

SOLID TECHNOLOGIES (050890)

Sculpting the Ubiquitous Era

■ Record-earning figures for 2006 to be sustainable

Solid Technologies is expected to have a record-earning year with top line of W106bn, a growth of 51.8% yoy, while maintaining their operating margin level at 14.5%. We expect these figures to be sustainable for the following reasons: (1) High 3.5G WCDMA capex level should be maintained for at least two more years with the adoption of SBSM handsets. (2) Mobile WiMAX/WiBro investment should offset the fade out period of 3.5G WCDMA.

■ Amicus Wireless Technology – The Next Growth Engine

Amicus Wireless Technology is a fabless chip manufacturer for mobile WiMAX/WiBro. Solid Technologies has invested around US\$5.0mn and holds a 64% stake in this subsidiary. The core technology of mobile WiMAX/WiBro chip design lies in implementing the complex OFDMA computation with low power consumption. We strongly believe that Amicus has the capacity to be a key player in the mobile WiMAX/WiBro chip market. The recent arrival of Dr. Daeje Jin, former Minister of Information and Communication and former CEO of Samsung Electronics, as the new BOD chairman has brought new dynamics on the company's future business prospect.

■ Sprint Nextel to Deploy Mobile WiMAX

U.S. telecom service provider Sprint Nextel has recently announced that they would deploy mobile WiMAX (equivalent to WiBro) as their '4G' service. They plan to invest US\$1.0bn in 2007 and US\$1.5bn to US\$2.0bn in 2008 for their new wireless service. This clearly clarifies some uncertainties global WiBro/WiMAX investment decision makers may have had and should catalyze global penetration of the next generation wireless broadband service.

■ Valuation/Risk

We believe the share price poorly reflects the current operational capacity of Solid Technologies and the growth potential of Amicus Wireless Technology. Our 12 month price target is W20,500, based on DCF model. The current share price is highly undervalued with 31% upside potential. Key risk to our recommendation is the economic downturn of telecommunication industry leading to retrenchment in the network equipment capex level, which is unlikely on the basis of our base scenario.

Buy

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Bloomberg: 050890 KQ

Reuters: 050890.KQ

Target price (12M): W20,500

Share Price (16/10/06): W15,700

Par Value: W500

52-W Lo/Hi: W10,500/23,300

KOSDAQ: 582.0p

Mkt Cap: US\$138.7mn/W132.4bn

Shares Issued: 8.4 mn shr

Avg Volume (60D): 325,454 shr

Avg Value (60D): US\$5.0mn/W4.8bn

Foreign Ownership: 1.1%

Dividend Yield (2005): 0.0%

Major Shareholder(s):

J. Jung (23.27%)

S. H. Lee (6.18%)

Price Performance

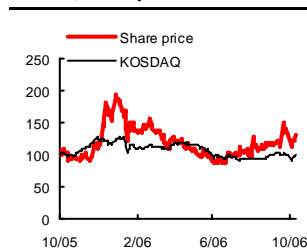
(%)	1M	6M	12M
Absolute	8.7	9.0	22.2
Relative	12.6	26.4	25.2

Forecasts/Valuations

FY	Sales (Wbn)	OP (Wbn)	NP (Wbn)	EPS (W)	yoy (%)	FCF (Wbn)	ROE (%)	P/E (x)	P/B (x)	EV/EBITDA (x)
12/04	62.5	8.8	8.1	1,278	33.3	-1.8	40.6	-	-	-0.7
12/05	69.7	8.5	7.2	1,001	-21.7	-3.9	21.5	19.7	3.8	15.5
12/06F	105.8	15.4	10.6	1,260	25.8	4.0	21.9	12.5	2.7	7.5
12/07F	118.6	17.6	14.0	1,671	32.6	4.8	23.4	9.4	2.1	6.1
12/08F	131.1	18.8	18.1	2,157	29.1	6.2	23.8	7.3	1.6	5.3

