

# IRKUT: Ready for takeoff

June 2003

## HIGHLIGHTS

★ Irkut manufactures the latest model of the SU-30MKI jet fighter, the stock aircraft of the Russian Air Force.

★ The US military's activities in the Middle East are likely to arouse interest in long-distance fighters among Asian countries. This category of planes is made only in Russia and the US.

★ The current portfolio of orders guarantees Irkut's stable sales for the next seven years.

★ Irkut, a company with a sterling credit history, borrows actively in the capital markets, including the stock market.

★ The company spends accumulated investment resources to create new assets in the area of its specialization, in particular to develop new models, for which it has already received a number of orders from abroad.

★ In 2004, the company plans an IPO for Russian and foreign investors.

★ The government, represented by AVPK Sukhoi, is still seeking to increase its stake in Irkut. Increased government leverage may result in poorer management. It can also bring with it new orders.

★ Irkut's long-term liabilities are excessively large if compared to its working capital and revenues. This peculiarity is due to the specific terms of its Indian contract, under which advance payments are relatively low.

★ An evaluation of Irkut using the discounted cash flows method points to potential 158% growth of its common shares.

★ The significant growth potential of Irkut's common shares, coupled with the relatively low risk of investing in them – as compared to buying shares of other manufacturing companies – allows us to recommend Irkut's common shares for short- and mid-term investment.

Share price	\$0.27
Number of shares issued	791 051 875
Authorized shares	-
Capitalization	\$213.6m
Ticker	IAPO
Recommendation	Buy
Target price	\$0.70
Growth potential	158%

Irkut vs RTS index



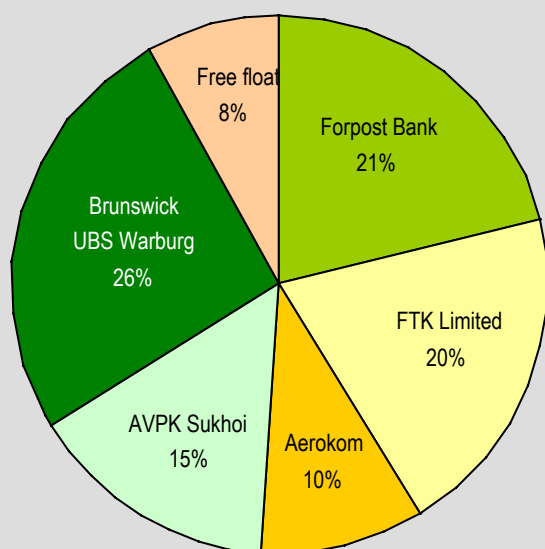
Finance, \$m	'01	'02	'03F
Sales	230.9	562.2	730.9
EBITDA	67.0	176.0	220.4
EBIT	57.9	153.7	191.2
Net profit	110.9	11.0	15.0
<b>Margins</b>			
EBITDA	29%	31%	30%
EBIT	25%	27%	26%
Net profit	48%	2%	3%
<b>Ratios</b>			
P/S	0.93	0.38	0.29
P/E	1.93	19.42	14.24
EV/EBITDA	8.90	3.39	2.70

Modern Russian jet fighters, such as SU-27 / SU-30, are manufactured by two companies – Komsomolsk APO and NPK Irkut. The government has complete control of the first firm, but only a 15% stake in Irkut. At the same time, it is Irkut that has a very profitable export contract, under which this company is to deliver SU-30MKI fighters to India. This contract, as well as many others, guarantees that Irkut's revenues will remain at their current level for the next seven years. Not one company in Russia's military-industrial complex can boast such a portfolio of orders. Still, in seven years' time, the fourth-generation fighters currently made by Irkut are not going to be in demand. Because of this, the company is engaged in development of original products unlikely to be matched by competing firms. Such products include an amphibious aircraft with a large carrying capacity and an inexpensive military transport plane. The company has already signed the first contracts to deliver such planes. In the machine-building sector, working capital tends to be large. For this reason, Irkut actively borrows money from banks, and issues bonds. Next year, the company is going to place shares (IPO) on western stock markets. Portfolio investors have already showed interest in Irkut's common shares, pushing their prices to almost double what they were half-a-year ago. Our calculations demonstrate that their growth potential has not been exhausted, and can continue to push the shares to a level at least 158% above their current price.

#### Irkut and its key competitors in the global market

	Share price, \$	MCAP, \$ m	Net debt, \$ m	Sales, \$m		EBITDA, \$m		Net profit 2002 \$ m	P/S '02	P/E '02	EV/EBITDA '02
				2001	2002	2001	2002				
Irkut (Russia)	0.24	190	382	231	562	67	176	11.0	0.34	17.26	3.25
Lockheed Martin Corp (USA)	45.36	20,671	7,557	23,990	26,578	2386	2507	505.9	0.78	40.86	11.26
Boeing (USA)	26.65	22,403	12,589	58,198	54,069	6467	5447	2,411.0	0.41	9.29	6.42
Dassault Aviation (France)	245.37	2,485	153	3,784	3,751	550	--	343.2	0.66	7.24	4.80
SAAB AB (Sweden)	11.51	1,226	401	1,871	1,972	231	482	87.3	0.62	14.04	3.38

