

# **Motor Sich**

# Propelling output to new heights

# 23% output growth expected in 2011

Yesterday Motor Sich's management talked at the AGM about their outlook for 2011: the company is targeting 23% y-o-y output growth at current prices, on the back of tripling engine production for the An-148, 10% growth in helicopter engine output and the signing of a big Chinese ticket order for Al-222-25 engines. We are more conservative on engine production volumes, forecasting 18% output growth in 2011E.

In 2010, the company earned UAH 5.0 bln in revenue (up 34% y-o-y) and UAH 1.2 bln in net income (25% margin, up 5 pp y-o-y).

# Mid-term growth: An-148 production, copter replacements

We positively assess Motor Sich's mid-term revenue prospects due to increased production of An-148s and the replacement wave in the helicopter market, engines for which still constitute 4/5 of output. We forecast revenue growth at a 8% CAGR in 2011-2020. At the bottom line, the company received an income tax vacation until 2020 (vs. 25% before), part of the new tax code adopted by the Ukrainian government in December 2010.

#### Key triggers to watch in 2011:

- 1H11: Signing of a contract with China for AI-222-25F engines. We expect the volume of the contract to be USD 200 mln, with a three-four year timeframe.
- 2011: New orders for An-148/158s, usually signed at airshows. Each ordered jet implies an est. USD 7 mln in engine orders for Motor Sich

# Valuation: trading at 5.2x P/E '11E. BUY.

Using DCF-based valuation, we derived a target price of USD 680 per share. On a comparative basis, the stock is trading at 4.2x EV/EBITDA'11E and 5.2x P/E'11E on adjusted earnings, a significant discount to its peers' median of 6.7x and 11.7x, respectively. Upside 43%, BUY.

Report date	25 Mar 2011
Bloomberg	MSICH UK
Reuters	MSICH=UA
Recommendation	BUY
Price (25 Mar 11), USD	476
12M price target, USD	680
Upside	43%
No of shares, mIn	1.98
Market Cap, USD mln	943
52-week performance	56%
52-week range, USD	472/188
ADT, 12M, USD mln	1.2
Free float, %	24%
Free float, USD mln	226
Prices as of Mar. 25, 2011	

#### Shareholders

61.3%
9.7%
4.7%
24.3%

#### Price performance



Source: Bloomberg, UX

# Global aerospace trends

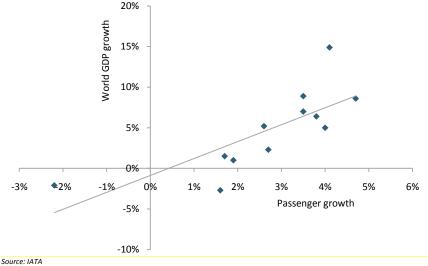
# Air traffic grew by 8.9% in 2010

The International Air Transport Association (IATA) reported global air traffic recovered by an impressive 8.9% y-o-y in 2010, compared to its forecast at the start of 2010 of just 4.5% y-o-y growth. Notably, capacity growth is lagging (4.3% y-o-y in 2010) increases in air traffic, with most airlines driving up utilization rates. However, as traffic continues to rise, the capacity cushion decreases, implying the need for faster fleet expansion.

# GDP growth implies strong air traffic in 2011

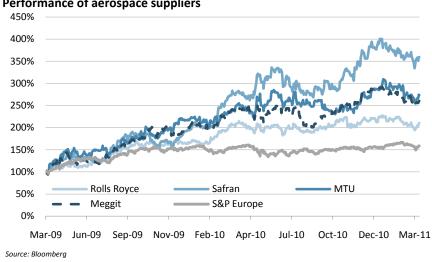
The Bloomberg consensus global GDP forecasts stands at a strong +4.1% for 2011. Historically, air traffic growth has equaled about twice as much as GDP, implying an 8% rise in air traffic in 2011. IATA forecasts 5.2% in 2011, though it based its forecast at a more conservative 2.6% global GDP growth estimate.

### Global air traffic growth vs. GDP



# Aerospace suppliers outperform the market

Since March 2009, European aerospace suppliers have outperformed the broad stock market.



#### Performance of aerospace suppliers



# AGM notes: An-148 engine orders to help boost output 23% in 2011

Yesterday, at the annual general shareholder meeting, company management reported its 2010 production details and plans for 2011.

# 2011: Further 23% growth expected in output

Management was optimistic about the outlook for 2011: targeting 22.8% output growth at current prices, expecting to deliver 600 helicopter engines (from est. 550 in 2010), 60 D-436-148 engines for the An-148 aircraft (threefold increase over 2010) and signing a new order for AI-222-25 engines to be delivered to China.

### Key triggers to watch in 2011:

- 1H11: Signing of a contract with China for AI-222-25F engines. We expect the volume of the contract to be USD 200 mln, with a three-four year timeframe.
- 2011: New orders for An-148/158s, usually signed at airshows. Each ordered jet implies an est. USD 7 mln in engine orders for Motor Sich

# 2010: Strong revenue growth, hefty margins and R&D

Motor Sich's sales were UAH 5.0 bln in 2010, up 34% y-o-y; net income amounted to a record-high UAH 1.2 bln, net margin of 25%.