Source: Company data, Daewoo Securities

KOSDAQ Relative performance Chart



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INVESTMENT THESIS

MILESTONE YEAR FOR SOLID TECHNOLOGIES

Solid Technologies expected to break the W100bn sales barrier

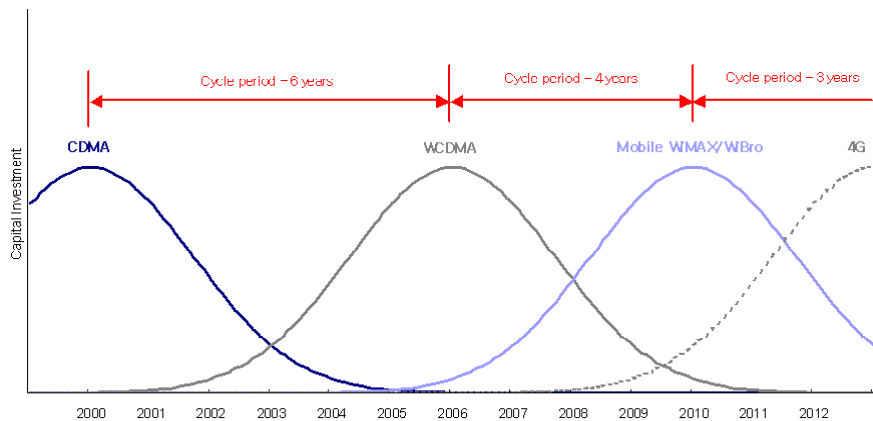
We expect Solid Technologies to post an impressive sales figure of W106bn, a growth of 51.8% yoy, while maintaining their operating margin level at 14.5% for the year 2006F. The strong rise of the top line is mainly attributable to aggressive 3.5G WCDMA¹⁾ investment carried out by KTF and SKT. KTF is expected to spend W780bn and SKT has recently raised their budget to W810bn from W570bn for the 3.5G WCDMA investment in 2006 alone.

Doubters might argue that this performance is merely a hike, as the 3.5G WCDMA investments should peak this year and sharply drop for the years going forward. We think otherwise for the following reasons:

High 3.5G WCDMA capex level to be maintained for at least 2 more years

The current HSDPA is not a full-blown service due to the lack of coverage. This shortfall mandates DBDM (Dual Band Dual Mode) handsets, which can switch back to the conventional CDMA system whenever a subscriber falls into a region uncovered by the new HSDPA system. These 'backward compatible' DBDM handsets are more expensive than SBSM (Single Band Single Mode) handsets, which are dedicated to HSDPA system. The current HSDPA handsets embedded with DBDM chipsets are priced at W700k, whereas the SBSM handsets are expected to be priced below W400k. One of the main reasons for sluggish proliferation of the new service accounts from the high priced HSDPA enabled handsets. The HSDPA service providers, KTF and SKT, announced to advance their coverage level supporting SBSM handsets and initiate a full-blown HSDPA service during 2007. This implicates, in our view, that a high capex level for HSDPA will be maintained for at least 2 more years.

Figure 1. Investment cycle for wireless telecommunication



Source: Daewoo Securities

¹⁾ 3.5G WCDMA is also known as HSDPA (High Speed Downlink Packet Access) service. HSDPA is an enhancement to the conventional 3G WCDMA technologies that increases the downlink speed by applying different modulation and coding techniques. The terminologies are used interchangeably throughout this document.