### Shareholder structure



Source: SKRIN

### Company description

NPK Irkut (known as Irkutsk Aviation Manufacturing Association prior to 2002) is one of Russia's largest producers of fighter-planes. The entity was established in 1934 as a manufacturer of fighter-planes and fighter-bombers for the Soviet Air Force. Among its first products were the ANT-2 and TU-2 planes. In the 1970s, the company started producing MIG-27 jet fighters. In 1986, the two-seat SU-27UB became its main product. The company currently produces two models of that fighter – SU-27UBK and SU-30MKI. At present, the SU-27 is the Russian Air Force stock fighter-plane. Sales of these planes and spare parts for them account for more than 95% of the company's revenues. In terms of sales, Irkut and Komsomolsk APO are absolute leaders in the country's military aviation sector. During the past five years, over 90 per cent of Irkut's revenues have stemmed from two large export contracts – a contract with China for 28 SU-27UBK fighters, and a contract with India for 50 SU-30MKI's. The deals were made by Rosvooruzheniye (now known as Rosoboronexport), which appointed Irkut to be the main manufacturer under the contracts.

With the help of accumulated investment resources, Irkut's majority shareholders acquired controlling stakes in several firms that manufacture avionics for civil and military aircraft. Those firms include AO OKB Russian Avionics (Moscow region; a manufacturer of precise guidance systems and navigation devices), AO Itela (Yaroslavl'; a manufacturer of sensors and control systems), Beriyevev TANTK (Taganrog; a developer of special aircraft, especially planes that can land on water.) Irkut currently owns controlling stakes in the above companies.

The corporate structure is as follows. The "Moscow Corporate Center" is responsible for general management. It also controls two main business subdivisions – the research and development (R&D) division and the manufacturing division. The third managerial level is local. It manages all manufacturing and development departments directly.

The company's R&D subdivision currently generates no money flows. The bulk of revenues comes from sales made by Irkutsk Aviation Plant, the manufacturing subdivision. It should be noted that this division is not an assembly plant, as the common practice of the global aviation industry would suggest. As a matter of fact, the plant carries out all the manufacturing operations, starting from the various metal-processing operations, and ending with final production. The plant has many types of special equipment to carry out the numerous operations. There are machines for laying-out, bending and shaping metal. Special technologies are used to produce thin parts from aluminum alloys. Electro-vacuum furnaces are used for thermal fixation of titanium panels. Metallurgical facilities can be used to produce metal

In contrast to the common practice in many countries' aviation industries, Irkut is not an assembly plant. It is home to all the manufacturing operations, from metal processing to final production.

parts of practically any kind from both ferrous and non-ferrous metals. The plant is thus equipped to manufacture any and all metal part of an airplane. The other two main categories of components are avionics (which, in Russia, accounts for 25 to 35 per cent of the airplane's price) and engines (another 30 to 35 per cent of the price). Avionics are supplied in part by the firms acquired by Irkut. The main share of avionics, however, is bought from other industrial enterprises partly controlled by the government, such as United Aviation Instruments Consortium (St. Petersburg), NPTC Technocomplex, MNPO Avionics, and others. The AL-31F engines are supplied by NPO Salyut (Moscow). Similar engines are also produced by Ufa Motor Company, which is known by the Russian acronym UMPO. Still, only a small share of engines is bought from Ufa, since Salyut and UMPO have agreed to produce approximately equal numbers of aviation engines, with Salyut being mainly oriented towards Komsomolsk APO.

#### Russia's largest exporters of military equipment, 2002, \$m

Komsomolsk APO (estimate)	627
Irkut	522
RSK "MiG"	370
Priborostroenie	350
Uralvagonzavod (estimate)	236
NPO Mashinostroenie	70
Antei	60
CB Mashinostroenie	50
Others	1715
TOTAL (including military supplies paid as barter for state debts)	4000

*Source: Rosoboronexport, IA TS-VPC, Vedomosti*

## Irkut's products: modern jet fighters for the Russian Air Force

**In fact, there is only one fighter in the world that can compete with SU-27UBK in terms of battle and technical characteristics – the F-15E from McDonnell Douglas**

Sales of SU-27UBK and SU-30MKI planes generate over 90% of the company's current revenues. The other income is mainly associated with repairs of similar jet fighters, both Russian and foreign. At present, the various models of the SU-27 fighter represent the most modern warplane produced in the Russian Federation. The project to develop this plane was launched as far back as 1967-70 in response to development of a fourth-generation fighter in the US. In fact, there is only one fighter-plane in the world, the F-15E from McDonnell Douglas, which can compete with SU-27UBK in terms of battle and technical characteristics. The main purpose of such long-range planes is securing undisputed air superiority. Both American and Soviet fighters were mainly designed for aerial inspections near state borders and repulses of military attacks. Yet, they were also able to strike surface targets, both on land and at sea. The first test flights of SU-27 took place on April 20, 1981. Production of the SU-27UB combat-trainer derivative started in 1986 at the Irkutsk Aviation Plant. According to Soviet military experts, the combat efficiency of SU-27 exceeded that of F-15A by 15%. This fighter held over 20 records in such categories as climb rate and cruising altitude. For export purposes, the SU-27SK, with slightly modified avionics, was produced (SK stood for Soviet Commercial). The first buyers were China and Vietnam.