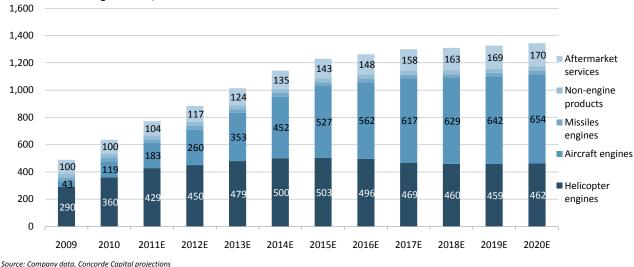
The AGM approved the following distribution for its 2010 net income:

- UAH 610 mln into R&D related with finishing the D-436-148 engine for the An-148 jet (we note that R&D was not expensed, see our earning adjustments in the Valuation section of this report)
- UAH 471 mln to increase working capital associated with growing order book (22% y-o-y increase in working capital vs. projected 23% growth in output)
- UAH 19.8 mln into dividends (UAH 10 per share)
- UAH 137 mln to repay loans



# Market outlook 2011-20

We expect Motor Sich's revenue to increase at a strong 8% CAGR in 2011-20, driven by aircraft engine production (+19% CAGR), while helicopter engines will remain a cash cow for the company.



Motor Sich revenue segmentation, USD mln

Renewed Ukraine-Russia cooperation key to growth

Aging passenger and cargo aircraft fleets are behind renewed cooperation between Russia and Ukraine in aerospace. Both sides agreed to start serial production of the An-148 regional passenger jet, which is fitted with Motor Sich's D-436-148 engines, in 2010. Following the creation of joint enterprise in March 2011 by Russia United Aircraft Corporation and Ukrainian Antonov, we expect the renewal of serial production of the An-124 cargo plane to start within two years, which uses Motor Sich's D-18T engines.

# Helicopter segment is a cash cow for Motor Sich

The global helicopter market is in a replacement phase now, with Rolls-Royce projecting strong output growth at a 7% CAGR in 2009-14. Helicopter engines are a cash cow for Motor Sich: the segment generates 4/5 of the company's engine sales. Motor Sich supplies nine out of every 10 engines to the Russian state-owned holding Russian Helicopters, which holds 15% of the global helicopter production.

# Helicopter engines: cash cow

According to our estimates, Motor Sich earns 4/5 of its engine revenue from helicopter power plants, with 70% of orders coming from Russian Helicopters, a Russian state-owned holding that produces 15% of the world's helicopters, and 30% from countries replacing old Soviet-era helicopter engines.

### Benefiting from Russia's aggressive helicopter strategy

Russian Helicopters is one of the most aggressive in the global helicopter oligopoly, with an estimated 15% share of global production. The global helicopter industry is in a replacement phase Rolls-Royce projects the global fleet to grow at a 7% CAGR in 2009-14, followed by a 3% CAGR decline in 2014-18. Russian Helicopters, which is reportedly gearing up for an IPO in 2012, aims to outpace market growth. Though we deem this target achievable given that about 1/4 of the world's helicopters were made in the USSR and Russian Helicopters is offering cost-efficient replacements, in our models we conservatively account for a stable 15% market share.

#### Global helicopter market, units

	2007	2008	2009	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2011-20
Global helicopter production*	1,250	1,350	1,270	1,420	1,500	1,560	1,650	1,760	1,760	1,720	1,600	1,560	1,520	1,500	16,130
Helicopters produced in Russia**	120	169	183	213	225	234	248	264	264	258	240	234	228	225	2,420
Russian market share**	10%	13%	14%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
*Rolls-Royce estimate; **Russian Helicopters,	*Rolls-Royce estimate; **Russian Helicopters, Concorde forecast since 2010E														

Motor Sich is the sole supplier of engines for mid-size and large-size Russian (91% of all Russian helicopters in 2009) and Soviet-built helicopters, offering two family of engines for the key, middle-size segment:

- **TV3-117**, which fits all mid-size Russian helicopters, in serial production since 1972 with 25 ths engines produced since then. The 398 units Motor Sich produced in 2009 comprised 69% of its total engine output in value terms
- VK-2500, an upgraded version of the TV3-117 for new Russian helicopters Mi-28N and Ka-52; also a suitable TV3-117 replacement for old Soviet helicopters. Supplied 46 units in 2009, 8% of engine output in value terms

For each helicopter kit containing two TV3-117 or VK-2500 engines, Motor Sich also supplies one auxiliary AI-9 engine (5% of 2009 engine sales).