Mobile WiMAX/WiBro to offset the fade out period of 3.5G WCDMA

The peak of the previous cycle for telecommunication investment was in 2000 and we expect this year to be the peak for the current cycle. However, the technology cycle is getting shorter and new technologies are quickly driving obsolete technology out of business. The newest technology in the telecommunication community is the mobile WiMAX/WiBro technology. Although there have been concerns over the feasibility of the new technology, serious investment led by Sprint Nextel and KT has cleared most of the uncertainties that some global telecom service providers might have had. Sprint Nextel plans to invest US\$1.0bn in 2007, US\$1.5bn to US\$2.0bn in 2008 and KT plans to invest W0.5tn this year, another W1.0tn to W1.5tn until 2008 for mobile WiMAX/WiBro. Solid Technologies should absorb greater portion of the mobile WiMAX/WiBro investments than the current 3.5G WCDMA investments, as they stand with a stronger position in the mobile WiMAX/WiBro market.

Participation of Dr. Jin should change the business dynamics of Amicus Wireless Technology

NEW CONFIDENCE LEVEL FOR AMICUS WIRELESS TECHNOLOGY

Solid Technologies recently announced that Dr. Daeje Jin has joined Amicus Wireless Technology, a fabless mobile WiMAX/WiBro chip-manufacturing subsidiary, as the BOD chairman. Dr. Jin is the former Minister of Information and Communication (2003~2006) and former CEO of Samsung Electronics (2000~2003). We would like to highlight Dr. Jin's background as a legendary semiconductor engineer while working for Samsung Electronics. Dr. Jin led his team in developing the world first 16M DRAM in 1989, overtaking the Japanese memory makers for the first time and has been that way for Samsung Electronics ever since. We believe Dr. Jin's expertise in the semiconductor industry and the diverse experiences as a leader of the world second largest semiconductor manufacturer should significantly change the business dynamics of Amicus Wireless Technology. Dr. Jin should be able to provide various opportunities in securing major customers to deploy their mobile WiMAX/WiBro chip.

Share price undervalued with 31% upside potential

VALUATION/RISK

We believe the share price poorly reflects the current operational capacity of Solid Technologies and the growth potential of Amicus Wireless Technology. Our 12 month price target, based on DCF model, is W20,500. The current share price is highly undervalued with 31% upside potential.

Efforts are being made to overcome their structural weakness

Key risk to our recommendation is the economic downturn of telecommunication industry, which would lead to retrenchment in the network equipment capex level. All network equipment manufacturers suffer from this structural weakness and Solid Technologies has been consistently making efforts to diversify their customer spectrum through overseas penetration and horizontal integration of their business area, displayed by Amicus Wireless Technology.

INDUSTRY OUTLOOK

WHY WIBRO²⁾ IS AN INEVITABLE SCENARIO?

The distinct boundaries between each network technologies no longer seem to exist

The mega-trend of today's IT industry is represented by the evolution of network and media technologies. The paradigm of computing devices has changed over time, and it is hard to imagine computers without the Internet. As Scott McNealy, ex-CEO of Sun Microsystems, once said, the network in itself is the computer. From voice transmission to broadband networks, various network technologies have evolved in its own way to connect digital devices in either wired or wireless medium.

Table 1. Golden Triangle of Network Technologies

Network	Type	Connection	Applications
Telecommunication	Voice	One-to-One	Fixed/Mobile Phone
Media	Audio/Video	One-to-Many	Radio, Television
Internet	Data	Many-to-Many	PC, Notebook

Source: Daewoo Securities

The distinct boundaries that each technologies use to have, no longer seem to exist. The keyword in today's technology is "convergence" of the network. However, technological conquest is only one part of the problem when it comes to convergence. Governing bodies, regulations and related commercial industries are all tangled up and are trying to tilt the convergence process in their own beneficial way. Although these regulative time lags may discourage investment from service providers, the convergence paradigm is an inevitable scenario. The following factors explain why:

Network convergence paradigm is an inevitable scenario

1) The Korean government is pursuing the IT839 plan to promote the next generation telecommunication service, infrastructure, equipment, software and content. Satellite-DMB and terrestrial-DMB started commercial service as of this year. 3.5G HSDPA and WiBro services are in pilot/commercial service in parts of the metropolitan area. These services are the initial implications of BcN (Broadband convergence Network). The Korean government has declared IT839 as their national strategy to achieve US\$20,000 per capita income and is eager to use the IT industry as the national growth engine.

