk premium.

The calculation of the coefficient $\beta_{leveraged}$ was made on the basis of the share data of companies on the U.S. market. In the calculations we used the data from Stern's Business School of New York University [19], according to which U.S. aircraft companies' average coefficient, free of leverage - $\beta_{unleveraged}$ – accounts for 0.47. The debt-equity ratio of companies in the analyzed U.S. industry accounts for 0.303. The coefficient β, typical for the company, accounts for 0.59 and was calculated with the help of the following formula:

$$\beta_{levered} = \beta_{unlevered} + \beta_{unlevered} \times (1 - \tau) \times (D/E).$$

The premium on the average return of the market portfolio of the most liquid shares as compared with risk-free instruments was calculated on the basis of return statistics on the U.S. securities market since 1962, according to data from Ibbotson Associates[20] , and accounted for 7.37%.

$$r_e = 4{,}73\% + 7{,}5\% + 0{,}59 \times 7{,}37\% + 2{,}0\% + 4{,}63\% = 23{,}18\%.$$

We calculated the borrowed capital value as the average actual interest rate for the Company's credit facilities at the rate of 12%.

$$WACC = 23{,}18\% \times 0{,}77 + 12\% \times (1 - 20\%) \times 0{,}23 = 20{,}06\%.$$

Thus, the discount rate is equal to 20%.

According to our calculations, the discount rate for the cash flow from the Tam-Air-Jet project is also 20%. On the one hand, the project is oriented towards the American

[19] Site of New York University Professor A. Damodaran's studies.

[20] Site of Ibbotson Associates, founded by Professor R. Ibbotson.

market and being conducted with American participation, consequently, it is associated with fewer country risks. On the other hand, the project itself - before the model passes certification - carries higher risks. For this reason, we believe that the discount rate for this cash flow roughly corresponds to the discount rate for other cash flows of the Company.

**Conclusions**

Net current cash flow value attributed to the fixed assets of the Company according to the conservative scenario equals **48.8 million USD**. The realization of the scenario anticipated by the Company results in a current value of **71.8 million USD**.

The calculations of net current cash flow value attributed to the fixed assets of the Company according to the conservative scenario are presented in Table P2-2.

## APPENDIX2. DISCOUNTED CASH FLOW CALCULATIONS

**Table P2-2 Calculation of fixed assets value by the discounted cash flow method (conservative scenario), thousand USD**