#### Demand for Motor Sich engines for new helicopters

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Total engines needed	2007	2008	2009	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2011-20
TV3-117	179	278	320	370	384	392	409	432	422	400	354	332	310	294	3,729
VK-2500	61	60	46	56	66	76	86	96	106	116	126	136	146	156	1,110
AI-9	120	169	183	213	225	234	247.5	264	264	258	240	234	228	225	2,420
Russian engines															
production															
TV3-117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VK-2500	-	-	-	-	-	-	-	20	30	40	50	60	60	60	320
AI-9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gap to cover by Motor															
Sich															
TV3-117	179	278	320	370	384	392	409	432	422	400	354	332	310	294	3,729
VK-2500	61	60	46	56	66	76	86	76	76	76	76	76	86	96	790
AI-9	120	169	183	213	225	234	248	264	264	258	240	234	228	225	2,420
Price per engine, USD 000															
TV3-117	383	421	567	623	680	694	707	722	736	751	766	781	797	813	
VK-2500	535	538	542	596	650	663	676	690	704	718	732	747	762	777	
AI-9	76	76	83	92	100	102	104	106	108	110	113	115	117	120	
Estimated value, USD mln	110	162	222	284	327	346	373	392	393	383	354	343	339	340	3,590
у-о-у		47%	37%	28%	15%	7%	8%	5%	0%	-2%	-8%	-3%	-1%		

Source: Company data, Rosoboronprom, Rolls Royce, Concorde Capital projections



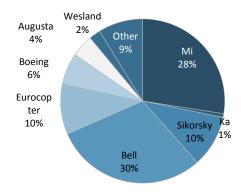
# Replacements provide 30% of revenue in the segment

In addition to supplying engines for new helicopters, ~30% of Motor Sich's helicopter engines (based on 2009 data) are replacements for engines on Soviet-built helicopters to China, Iran, OAE, Algeria, Spain and others. In 2009, not counting Russian exports, Motor Sich delivered 120 TV3-117 engines to other countries, which constitutes 0.5% of the 25,000 TV3-117 engines produced since 1972.

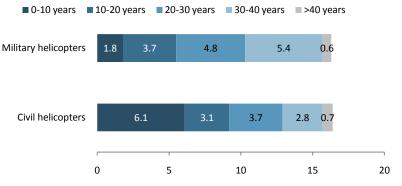
Based on recent discussion we had with management, we estimate ~150 replacement engines for helicopters to be delivered in 2011 and assume this figure to be fixed in the future.

Demand for Motor Sich helicopter engines for replacement															
	2007	2008	2009	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2011-20
TV3-117 engines needed	35	n/a	120	120	150	150	150	150	150	150	150	150	150	150	1,500
Price per engine, USD 000	383	421	567	623	680	694	707	722	736	751	766	781	797	813	
Estimated value, USD mln Source: Company data, Concorde Capi	<b>13</b> Ital	n/a	68	75	102	104	106	108	110	113	115	117	120	122	1,117

#### Global helicopter fleet by producer



#### Global helicopter fleet by age, '000 units



Source: Honeywell

Source: Rolls Royce

#### Motor Sich helicopter engines



Takeoff thrust: 1.5-1.7 kN; Est. price USD 0.65 mln

VK-2500



Takeoff thrust: 1.5-1.8 kN; Est. price USD 0.65 mln





# Aircraft engines: growth segment

Though Motor Sich produces more engine models for airplanes than helicopters, revenue from new engine sales and aircraft aftermarket services accounted for only 12% of 2009 revenues because most engines are either in early sales/R&D stage or in late production stages.

In the next decade, Motor Sich's aircraft engine segment depends on three Russian-Ukrainian projects:

- An-148, regional passenger jet in early production stage with 174 non-firm orders. Could contribute up to USD 2.4 bln in engine sales in 2011-20
- An-124, the world's largest cargo plane. The restart of serial production is being actively discussed. Could contribute up to USD 2.8 bln in engine sales in 2011-20 (we account for half of them in our model to account for project risk)
- An-70, medium-range transport aircraft with 47 mt load capacity, a Russian/Ukrainian analogue of Airbus A400M and Lockheed Martin C-130J Super Hercules. Could contribute up to USD 0.8 bln in engine sales in 2011-20 (we account for a quarter of them in our model to account for project risk)

		Share in 2009 Motor		
Engine model	Est. price, USD mln	Sich output	Use	Production stage
			Il-18, Il-30, An-8, An-12,	
AI-20	0.14	1%	An-32, Be-12	Replacement
				Replacement (order for 210
AI-24	n/a	0%	An-24, An-26, An-30	engines in 2010-11)
				Awaiting renewal of serial
D-18T	8.0	0%	An-124	production
AI-25	0.73	4%	L-39, K-8J, Yak-40	Serial production
D-436-148	2.17	2%	An-148	Early stage of serial production
				Early stage of serial production,
AI-222-25	0.67	2%	Yak-130, L-15	also produced at Salut
MS-400	0.20	2%	light airplanes, missiles	Early production
AI-22			Tu-324, Yak-48	R&D
Source: Company data,	, Concorde Capital			

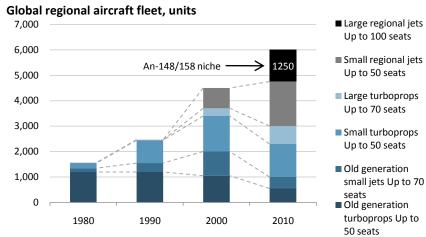
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# D-436-148 engine: key growth story

We estimate new engine deliveries of D-436-148 engines for the An-148/158 regional passenger airplane could bring in up to USD 2.4 bln in sales for Motor Sich in 2011-2020. Only twelve have been produced as of March 2011, but an order book of 174 makes the An-148/158 one of the top five new large regional passenger jets.