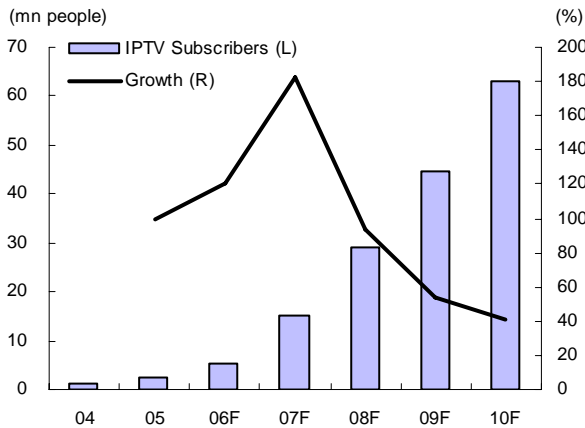
2) Convergence applications are being adopted in the market. VoIP (Telecommunication-Internet), IPTV (Media-Internet) and DMB (Telecommunication-Media) services are either already in commercial service or being prepared for deployment. If two different network infrastructures cannot be differentiated in terms of the services that they provide, it is only sensible that these networks merge, since the maintenance costs are no small figures. Figures 2 and 3 depict the global forecast for convergence applications.

Network convergence will catalyze the wireless broadband market

We believe that the network convergence paradigm will catalyze the wireless broadband market. The value chain of new network infrastructure flows from the network equipment penetration at the early stage to PSS (Portable Subscriber Stations) development stage, and the application/content proliferation stage. Korea, the global leader in broadband Internet and mobile phone network penetration, is only at the beginning of a new ubiquitous era.

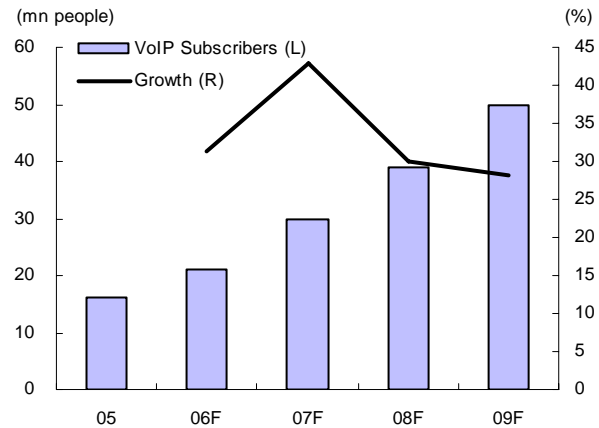
²⁾ WiBro, short for Wireless Broadband, is the Korean version of the mobile WiMAX, IEEE 802.16e standard protocol.

Figure 2. IPTV Subscriber Forecast



Source: iSuppli, Daewoo Securities

Figure 3. VoIP Subscriber Forecast



Source: inStat, Daewoo Securities

SPRINT NEXTEL TO DEPLOY MOBILE WIMAX

Sprint Nextel to deploy mobile WiMAX in 2.5GHz

U.S. telecom service provider Sprint Nextel has recently announced that they would deploy mobile WiMAX (equivalent to WiBro) as their '4G' service in the 2.5GHz spectrum. They plan to invest US\$1.0bn in 2007 and US\$1.5bn to US\$2.0bn in 2008 for their new wireless service. The move by Sprint Nextel, a major telecom service provider with 50 million subscribers, to implement mobile WiMAX should serve as a catalyst for others to make anticipated investments.

Sprint's announcement should catalyze global investment actions

Global preparations for wireless broadband services are taking place as shown in Table 2. As for KT, the largest domestic telecommunication service provider, they have been very cautious on making large investment decisions. KT gave capex guidance of W500bn for WiBro service in 2006, and has carried out only W170bn in the first half. On top of the fact that KT has historically abided by the guidance that they have provided, we believe that Sprint's recent announcement will stimulate KT to invest more intensely in WiBro during the remaining half of this year and going forward.