The SU-30MK (modernized commercial) presented a significant updating of its predecessor. It was the first commercial multi-purpose fighter that was also super-maneuverable. The last feature was made possible by a vector controlled traction system, which was developed for new AL31F engines at Arkhip Lulka Construction Bureau. Compared to the SU-27, the SU-30 fighter is also faster. Its can reach speeds of 2 500 km per hour, as opposed to 2 150 km per hour for SU-27. It can also carry more weapons. Production of SU-30MK represents Irkut's largest manufacturing line, meant to supply the Indian Air Force. A number of Indian companies were engaged in developing avionics and other equipment for those fighters.

Irkut has also developed a modernization program for the SU-27 family of fighters, including both single- and twin-seaters. The new versions will be produced under SU-27UBM and SU-30KN names, the latter being the export model.

Compared to basic versions of SU-27 and SU-30, the new fighters have better combat capabilities, due to a larger arsenal of air-to-air and air-to-ground weapons, including R-77, Kh-29, Kh-31A and Kh-59ME missiles. Their radar also has a number of additional features, including map-making and many others. Their multifunctional indicators significantly improve operational conditions for the crew. The SU-27UBM and SU-30KN modernized fighters took part in several dem-

### Export of weapons in 2002

Aviation	75%
Military equipment / weapons for land forces	15%
Military equipment / weapons for naval forces	6%
Equipment / weapons for anti-aircraft defense	4%

Source: Rosoboronexport, IA TS-VPC

onstration flights at a Russian Air Force testing site. They efficiently struck air targets and successfully used guided and unguided weapons against ground targets both in day- and nighttime. The SU-30KN also successfully used AKh-31A missiles to hit a surface target above water. At the second stage of modernization – the SU-27UBM and SU-30KH – a different cockpit layout will be implemented, and a new radar, based on an improved array antenna, will be installed. This concept was approved by the Russian Federation’s Air Command as the general approach to the modernization of all SU-27 and SU-30 fighters in the Russian Air Force’s fleet. Until 2002, however, there were no funds in the Russian budget to implement the modernization. According to preliminary estimates, this year, \$300 million could be allocated for these purposes. It is very likely that those funds will not be spent to modernize MIG-29, another popular Russian jet fighter with different performance characteristics and different purposes. A number of senior ranking officers in the Russian Air Force confirmed many times that SU-27 would remain the main combat fighter in Russia for the foreseeable future.

### Export of SU-27 and SU-30

Country	Number of fighters	Prime manufacturer	Terms	Contract value, \$ mil.
China	22 Su-27	Komsomolsk	1995-1996	n.a.
Vietnam	6 Su-27	Komsomolsk	1996-1998	180
India	40 Su-30	Irkut	1996-2001	2000
India	10 Su-30	Irkut	1998-1999	350
Ethiopia	8 Su-27	Komsomolsk	1998-1999	120
China	200 Su-27	Komsomolsk	1996-2005	2000
China	60 Su-30	Komsomolsk	1999-...	2000
China	28 Su-27	Irkut	1999-...	n.a.
India	140 Su-30	Irkut	2000-(2017)*	3300

\* Including licensing

Source: The Center for Strategic Analysis and Technologies

## SU-27UBK / SU-30MKI and their key competitors in international tenders

		Main purpose	Crew, pilots	Standard take-off weight, kg	Maximum take-off weight, kg	Fuel capacity (w/o extra fuel cells), kg	Maximum speed, km/h	Range (w/o refueling), km	Combat load, kg	Main weapons	Year when regular production started
Su-27UBK		Long-range interceptor	2	24140	34000	5270	2125	3000	8000	One 30-mm gun (150 rounds); up to 10 air-to-air guided missiles (GM); up to 10 small-range guided missiles (GM)	1986
Su-30MKI		Long-range interceptor	2	24900	34500	5270	2500	3000	8000	One 30-mm gun (150 rounds); up to 10 air-to-air GMs; up to 10 small-range GMs; up to 6 air-to-ground GMs	1996
McDonnell F15E		Long-range interceptor	2	14515	36740	5952	2650	более 2000	n/a	One 20-mm gun (512 rounds); up to 8 air-to-air GMs; up to 6 air-to-ground GMs	1986
Dassault Mirage-2000 (B;ED)		Multi-purpose interceptor	2	12200	17000	3720	2340	3300	5800	Two 30-mm guns; 2 air-to-air GMs; 2 small-range GMs	1979 (Mirage-2000C)
Lockheed F-16C		Multi-purpose light-duty fighter	2	11400	17000	3160	2120	1600	5420	One 20-mm gun; up to 4 small-range GMs; up to 4 air-to-ground GMs; up to 4 mid-range GMs	1974 (F-16)
SAAB Grippen JAS-39D		Multi-purpose light-duty fighter	2	8500	13000	2268	2200	2150E	5000E	One 27-mm gun; 2 small-range GMs; up to 6 air-to-air GMs; up to 4 air-to-ground GMs	1995