2010-29 regional passenger	jet sales forecast						
	R	olls Royce	Boeing	Bombardier	Embraer	Antonov	Sukhoi
Forecast of 60-90 seat region	nal jet sales in	5,000	1,920	5,900	2,515	n/a	n/a
2010-2029							
Models in this segment		n/a	n/a	CRJ700/705, 900/1000	E170/175	An-148/158	Superjet 100
Comparison of regional pass	• •						
	Bombardier	-	mbraer	Antonov			
	CRJ700/900/1000	E170/175/1	-	An-148/158	Sukhoi Supe	rjet 100	ARJ21-700/900
Seats	66-100		70-122	68-99		68-103	78-105
First flight	1999		2002	2004		2008	2008
Unit cost, USD mln	24-40		29-40	18-24		32	20
Units operated	574		310	9		0	0
Range, km	2500-3700	260	0-4500	2100-4400	290	00-4600	2200-3700
Powerplants	2 × GE CF34	2 × 0	GE CF34	2 × D-436-148	2 × PowerJet S	SaM146	2 × GE CF34



Source: Bombardier



Given the early stage of An-148/158 assembly (the first aircraft were produced in 2009), we in account for possible delays deliveries, modeling 30% less output than announced by producers.

### Demand for Motor Sich D-436-148 engines for An-148/158 aircraft

			0	-										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2011-20
Aircraft assembled														
by Voronezh plant	0	2	5	10	15	24	24	24	24	24	24	24	24	217
by Kyiv plant	0	1	4	5	6	6	6	6	6	6	6	6	6	59
Engines needed	0	13	28	43	60	75	75	75	75	75	75	75	75	703
Engines value, USD mln		23	50	92	150	225	230	234	239	244	248	253	258	2,173
Aftermarket services, USD mln					8	14	16	19	21	24	27	30	31	190
Total sales, USD mln		23	50	92	158	239	246	253	260	268	276	284	289	2,364
Source: Voronezh Plant, Aviant (Kyiv plant,	, Concorde	Capital es	timate											

Plant, Aviant (Kyiv plant), Concorde Capit

#### An-148 regional passenger jet



D-436-148 engine for An-148



Takeoff thrust: 63-67 kN; Est. price USD 2.2 mln



# D-18T engine contingent on renewal of An-124 production

The outlook for the D-18T engine are contingent on the renewal of serial production of the An-124, the world's largest cargo plane: in the event of restart, we estimate USD 3.4 bln in sales in 2011-20, and without renewal, we forecast USD 0.6 bln from replacement and aftermarket services.

The An-124 has a payload of 150 mt, 28 mt more than the next largest by size, the Lockheed C-5 Galaxy. A total of 56 planes were built in 1984-1995; a third are currently operated by NATO. After Russia and Ukraine agreed to renew cooperation in the aviation sphere in mid-2009, talk surfaced of relaunching serial production of the An-124. According to preliminary studies, renewal would be economically efficient given at least 70 orders (Rolls-Royce forecasts large cargo aircraft sales at 400 units in 2010-2029).

In addition to being one of the strategic goals of Russian-Ukrainian aerospace renewed cooperation, according to industry sources, the market's appetite for large cargo planes supports the renewal of An-124 assembly within the next two years.

In our discussion with Motor Sich's CFO yesterday, he assured us the project is viable and private An-124 operators are willing to contribute the financing needed to restart serial production. We conservatively apply equal probability to each scenario – serial production and just replacement and aftermarket services – in our models for Motor Sich.

#### D-18T engines: An-124 serial production renewal

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2011-20
Aircraft assembled				2	5	7	10	10	10	10	54
Engines needed		0	3	15	28	40	50	50	50	50	287
Engines value, USD mln		-	27	125	241	346	442	450	459	469	2,559
Aftermarket services, USD mln		0	2	9	19	31	44	50	55	56	266
Total sales, USD mln Source: Concorde Capital	0	0	29	134	260	378	486	500	515	525	2,825

#### D-18T engine: Only replacement and aftermarket services

b for engine. Only replacement		iui ket sei	VICCS								
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2011-20
Engines for replacement	0	4	4	8	8	8	8	8	8	8	64
Engines value, USD mln	0	32	33	67	68	69	71	72	74	75	560
Aftermarket services, USD mln		2	2	5	5	6	7	8	9	9	53
Total sales, USD mln	0	36	37	75	76	77	79	80	82	83	624
Source: Concorde Capital											

#### An-124: world's largest cargo aircraft



D-18T engine for An-124



Takeoff thrust: 230 kN; Est. price USD 8 mln

# D-27 engine for cheap mid-size cargo An-70 plane

The Antonov An-70 is a medium-range transport aircraft with 47 mt load capacity, a Russian/Ukrainian analogue of Airbus A400M, Ilyushin Il-76 and Lockheed Martin C-130J Super Hercules . The aircraft is powered by four D-27 propfan engines, produced by Motor Sich. In addition to its price advantage, the plane requires the shortest take-off runaway of its analogues.