Table 2. Global Wireless Broadband Services

Status	Country	Schedule	Service Provider	2.3GHz	2.4GHz	2.5GHz	2.6GHz	2.7GHz	3.4GHz	3.5GHz	3.6GHz	5.8GHz
In Service	Korea	2006.04	KT/SKT	WiBro								
	United States	2006.02	Infonik			WiMAX	WiMAX					
		2006.02	Xanadoo			WiMAX						
	Denmark	2005.06	Danske Telecom							WiMAX		
	Australia	2004.08	Unwired Australia						WiMAX			
Service Scheduled	Netherland	2004.01	Enetel							WiMAX		
	Croatia	2007	H1								WiBro	
	Italy	2007	Telecom Italia							WiBro		
	Brazil	2006	TVÁ								WiBro	
	Venezuela	2006	Omnivision							WiBro		
	United States	2006	Aspen Comm				WiMAX					
		2007	Sprint Nextel				WiMAX					
	China	2007	China Mobile				WiMAX				WiMAX	
	Japan	2007	Yozan/KDDI	WiMAX								
	Singapore	2006	Pacific Internet				WiMAX					
	Philippine	2007	BellTel							WiMAX		
	Canada	2006	Netago								WiMAX	
	England	2006	Pipex/BT								WiMAX	
Ireland	2006	Irish Broadband								WiMAX		
In Revision	Taiwan		Vibo Telecom				WiMAX					
	Spain		Iberbanda							WiMAX		
	Malaysia		Telecom Malaysia									
	Mexico		Telmax								WiMAX	
	France		Neuf Telecom								WiMAX	
	India		Reliance							WiMAX		
	Germany		Deutsche Telecom								WiMAX	
	Sweden		TeliaSonera								WiMAX	

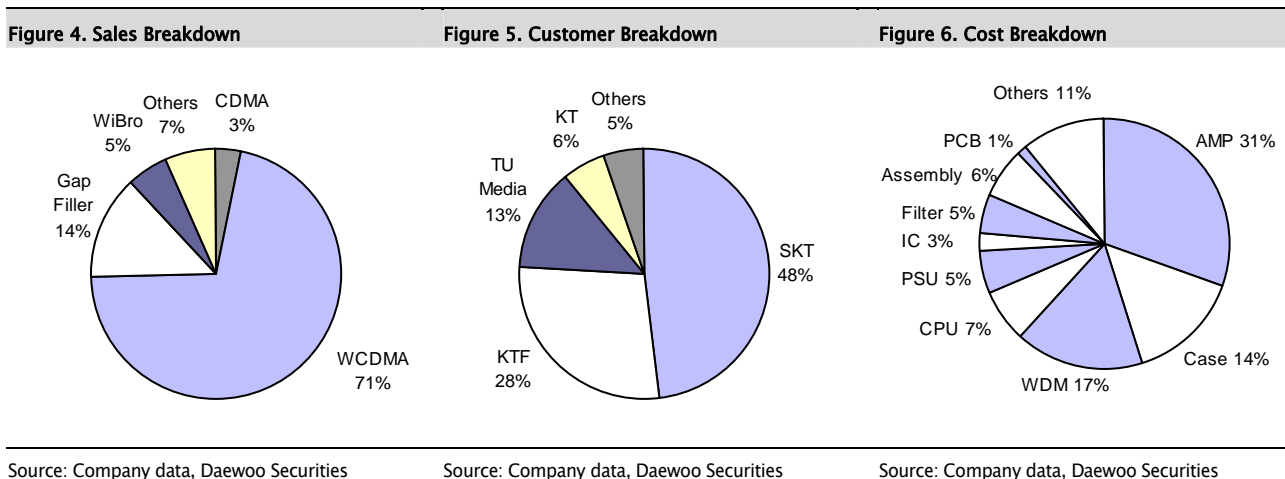
Source: Ministry of Information and Communication