### Comparison of SU-27/SU-30 fighters to fifth-generation fighter-planes

		Crew, pilots	Normal take-off weight, kg	Year when regular production started	Main weapons	Countries having a fleet of such fighter-planes
Su-27UBK		2	24140	1986	One 30-mm gun (150 rounds); up to 10 air-to-air guided missiles (GM); up to 10 small-range guided missiles (GM)	China, Vietnam, Russia
Su-30MKI		2	24900	1996	One 30-mm gun (150 rounds); up to 10 air-to-air GMs; up to 10 small-range GMs; up to 6 air-to-ground GMs	India
F-22 (F-22B)		1(2)	27216	1999	One 20-mm gun; 6 air-to-air automatically guided missiles; 2 close-combat automatically guided missiles	USA
Eurofighter, EF-2000, Typhoon		1(2 for UBS)	18140	2002	One 27-mm gun; up to 10 mid-range air-to-air GMs; 2 close-combat GMs	Germany, Great Britain (Italy, Spain, Austria)
Dassault Rafale		1(2 for UBS)	9060 (empty)	2001	One 30-mm gun; up to 12 mid-range missiles and 2 close-combat GMs	France
Su-37		1	25700	-	One 30-mm gun; air-to-air active self-homing missile; air-to-ground missiles of the same type as for Su-27 (Su-30, Su-35)	-

### Financial standing – the current portfolio of orders guarantees stable sales for the next seven years

**Irkut is likely to become the chief contractor under the contract to produce eighteen SU-30MKM fighters for the Malaysian military. The preliminary purchase agreement was signed in May. The value of the contract is \$900m.**

**Irkut's managers do not hide their intention to buy several aviation plants, such as the Samara Aviakor, producer of TU-154M planes, and the Ulyanovsk Aviastar, manufacturer of AN-124 planes.**

According to Aleksei Fedorov, the company's president, Irkut's portfolio of orders is worth approximately \$4 billion. If the current rate of production remains unchanged, the company is going to receive income for the next 7.1 years. The Indian contracts, totaling \$3 billion, account for a major share of Irkut's portfolio of orders. Under the contracts, Irkut is to produce and sell fifty SU-30MKI fighters. It is also to help HAL, an Indian aviation corporation, to launch its own assembly line. The agreements stipulate, however, that Irkut will remain the general contractor. Irkut and HAL have cooperated successfully in the past. In the early 1980s, the Irkutsk plant helped HAL to start production of MIG-27L fighters, which remained in the Indian air force's fleet until 1996. HAL's revenues are likely to increase in the near future.

Additionally, Irkut is likely to become the chief contractor under a contract to produce eighteen SU-30MKM fighters for the Malaysian government. The preliminary purchase agreement was signed in May. The contract is worth \$900 million, approximately \$500m of which will be paid in cash, while the rest of the sum will be covered by deliveries of various goods, most probably consumer goods, from Malaysia, which is quite a common practice in deals involving Russian weapons. The parties have yet to announce the chief contractor. While there are two plants in Russia that can produce such fighters – Komsomolsk APO (currently manufacturing SU-30MCK fighters for China) and Irkut (engaged in production of SU-30MKI fighters for India,) representatives of Irkut claim that their company will be responsible for the execution of the lion's share of the order. However, no official comments are available. At the same time, the following fact may serve as indirect evidence of Irkut's prospects - Malaysian Defense Minister Najib Razak visited the company some time before the agreement was signed. The name of the main contractor is going to be announced officially in July during the planned visit of Vladimir Putin, the President of the Russian Federation, to Malaysia. The final contract, stipulating all the conditions of future deliveries of jet fighters, will also be signed at that time. Such a big order for fighter-planes is undoubtedly good news for Irkut's investors, as the value of the contract is two times Irkut's annual revenues. While the current portfolio of orders guarantees Irkut's stable sales for the next seven years (provided its production rate remains stable), the new contract may extend this period to nine years. According to preliminary information, however, the entire contract will be executed by 2006. This fact improves both the short- and mid-term attractiveness of Irkut's shares.

Management intends to spend accumulated financial resources to launch production of civil and transportation planes. Irkut's temporar-

**When compared to both current assets and sales, the total amount of liabilities looks critical. This significant debt, including issued bonds, is a reflection of the peculiarity of Irkut's current earnings schema – advance payments to the company make up only 20% of total payments.**

ily vacant production facilities will be used for that purpose. Moreover, the company's managers plan to acquire several Russian aviation plants. Among the most probable targets for acquisition are the Samara Aviakor, producer of TU-154M planes (controlled by shareholders of Basic Element), the Ulyanovsk-based Aviastar, maker of AN-124 planes (controlled by Mr. Ibragim Kamal, the administration of the Ulyanovsk region, and AO Tupolev), and the Ukrainian Aviant, which manufactures AN planes.

It is worth noting that the company's net income of \$110.9 million, which was posted for 2000, was a result of formal losses posted for the previous two years. They were, in turn, due to Russia's imperfect accounting standards. In the aftermath of the financial crisis of 1998, the ruble dropped significantly, and the company's hard-currency assets increased in value sharply, in ruble terms. Summing up its gains and losses over the 1998-2000 period, we concluded that the company's actual net income was \$25.3 million per annum for those three years. In the past year, Irkut's net income dropped to \$11 million, because the company had to spend significantly to create a new corporate structure, which included the acquisition of new assets. The decrease was also due – although to a lesser extent – to larger interest expenses on previously obtained loans.

Another important peculiarity is the relatively large current working capital of Irkut (see the table that shows our calculations of fair value). Still, in our estimates we assumed that in the future, the company's own funds may be insufficient to cover current expenses, which is quite typical for Russian industrial firms.

The difference between Irkut's pre-tax and after-tax profits is quite significant, which can be explained by two factors. First, the company had to pay out high interest payable (\$60.5 million in 2002, and \$35.2 million in 2001). Second, Irkut spends a lot to maintain so-called reserves to cover impending expenditures. Those reserves, which are necessary for the provision warranties for aircraft sold, amounted to \$23 million in the past year.