The aircraft is one of the three key projects which should be renewed as part of expanded Russian-Ukrainian cooperation. In June 2010, Lt. Gen. Vladimir Shamanov announced Russia plans to purchase 40 An-70s in 2011-20 for its fleet, though no firm orders were signed. Ukraine has ordered two aircraft, with deliveries in 2011-2012 so far; no further orders have been made public.

We model a total of 36 planes being delivered in 2011-20, with the first one reaching the customer in 2014. Each plane requires four Motor Sich D-27 engines, with an estimated value of USD 3.5 mln per engine.

Motor Sich's CFO told us yesterday the An-70 project has not yet been approved by Ukraine and Russia, thus we apply a 25% probability to the project in our model.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2011-20
Aircraft assembled				2	4	6	6	6	6	6	36
Engines needed		-	3	13	23	30	30	30	30	30	190
Engines value, USD mln		-	12	50	88	116	118	121	123	125	753
Aftermarket services, USD mln				2	5	8	9	11	12	14	62
Total sales, USD mln Source: Concorde Capital	0	0	12	52	94	124	128	131	135	139	816

#### D-27 engines for An-70 cargo airplane

#### Comparison of medium-range transport aircraft

			Loc	kheed Martin C-130J
	An-70	Airbus A400M	Ilyushin Il-76	Super Hercules
	300 troops			
Capacity	or 206 wounded	116 troops	n/a	92 troops
Payload, kg	47,000	37000	40,000	19,900
Engines power	4 × 10,350 kW	4 × 8,250 kW	4 × 118 kN	4 × 3,458 kW
Range, km (with 20-35 mt				
cargo)	5,000-6,600	4540-6390	3,650	5,250
Unit cost Source: Company data	USD 50-70 mln	approx. EUR 136 mln	n/a	USD 62 mln

An-70: medium-range transport aircraft



Motor Sich D-27 engine for An-70

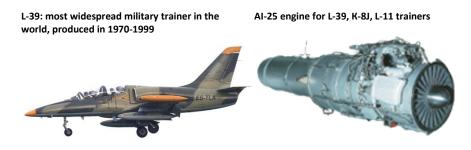


Takeoff power: 10.3 MW; Est. price USD 3.5 mln



# AI-25 engine for training jets: supplying China

The AI-25 family of twin-shaft medium bypass turbofan engines is used for the world's most widely used trainer, the L-39 (2,900 units in operation), in production since 1967. Modernized AI-25s are being used for the Chinese versions of the L-11 trainer and to upgrade existing L-39s and JL-8s.



Takeoff thrust: 16.9 kN; Est. price USD 0.6 mln

We conservatively forecast 15 engine sales per annum until 2015 and none thereafter.

AI-25 engines	2006	2007	2008	2009	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2011-20
Engine deliveries, units	54	53	n/a	20	15	15	15	15	15	15	0	0
Engines value, USD mln	22.7	19.0		11	9	9	10	10	10	10	-	-
Aftermarket services, USD mln	0.6	0	n/a	3	3	3	3	3	4	4	4	4
Total sales, USD mln	23	19	n/a	14	12	13	13	13	14	14	4	4

Source: Voronezh Plant, Aviant (Kyiv plant), Concorde Capital estimate

### AI-222-25: powering a new wave of trainers

Russia put its new training aircraft, the Yak-130, into operation in 2009; the current order book is for 94 planes. The AI-222-25 engine for this trainer is jointly produced by Motor Sich and Russia's Salut.

The modified version of AI-222-25 engine is used by the Chinese Air Force in their trainers; Motor Sich's management told us yesterday that a large order should be signed in 1H11 (we estimate the size at USD 200 mln).

In our models, we account for the annual production of 40-60 AI-222-25 engines (10 Yak-130s per annum) in total, with most of deliveries to China and about 20 engines per annum to Russia.

AI-222-25 engines	2007	2008	2009	2010E	2011E	2012E	2013E	2014E	2015E	2016E 2	017E 2	018E 2	019E2	020E	2011-20
Engine deliveries	0	n/a	10	10	40	60	60	60	60	30	30	30	30	30	430
Engines value, USD mln		n/a	6	6	27	41	42	43	44	22	23	23	24	24	311
Aftermarket services, USD mln		n/a	0.9	1	4	7	7	7	7	4	4	4	4	4	50
Total sales. USD min			6	7	31	48	49	50	51	26	26	27	27	28	361

Source: Voronezh Plant, Aviant (Kyiv plant), Concorde Capital estimate



Takeoff thrust: 24.5 kN; Est. price USD 0.7 mln



# Other aircraft engines

Demand for other Motor Sich engines is a function of replacement needs for their respective aircraft.