| Parameters | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Activities, excluding Tam-Air-Jet operations** | | | | | | | | | | | |
| Revenue from the realization of production, excluding Tam-Air-Jet | 142,858.8 | 115,080.2 | 112,482.9 | 110,496.6 | 73,292.7 | 56,369.6 | 58,025.6 | 59,628.2 | 61,229.6 | 60,878.8 | 62,448.8 |
| Variable costs | 99,576.0 | 71,570.3 | 73,717.4 | 74,282.5 | 50,236.9 | 41,172.8 | 42,382.3 | 43,552.9 | 44,722.6 | 44,467.2 | 45,614.0 |
| Fixed costs | 8,845.1 | 9,349.9 | 9,656.8 | 9,983.4 | 10,273.6 | 10,617.5 | 11,013.6 | 11,433.6 | 11,879.1 | 12,348.6 | 12,849.8 |
| **Profit from the realization of production** | **34,437.7** | **34,159.9** | **29,108.7** | **26,230.6** | **12,782.2** | **4,579.3** | **4,629.6** | **4,641.6** | **4,627.9** | **4,063.0** | **3,984.9** |
| Taxes on financial results | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| Profit tax, % | 20% | | | | | | | | | | |
| Profit tax | 6,868.0 | 6,812.4 | 5,802.1 | 5,226.5 | 2,536.8 | 896.3 | 906.3 | 908.7 | 906.0 | 793.0 | 777.4 |
| **Net profit** | **27,471.8** | **27,249.5** | **23,208.6** | **20,906.1** | **10,147.4** | **3,585.0** | **3,625.3** | **3,634.9** | **3,623.9** | **3,172.0** | **3,109.6** |
| (+) amortization | 3,600 | 3,790 | 3,790 | 3,790 | 3,790 | 3,790 | 3,790 | 3,790 | 3,790 | 3,665 | 3,665 |
| (-) capital expenditures | 5,837.2 | 3,826.2 | 3,994.5 | 4,170.3 | 4,285.4 | 4,403.6 | 4,525.2 | 4,650.1 | 4,778.4 | 4,874.0 | 4,971.5 |
| (+/-) increase/reduction in working capital | | -37,699.1 | -1,298.6 | -993.2 | -18,601.9 | -8,461.6 | 828.0 | 801.3 | 800.7 | -175.4 | 785.0 |
| **Cash flow, thousand USD** | **25,234.6** | **64,912.4** | **24,302.6** | **21,518.9** | **28,253.9** | **11,432.9** | **2,062.0** | **1,973.4** | **1,834.7** | **2,138.4** | **1,018.0** |
| Creation of initial floating assets reserve | 95,239.2[21] | | | | | | | | | | |
| **Tam-Air-Jet Project** | | | | | | | | | | | |
| **Revenue from the realization of Tam-Air-Jet** | | | | **75,000.0** | **115,605.0** | **158,394.3** | **179,042.5** | **202,382.5** | **228,593.2** | **257,862.8** | **290,388.8** |
| Full cost price of Tam-Air-Jet | | | | 56,074.7 | 84,262.6 | 113,963.1 | 128,289.7 | 144,482.8 | 162,666.4 | 182,970.6 | 205,532.1 |
| **Pre-tax profit, thousand USD** | | | | **18,925.3** | **31,342.4** | **44,431.2** | **50,752.9** | **57,899.7** | **65,926.9** | **74,892.2** | **84,856.7** |

[21] During the first year of complex operations, a floating assets reserve will be created in the amount of 95.2 mln.

## APPENDIX2. DISCOUNTED CASH FLOW CALCULATIONS

| Parameters | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Profit tax, % | 35% | | | | | | | | | | |
| Profit tax | | | | 6,623.9 | 10,969.9 | 15,550.9 | 17,763.5 | 20,264.9 | 23,074.4 | 26,212.3 | 29,699.8 |
| **Net Tam-Air profit** | | | | **12,301.5** | **20,372.6** | **28,880.2** | **32,989.4** | **37,634.8** | **42,852.5** | **48,680.0** | **55,156.9** |
| (+) amortization | | | | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 |
| (-) capital expenditures | 22,000 | 11,000 | 11,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 |
| (+/-) (increase)/reduction in working capital | | | | 26,250.0 | 14,211.8 | 14,976.2 | 7,226.9 | 8,169.0 | 9,173.7 | 10,244.3 | 11,384.1 |
| Tbilaviamsheni's share in the profit of Tam-Air | 50% | | | | | | | | | | |
| **Cash flow, thousand USD** | **-11,000.0** | **-5,000.0** | **-5,000.0** | **-6,974.3** | **3,080.4** | **6,952.0** | **12,881.2** | **14,732.9** | **16,839.4** | **19,217.8** | **21,886.4** |
| **Total cash flow, thousand USD** | **14,234.6** | **59,912.4** | **19,302.6** | **14,544.7** | **31,334.3** | **18,384.9** | **14,943.2** | **16,706.4** | **18,674.1** | **21,356.2** | **22,904.4** |
| Total, creation of initial floating assets reserve | 95,239.2 | | | | | | | | | | |
| WACC | 20% | | | | | | | | | | |
| **Total cash flow value, thousand USD** | **135,600.9** | | | | | | | | | | |
| Initial floating assets reserve value, thousand USD | 86,782.2 | | | | | | | | | | |
| **Total fixed assets value, thousand USD** | **48,818.8** | | | | | | | | | | |

# APPENDIX 3.
# LICENCE