Irkut actively pursues a policy of long-term borrowing, which has resulted in a debt portfolio of over \$382 million. The company mainly borrows from Sberbank, Alfa-Bank, and Rosbank, as well as other credit institutions. Additionally, Irkut has put two ruble-denominated bond issues, totaling over \$66 million, on the market. In spite of the fact that the total amount of liabilities is critical when compared to both working capital and sales, we do not consider it to be a big problem. This significant debt, including issued bonds, is a reflection of the peculiarity of Irkut's current earnings schema – advance payments to the company make up only 20% of total payments. In this connection, it would be quite interesting to know under what conditions the bank loans were granted. If they were given with Irkut's products instead of

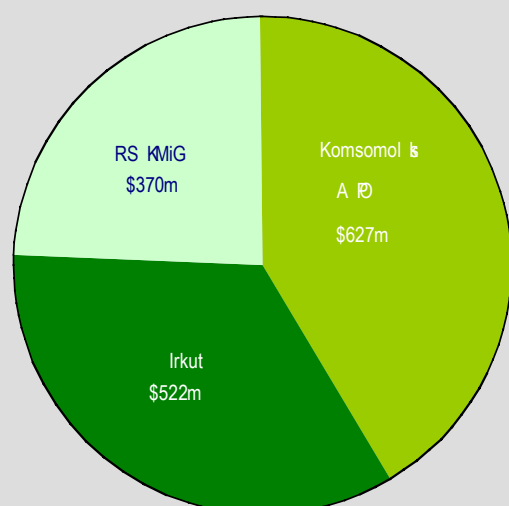
**Irkut is going to offer IPO either on the domestic market or abroad. Management believes it will be able to raise \$100m to \$150m.**

its assets as collateral, the investment risks are significantly lower. This information has not been disclosed, however.

In another important development, Mr. Fedorov, the company's president, declared that Irkut was going to offer an IPO either on the domestic market or abroad. Management believes it will be able to raise \$100 to \$150 million. Mr. Fedorov said nothing about the size of the stake for sale; however, it is unlikely to exceed 25%, as is often the case with Russian companies. Assuming this, Irkut's capitalization will be at \$400 to \$600 million, which is two or three times larger than the company's current valuation. As one of its top managers said, 2003 is an optimistic date for a possible IPO, the most probable time being at some point in 2004.

### Komsomolsk APO is the key competitor

#### Russian exports of fighter-planes and related equipment in 2002



Source: Rosoboronexport, IA TS-VPC

Among foreign jet fighters of the same class, only F-15E has the necessary combat and technical parameters to compete with SU-30. The history of international tenders in the field of military aircraft demonstrates that SU-27 can be a winner only if a state needs planes to patrol its lengthy borders or to perform long-distance flights. Small countries prefer lighter planes, which are described in the table on page 7, the main reason being their advanced avionics, which are more advanced than Russian ones. Moreover, Russian fighters have never won large tenders in countries that are under significant political influence from the US. The most recent example of this is the Brazilian tender for 24 long-range fighters. Rosoboronexport had to refrain from participation, because Brazilian authorities had set many special conditions. As a matter of fact, after the large orders for SU-27/30 fighters from China and India, there is practically no demand for fourth-generation long-range fighters. Some small orders may come from Indonesia, Malaysia, the Philippines, and countries of the Middle East (Saudi Arabia, UAE, Pakistan, and Iran). South Korea rejected Russian aircraft some time ago. Still, those small orders are unlikely to exceed five per cent of the total portfolio of orders for planes known as fixed-wing aircraft (fighters and attack planes). Please see details in the table that shows market forecasts for fighter-planes of this type.)

Russia participates in international tenders via the Rosoboronexport Company, which distributes production orders among manufacturing firms. This means that Irkut's main competitor is Komsomolsk APO (KnAAPO), which, so far, has been fully controlled by the government. Yet, this year, the government decided to privatize this company, which specializes in production of SU-30MKK fighters. The two companies have divided the market, with Irkut fulfilling the Indian contracts, and Komsomolsk mainly selling jets to China. Komsomolsk's portfolio of orders (over \$1 billion) is smaller than that of Irkut.

After Komsomolsk issues its shares, the company will be fully controlled by AVPK Sukhoi, a state-owned corporation created on the basis of the former Sukhoi Design Bureau (Moscow). At present, AVPK Sukhoi has a controlling stake in Novosibirsk APO (NAPO), the company that produces SU-24 attack planes. Sukhoi also manages the government's stake in Irkut. Mr. Fedorov, president of Irkut, is prepared to tolerate an increase in the governmental stake in his company to 25% in exchange for the acquisition of certain assets. At the same time, he says the complete absorption of Irkut by AVPK Sukhoi is absolutely impossible. Still, the government may put pressure on Irkut's managers through AVPK Sukhoi. On the other hand, Irkut's strategy to increase production of civil aircraft with the help of its own

Mr. Fedorov, President of Irkut, is prepared to tolerate an increase in the government's stake in his company to 25% in exchange for certain assets. At the same time, he says the complete absorption of Irkut by AVPK Sukhoi, a state-owned company, is absolutely impossible.