Engine	Aircraft models
AI-20	Il-18, Il-30, An-8, An-12, An-32, Be-12
AI-24	An-24, An-26, An-30

The Indian Air Force in December 2009 signed a USD 400 mln contract to overhaul 105 An-32 cargo planes in Ukraine, implying demand for 210 Motor Sich AI-20 engines in 2010-11 (est. USD 110 mln). We consider this India order as a one-time event, and anticipate only selective orders from overhauls in our forecasts. We model annual sales for this segment at a quarter of India's USD 110 mln order, which is to be completed within two years.

# **Missiles engines**

Motor Sich's 95TM and MS-400 engines, designed primarily for missiles, accounted for 8% of 2009 sales. With the inherent absence of clarity in the missiles market, we model no change in this segment going forward and keep it fixed at USD 27 mln per annum to perpetuity.

# Services and other segments

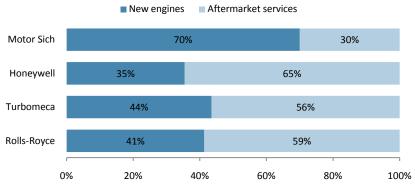
We model services and other segments (which includes gas compressor units on retired aircraft engines) as generating a fixed USD 125 mln in revenue, based on 2010 data. We note gas compressor production could be an upside risk for the company given the government's plans to modernize Ukraine's gas transportation system.



# Aftermarket services present upside risk

Motor Sich's current business model envisages less revenue than its peers from aftermarket services: 30% vs. 56%-65% for global engine manufacturers. We believe this poses a long-term upside risk for Motor Sich, though, for now, we continue accounting for the current 30% share from the aftermarket.

#### Revenue structure of aircraft engines producers, 2010



Source: Company data, Concorde Capital estimate for Motor Sich



# Valuation

We upgrade our DCF-based target for Motor Sich to USD 680 per share (upside of 43%) from USD 509, incorporating the improved sales outlook and profitability prospects, as well as lowering yields on Ukrainian Eurobonds, which decreases cost of equity.

# R&D adjustment

For comparative valuation purposes, we adjust the company's profitability for 2010 down by the part of R&D that should be expensed in our view rather than capitalized. In 2010, the company reported 12% of revenues in R&D, which they treated as CapEx not expenses. With no IFRS reports available or details on these R&D expenses, we adjust net income statement by the part of this R&D, which should be treated as expenses, in our view. As a benchmark, we use Rolls-Royce, which treated a 45% of its R&D as expenses in 2010, and assume the same rate should be applied to Motor Sich's R&D.

Thus, we used a figure of UAH 275 mln in R&D expenses in 2010, which decreased EBITDA to UAH 1,679 mln (margin down by 5.5pp to 33.2%), and net income to UAH 1,041 mln.

For DCF model purposes, we will apply Motor Sich's policy of treating R&D as CapEx since the company will pay no income tax for the next ten years and there is no difference in the cash flow implication. We model 6% of sales as R&D related to CapEx per annum until 2019; in perpetuity, when income tax will kick back in, we treat them as costs (for comparison, Rolls Royce expects R&D at 4-5% in the next three years).

The stock is trading at 4.2x EV/EBITDA'11E and 5.2x P/E'11E on adjusted earnings, still an impressive discount to its peers' median of 6.7x and 11.7x, respectively.

	MCap	EV/EBITD	A adj.	P/E ad	lj.
	USD mln	10E	11E	10E	11E
Motor Sich	943	4.9	4.2	7.4	5.2
Aircraft engine peers					
IHI Corporation	3,485	6.2	6.3	13.7	12.1
Ufimskiye Motors	179	4.6	5.0	3.9	2.9
Magellan Aerospace Corp	77	3.3	3.2	n/a	2.8
Sichuan Chengfa	512	19.6	17.6	34.6	29.5
MTU Aero Engines	3,544	6.2	5.4	13.7	11.9
Median		6.2	5.4	13.7	11.9
Price MSICH, USD per share					
Implied by engines peer median		604.1	602.2	887.1	1078.6
Upside/Downside		27%	26%	86%	126%
Aerospace peers					
Boeing Co	53,573	8.5	6.8	17.4	13.7
Lockheed Martin	28,241	6.6	5.6	11.6	9.6
Cobham	4,264	7.1	6.7	11.3	10.7
EADS	23,246	2.8	2.1	24.0	12.5
Finmeccanica	7,360	4.0	3.7	7.8	7.2
Meggitt PLC	4,200	8.3	6.9	12.2	10.2
Safran SA	14,713	7.2	5.9	14.7	11.6
Dassault Aviation	9,311	7.2	6.8	20.2	16.5
Textron	7,538	9.6	6.9	20.0	12.5
Zodiac SA	4,046	8.4	7.3	13.5	11.8
Median		7.2	6.7	14.1	11.7
Price MSICH, USD per share					
Implied by aerospace peer median		707.9	747.8	911.3	1066.7
Upside/Downside		49%	57%	91%	124%