financial resources creates a situation in which AVPK Sukhoi may become interested in concentrating military production in Novosibirsk and Komsomolsk. Thus, we may consider Komsomolsk APO as the official main competitor of Irkut as far as near-term production of fighters is concerned. At the same time, there are several factors that make Komsomolsk a favorable candidate for fulfilling future orders for new fighters such as Su-30/Su-35. First, the demand for Russian fighters is going to be very limited in the near future. Second, Komsomolsk's portfolio of orders is significantly smaller than that of Irkut. Third, Rosoboronexport and AVPK Sukhoi are fully controlled by the government. Thus, it is very likely that the plants in Komsomolsk and Novosibirsk will be engaged in development and production of fifth-generation fighters. The corresponding program is in preparation now. Another important factor is that Irkut's management connects the company's prospects with other types of planes. In 7 to 10 years, the structure of Irkut's output should look as follows: production of civil aircraft, such as amphibious and light civil planes, will account for 50%, while the other 50% will be accounted for by military planes (mid-range transport aircraft).

### The global market for fixed-wing military aircraft (fighters and attack planes)

	Number of jets	Sales (estimated), \$ bn	Russian manufacturers' share	
			\$ bn*	%*
2002	255	12.74	1.5	12%
2003	304	14.70	1.4	10%
2004	382	17.11	0.9	5%
2005	362	17.41	0.5	3%
2006	385	18.87	0.4	2%

- Prospect Investment's estimate

Source: Rosoboronexport, IA TS-VPC

**BE-200 amphibious plane****Irkut's future: a balance between civil and war aircraft**

Our assessment of the company's competitive prospects shows that its exclusive orientation towards fighters would not be very attractive for potential investors. Because of this, we positively appraise the company's intention to diversify its business. Still, Irkut's new programs, both civil and military, require additional consideration. At present, Irkut's main civil product is a multi-purpose amphibious aircraft, the Beriyev-200 (Be-200). The basic version of this plane has a take-off weight of 41 tons, cruising altitude of 8 thousand meters, maximum speed is 710 km per hour, and a range of up to 3 850 km. The Be-200's maiden flight took place on September 24, 1988. As of August 14, 2001, the number of flights was 337, with 100 take-offs made from water.

It is worth mentioning that there are quite a few companies in the world producing light amphibious planes capable of landing on water. Yet, not one of these planes can boast such a large take-off weight. The main purpose of such planes is fire-fighting and rescue operations. In the fire-fighting sector, modified transportation planes able to carry a very limited amount of water are often used. For rescue purposes, lighter amphibian planes are typically used, being more maneuverable compared to Be-200. Since the demand for such planes is not stable, it is very difficult to assess the market's capacity. According to TANTK Beriyev, the total global demand for such aircraft may total up to 262 planes in the next 10 years, or 32 planes a year. Mr. Fedorov believes that Irkut will be able to sell 10 amphibious planes a year. If we put the price of one plane at \$25 million, the company will stand to receive revenues of \$250 million a year. At present, Irkut already has a confirmed order from the Russian Emergencies Commission for seven Be-200 planes, due to be fulfilled mostly during 2003. We believe that foreign companies will await the availability of a service record before making any purchases. If no accidents involving this plane occur during the next two to three years, Irkut may expect orders from abroad. Therefore, the company may expect cash flows from sales of such planes no earlier than 2007, provided, again, that no accidents occur.

As far as development of military aircraft is concerned, Irkut is going to devote all its energies to a multi-purpose transportation plane. This development is currently in its early stages, therefore only general information is available. The plane's maximum take-off weight will be 55 tons. Its cruising speed will be 830 to 870 km per hour. The actual range with full load will be 2,500 km. In sum, this plane will be lighter than the Russian Air Force's current main transportation aircraft, the IL-76, and could become a substitute for such planes as AN-12, AN-26, and AN-32. According to our information, the new plane will be similar to US transportation aircraft such as C-17 from Boeing, and Lockheed Martin's C-130J. Mention should be made that this sector of military aviation is very small (see the table). Moreover, purchases of

### Forecast of annual world demand for combat airplanes for the period ending in 2010

Fighter jets and strike fighters	150-200
Military training jets	80-90
<b><u>Military transport aircraft</u></b>	40
Helicopters	400-500

Source: Rosoboronexport

### Russian fleet of transportation aircraft

	Production start	Quantity
АН-12	1959	18
АН-26	1970	80
АН-72	1984	14
АН-124-100	1983	11
Ил-76	1977	198

Sources: Kommersant daily, the research department of Eastline, a cargo carrier

### Defense expenditures in select countries, \$bn

	2002	2003
Hungary	n.a.	1.4
India	12.9	13.5
Italy	13.5	14.0
South Korea	13.5	14.5
Norway	4.1	4.3
Germany	n.a.	25.8
France	33.0	n.a.
USA	317.7	355.1
Russia	4.3	5.1

Sources: Government budgets

transportation military aircraft are not an absolute necessity for the Russian Air Force as the IL-76 is a relatively modern plane, and of a type that prevails among transportation aircraft in Russia (see the table). The Air Command of the Russian Federation has also supported the modernization of IL-76 planes (i.e. their conversion into the IL-76MF version) and has spoken out against development of new transportation aircraft. The structure and volume of Russian military expenditures demonstrate that such a plane can be developed only with manufacturers' internal resources, while the first regular sales might take place no earlier than 2007. Under such circumstances, Irkut can count only on the Indian and Chinese markets. Experience shows that the governments of these countries prefer not to buy American military products both out of general strategic considerations and as a matter of principle. At the same time, neither India nor China have developed an aircraft of their own. At present, Irkut continues to conduct talks with the HAL Company (India) and Ilyushin Design Bureau (Russia) to develop and produce a new transportation plane in India. The parties assess the joint-development project at \$300 million, with the Indian company prepared to put up half of that sum. Mention should be made that initial production of such planes in India does not mean that the Russian Air Force will not buy them in the future. However, this fact will give certain advantages to a consortium of Russian and Ukrainian aircraft producers, a competitor of Irkut that is engaged in promotion of the AN-70 transportation military aircraft.