#### **Key multiples**



# **Financial statements**

### Income statement summary, USD mln

	11											
	2008	2009	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E
Net Revenues	388	480	635	772	884	1,014	1,144	1,230	1,263	1,300	1,309	1,326
Change y-o-y	N/M	23.5%	32.5%	21.5%	14.5%	14.6%	12.8%	7.5%	2.7%	2.9%	0.7%	1.3%
Cost Of Sales	(230)	(259)	(308)	(398)	(473)	(553)	(631)	(685)	(703)	(724)	(729)	(739)
Gross Profit	159	221	327	375	411	461	512	545	559	576	580	588
Other Operating Income/Costs net	(8)	5	-	-	-	-	-	-	-	-	-	-
SG&A	(81)	(68)	(91)	(110)	(126)	(145)	(163)	(175)	(180)	(185)	(187)	(189)
EBITDA	69	157	237	264	285	317	349	369	379	391	393	398
EBITDA Margin %	17.8%	32.7%	37.2%	34.2%	32.2%	31.2%	30.5%	30.0%	30.0%	30.0%	30.0%	30.0%
Depreciation	(20)	(15)	(19)	(29)	(42)	(53)	(64)	(75)	(86)	(98)	(110)	(122)
EBIT	49	142	217	235	244	264	286	295	293	293	284	277
EBIT Margin %	12.6%	29.5%	34.2%	30.4%	27.6%	26.1%	25.0%	24.0%	23.2%	22.5%	21.7%	20.9%
Interest Expense	(10)	(11)	(12)	(9)	(4)	(2)	(2)	(1)	(0)	(0)	(1)	(1)
Financial Income	3	(0)	-	-	-	-	-	-	-	-	-	-
Other Income/(Expense)	(39)	(3)	-	-	-	-	-	-	-	-	-	-
РВТ	3	128	206	226	240	263	284	293	293	292	283	276
Тах	(2)	(33)	(51)	-	-	-	-	-	-	-	-	-
Effective Tax Rate	73%	26%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Net Income	0.7	95.1	154.2	226.3	240.2	262.6	283.9	293.5	292.5	292.1	282.8	275.9
Net Margin %	0.2%	19.8%	24.3%	29.3%	27.2%	25.9%	24.8%	23.9%	23.2%	22.5%	21.6%	20.8%

### Balance sheet summary, USD mln

	2008	2009	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E
Current Assets	299	352	513	624	697	780	854	888	877	903	910	921
Cash & Equivalents	6	23	53	62	62	71	80	86	88	91	92	93
Trade Receivables	25	18	32	39	44	51	57	61	63	65	65	66
Inventories	198	199	276	338	379	414	442	445	422	434	438	443
Other Current Assets	69	113	152	186	213	244	275	296	304	313	315	319
Fixed Assets	161	175	270	372	471	567	647	722	786	841	885	918
PP&E net	110	115	168	272	388	481	563	635	698	752	796	828
Other Fixed Assets	51	60	101	100	83	86	85	87	88	89	89	89
Total Assets	460	527	783	996	1,169	1,347	1,502	1,610	1,663	1,744	1,794	1,839
Shareholder Equity	234	319	471	695	863	995	1,108	1,196	1,240	1,307	1,350	1,391
Share Capital	59	59	59	59	59	59	59	59	59	59	59	59
Reserves and Other	175	260	412	636	804	935	1,049	1,137	1,181	1,248	1,290	1,332
Current Liabilities	209	179	277	276	277	320	357	374	382	395	403	405
ST Interest Bearing Debt	77	67	90	46	12	16	14	5	4	5	10	7
Trade Payables	33	12	15	19	23	26	30	33	33	34	35	35
Accrued Wages	4	5	7	8	9	11	12	13	13	13	14	14
Accrued Taxes	1	6	8	10	12	13	15	16	17	17	17	17
Other Current Liabilities	95	88	158	193	221	253	286	307	316	325	327	332
LT Liabilities	16	30	34	25	28	33	37	40	41	42	42	43
LT Interest Bearing Debt	9	14	14	-	-	-	-	-	-	-	-	-
Other LT	7	15	20	25	28	33	37	40	41	42	42	43
Total Liabilities & Equity	460	527	783	996	1,169	1,347	1,502	1,610	1,663	1,744	1,794	1,839
Net Debt	79.0	58.4	50.8	(15.9)	(49.5)	(55)	(66)	(81)	(85)	(86)	(82)	(85)
UAH/USD exchange rates												
	2008	2009	2010	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E
Average	5.27	7.80	7.93	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Year-end	7.70	7.99	7.96	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00



# DCF model output

### DCF model output

For forecasting purposes loca	al currency is	used			A	ll amounts in L	IAH except oth	erwise stated		
	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E
EBITDA	1,878	2,116	2,282	2,535	2,795	2,956	3,035	3,125	3,147	3,188
EBIT	1,724	1,880	1,949	2,114	2,285	2,356	2,344	2,340	2,269	2,215
Tax Rate	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Taxed EBIT	1,293	1,880	1,949	2,114	2,285	2,356	2,344	2,340	2,269	2,215
Plus D&A	154	235	332	421	510	600	691	785	879	973
Less CapEx	(900)	(1,061)	(1,125)	(1,187)	(1,149)	(1,190)	(1,206)	(1,224)	(1,228)	(1,237)
Less change in OWC	(435)	(488)	(310)	(275)	(207)	(18)	188	(97)	(24)	(44)
FCFF	-	-	847	1,073	1,439	1,748	2,017	1,804	1,895	1,907
WACC	14%	14%	15%	15%	15%	15%	15%	15%	15%	15%
Sum of DCF's		6,662								
Terminal Value										11,677
Discounted TV		3,950								
Firm Value		10,612			Po	ortion due to	тν			37.2%
Less Net Debt		189								
Equity Value		10,801			Im	plied exit EB	ITDA Multipl	e		3.7 x
Perpetuity Growth Rate			2.0%							

### Sensitivity Analysis

		Implied	Share Price	Implied Share Price USD								
		Perpetu	ity Growth		Exit Multiple (EBITDA)							
WACC	1.0%	1.5%	2.0%	2.5%	3.0%	WACC	2.8 x	3.8 x	4.8 x	5.8 x	6.8 x	
-3.0%	764.4	776.2	789.0	802.8	817.8	-3.0%	621.8	705.4	789.0	872.6	956.2	
-2.0%	727.8	738.9	750.8	763.7	777.7	-2.0%	594.8	672.8	750.8	828.9	906.9	
-1.0%	693.7	704.0	715.1	727.2	740.2	-1.0%	569.4	642.3	715.1	788.0	860.8	
+0.0%	661.7	671.3	681.7	693.0	705.2	+0.0%	545.6	613.7	681.7	749.8	817.9	
+1.0%	631.7	640.7	650.5	661.0	672.4	+1.0%	523.2	586.8	650.5	714.1	777.8	
+2.0%	603.6	612.1	621.2	631.0	641.7	+2.0%	502.1	561.6	621.2	680.7	740.2	
+3.0%	577.3	585.2	593.7	602.9	612.9	+3.0%	482.3	538.0	593.7	649.4	705.2	

#### WACC calculation

	2010E	2011E	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E
Avg. Interest Rate	11.9%	12.0%	12.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%
Ukr Eurobonds YTM	5.0%	5.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Equity premium	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Compspecif. Prem/Disc	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Cost Of Equity	14.0%	14.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
WACC	13.6%	14.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
WACC To Perpetuity	15.0%									



# Appendices

# Motor Sich engine portfolio

Engine	Use T	akeoff thrust,	Cruise fuel	Estimated	Share in	Life cycle stage
		kN	consumption, p	rice, USD mln	Motor Sich	
			kg/kWh		2009 revenue	
	Mi-28, Ka-52, Ka-28/29, Mi-17, Mi-32,					
	Mi-50	1.5-1.7	0.28-0.3	0.68	58%	Serial production
ັບ VK-2500	Mi-28, Ka-52, Mi-17, Mi-24, Ka-32, Ka-50	1.5-1.8	0.29-0.31	0.65	6%	Serial production
뷥AI-9	auxiliary helicopter engine			0.1	4%	Serial production
<u>.</u> D-136	Mi-26	8.4	0.26		0%	Serial production
 AI-450		0.5	0.26	0.24	0%	Early production
MS-500	light helicopters Ansat	0.5-0.7	0.38-0.4		0%	Ready for production
95TM	Missiles			0.2	5%	Serial production
MS-400	Missiles	3.9	0.8	0.2	2%	Early production
						Replacement
AI-20	Il-18, Il-30, An-8, An-12, An-32, Be-12	2.9-3.5 MW	0.27-0.286	0.14	1%	production Replacement, no
AI-24	An-24, An-26, An-30	2.0 MW	0.309-0.319	n/a	0%	current production
SD-27 SD-27 SD-18T He D-18T He Al-25 SJ V D-436-148	An-70	10.3 MW	0.177	n/a	0%	Early production Needs renewal of
	An-124	230	0.0557 kg/N∙h	8.0	0%	serial production
± ∧1.25	L-39, K-8J, Yak-40	16.9	0.0586 kg/N·h	0.63	4%	Serial production
	L-39, K-6J, Tak-40	10.9	0.0380 kg/1011	0.03	470	Early stage of serial
.⊑ ≪ D-436-148	An-148	62.8-67.0	0.063 kg/N·h	2.2	2%	production
0 430 140		02.0 07.0	0.005 kg/ 14 h	2.2	270	Early stage of serial
			0.084-0.089			production, also
AI-222-25	Yak-130, L-15	24.5-27.5	6.084-0.085 kg/N∙h	0.67	2%	produced at Salut
	Tuk 150, L-15	27.5 27.5	16/111	0.07	2/0	produced at Jalut



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