The Russian Air Force is unlikely to pick a substitute for the current IL-76 (IL-76MF) planes earlier than 2005 or 2007. This choice will not be a major factor in assessing Irkut's prospects for the next eight years. Nevertheless, Irkut's managers have forecast that the joint venture will be able to sell 170 such planes in both the Russian and Indian markets. Producing up to 10 planes a year, Irkut will have the right to receive 50% of the revenues, which will total \$200 million. Thus, these two projects alone can generate \$400 million to \$450 million a year after Irkut stops manufacturing fighters. We believe additional revenues will accrue from repairs of existing SU fighters, as well as from production of light and mid-sized civil planes at acquired Russian plants. Therefore, for the period ending in 2010, the company's revenues are going to be \$500 million to \$550 million a year, provided there are no changes for the worse in the market.

### Russia's defense expenditures

	1998	1999	2000	2001	2002	2003П
GDP, \$ bn	278.6	193.3	259.6	309.8	349.2	416.1
Budget expenditures, \$ bn	50.8	23.3	36.1	41.0	62.1	74.8
National Defense, percentage of GDP	3.0	2.0	2.9	2.4	2.6	2.6
National Defense, percentage of budget expenditures	16.4	16.3	20.7	18.0	14.6	14.7
State defense orders, \$ bn	1.6	1.6	1.7	1.8	2.5	3.7

Sources: TS-VPK Information Agency, "Federal Law On the State Budget for 2003"

**The combination of high investment reliability and the more than two-fold growth potential of the company's common shares allows us to put a 'BUY' recommendation on Irkut's shares.**

### Conclusions

Irkut's common shares are attractive for both short- and mid-term investment. The fundamentals show that Irkut is significantly undervalued when compared, for example, to Unified Machine-Building Plants. This undervaluation corresponds to the growth potential of such Russian manufacturing companies as AvtoVAZ and Kazan' Helicopter Plant. At the same time, Irkut has a good credit history in contrast to many other industrial firms. The company also enjoys guaranteed stable revenues for the next seven to ten years (the calculation of a fair price rests on the assumption that the contract to produce eighteen SU-30MKM fighters for the Malaysian military would be fulfilled by 2006.) Moreover, Irkut's management is planning an IPO, and is developing a special program to increase the company's capitalization. The combination of high investment reliability (according to emerging markets standards) and the more than two-fold growth potential of its common shares (the evaluation was done using the discounted cash flow method – please see Appendix) allows Prospect Investment to confirm its 'BUY' recommendation for Irkut's shares, (the calculated fair value being \$0.70 per share, while the current price is \$0.27).

### Calculation of a fair price for Irkut's shares

\$ m	2003П	2004П	2005П	2006П	2007П	2008П	2009П	2010П
<b>Operations</b>								
Sales	730.9	730.9	730.9	567.8	738.2	738.2	738.2	573.5
Operational costs	473.2	473.2	473.2	367.6	477.9	477.9	477.9	371.3
EBITDA	220.4	220.4	220.4	171.3	222.6	222.6	222.6	173.0
Amortization	(29.2)	(29.2)	(29.2)	(22.7)	(29.5)	(29.5)	(29.5)	(22.9)
Operating profit (EBIT)	191.2	191.2	191.2	148.5	193.1	193.1	193.1	150.0
Taxes, %	(45.9)	(45.9)	(45.9)	(35.7)	(46.3)	(46.3)	(46.3)	(36.0)
<b>Cash flow from operations</b>	145.3	145.3	145.3	112.9	146.8	146.8	146.8	114.0
<b>Investment activity</b>								
Direct investments	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)
Changes in working capital	0	(5)	(5)	(5)	(5)	(5)	(5)	(5)
<b>Cash flow from investment</b>	(25)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
<b>Free cash flow</b>	120.3	115.3	115.3	82.9	116.8	116.8	116.8	84.0
Discount rate (WACC)	12%	12%	12%	12%	12%	12%	12%	12%
Period	1	2	3	4	5	6	7	8
Discounted cash flow	107.42	91.93	82.08	52.68	66.26	59.16	52.82	33.94
Discounted cash flow for 2003-10	546.28							
CAGR,%	0.01							
Terminal value	387.00							
Enterprise value	933.28							
Net debt	382.4							
Estimated capitalization	550.88							
Number of common shares, m	791,051,875							
Estimated share price, \$	0.70							
Current share price, \$	0.27							
Growth potential,%	158							

CAGR \ WACC	WACC				
	10%	11%	12%	13%	14%
0.0%	0.81	0.72	0.66	0.60	0.55
0.5%	0.84	0.75	0.67	0.62	0.57
1.0%	0.87	0.78	<b>0.70</b>	0.63	0.58
1.5%	0.91	0.80	0.72	0.65	0.59
2.0%	0.96	0.84	0.75	0.67	0.61
2.5%	1.01	0.88	0.77	0.69	0.63
3.0%	1.06	0.92	0.81	0.72	0.65

**Irkut's Financials for 2000-2002 (Russian Accounting Standards)**

<i>\$m</i>	<b>2001</b>	<b>2002</b>
Sales	230.9	562.2
Cost of sales	150.3	362.0
Pre-tax profit	57.9	153.7
Net profit	110.9	11.0
<b><i>Assets</i></b>		
Fixed assets	9.3	9.2
Inventory	172.8	207.0
Accounts receivable	204.9	243.8
Working assets	588.5	606.5
<b><i>Liabilities</i></b>		
Long-term liabilities	242.0	382.4
Accounts payable	254.4	118.8
Received advance payments	163.5	61.8
Short-term liabilities	397.1	285.1

## Consolidated Balance Sheets (US GAAP)

(in millions of US\$)	2001	2000
<b>ASSETS</b>		
<b>Current assets</b>		
Cash and cash equivalents	122	2
Short-term investments	59	9
Accounts receivable, third parties, net provision of \$1 (December 31, 2000: \$1)	220	235
Advances to third parties	104	60
Advances to related parties	69	49
Taxes and other receivables	48	42
Inventories	76	20
Prepaid expenses and other current assets	8	1
Deferred income taxes, short-term	22	2
<b>Total current assets</b>	<b>728</b>	<b>420</b>
Property, plant and equipment, net	133	132
Long-term investments	28	27
Deferred income taxes, long-term	57	64
<b>Total assets</b>	<b>946</b>	<b>643</b>
<b>LIABILITIES, SHAREHOLDERS' EQUITY AND MINORITY INTERESTS</b>		
<b>Current liabilities</b>		
Short-term borrowings	246	99
Accounts payable, trade	80	86
Advances received	267	163
Accrued liabilities	15	19
Income and other taxes payable	11	7
Other current liabilities, third parties	5	6
Other current liabilities, related parties	2	-
Deferred income taxes, short-term	11	11
<b>Total current liabilities</b>	<b>637</b>	<b>391</b>
Long-term borrowings	136	84
Deferred income taxes, long-term	50	52
<b>Total liabilities</b>	<b>823</b>	<b>527</b>
<b>Minority interest</b>	<b>4</b>	<b>6</b>
<b>Commitments and contingencies</b>		
<b>Shareholders' equity</b>		
Capital stock	29	29
Treasury shares, at cost	(7)	(7)
Accumulated other comprehensive loss	(2)	(2)
Retained earnings	99	90
<b>Total shareholders' equity</b>	<b>119</b>	<b>110</b>
<b>Total liabilities, shareholders' equity and minority interests</b>	<b>946</b>	<b>643</b>

## Consolidated Statements of Income (US GAAP)

(in millions of US\$)	2001	2000
<b>Revenue</b>		
Sales and other operating revenues	308	244
Cost of products and services	(226)	(174)
<b>Gross profit</b>	<b>82</b>	<b>70</b>
Research and development costs	(12)	(7)
Taxes other than on income	(8)	(6)
Energy and utilities	(4)	(4)
Selling, general and administrative expenses	(10)	(5)
Social expenditure	(7)	(4)
Repairs and maintenance	(5)	(3)
Other operating expenses	(1)	(2)
<b>Operating income</b>	<b>35</b>	<b>39</b>
Interest expense (net)	(38)	(18)
Loss from investments	(2)	(2)
Foreign exchange gain	2	2
<b>Income (loss) before income taxes and minority interest</b>	<b>(3)</b>	<b>21</b>
<b>Income taxes</b>		
Current tax expense	(5)	(6)
Deferred tax credit/ (expense)	15	(16)
<b>Total tax credit/ (expense)</b>	<b>10</b>	<b>(22)</b>
<b>Income / (loss) before minority interest</b>	<b>7</b>	<b>(1)</b>
Minority interest	2	1
<b>Net income</b>	<b>9</b>	<b>-</b>

## Notes

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 RESEARCH

Alexander Korchagin, Head of Research

Strategy / Macroeconomics	Alexander Korchagin korchagin@prospect.com.ru	Engineering / Autos / Metals	Nikolai Ivanov ivanov@prospect.com.ru
Telecommunications / Transport	Alexey Zaitsev zaitsev@prospect.com.ru	Oil / Gas	Dmitry Tsaregorodtsev tsaregorodtsev@prospect.com.ru
Retail / Consumer Goods / Banks	Marat Ibragimov mibragim@prospect.com.ru	Assistant	Vladislav Tropko vlad_tropko@prospect.com.ru

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 TRADING

Igor Lossavio  
Nikolai Gusev  
Anton Kashtanov  
Mikhail Hmelnik  
Konstantin Vinogradov  
Andrey Usachev  
Alexander Lobanov

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 PROSPECT INVESTMENT

Address: Vrubel street 12, Moscow, Russia, 125080  
 Phone: 7 - (095) - 937 - 3363  
 Fax: 7 - (095) - 937 - 3360  
 E-mail: research@prospect.com.ru  
 Internet: http://www.prospect.com.ru

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