STRATEGIC POSITION

COMPANY OVERVIEW

Solid Technologies provides wide range of wireless network equipment products

Solid Technologies Inc. was incorporated through a KT venture program in 1998 and went public in July 2005. The headcount is up to 165 employees, including 62 R&D engineers mainly from KT and Samsung Electronics. Their broad product mix includes In-Building Optic Distribution System, Optic Link Units, and Digital Repeaters based on Software Defined Radio (SDR), Digital Signal Processing (DSP), Analog/Digital Optic Transmission, and Wavelength Division Multiplexing (WDM) network equipments. These products offer WCDMA, WiBro and DMB, golden triangle of the next generation wireless technologies. One of their core strength lies in their ability to provide wide range, if not all, of wireless repeater products that are in the market today.



CURRENT EVENTS AND PIPELINES

Record earning 2Q06

Solid Technologies posted record sales of W47.2bn, a growth of 174% qoq and 166% yoy, and operating profits of W11.1bn, a growth of 260% yoy, in 2Q06. The strong rise of the top line was driven by the following factors:

Aggressive WCDMA capex carried out by KTF

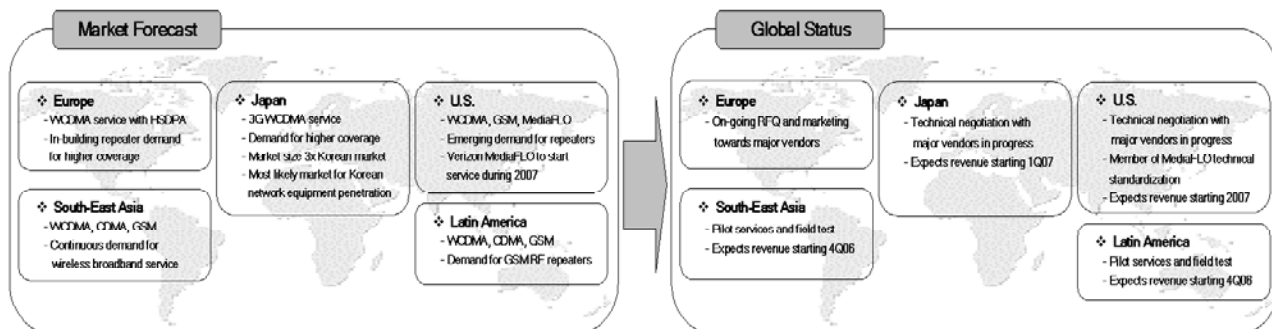
KTF carried out an aggressive investment in WCDMA repeaters, contributing to the top line, rising from 4% in 1Q06 to 43% in 2Q06. The SKT WCDMA repeater sales contributed another 44% to the top line, rising 44% qoq. We expect WCDMA repeaters to make up a strong portion of their sales throughout 2006 due to fierce competition in commercial 3.5G HSDPA services.

WiBro investment to intensify in second half

KT's capex guidance was W500bn for WiBro service in 2006, and has so far carried out only W170bn in the first half. KT announced that they would maintain their capex guidance for the rest of 2006, and plans to invest more intensely in Wibro service during the second half. We expect to see a stronger contribution to the top line coming from sales of WiBro repeaters in 2H06.

Solid Technologies has been seeking global penetration in the wireless repeater market in recent years. Although no visible outcomes have yet come to fruition, we see positive signs arising as greater opportunities emerge in the global network market, initiated by Sprint Nextel.

Figure 7. Global Market Forecast and Status of Wireless Services



Source: Company data, Daewoo Securities

Earnings to be fruited in Japanese WCDMA market starting 1Q07

Recent efforts to penetrate the global market are starting to payoff as seen in Figure 7. Field verifications with sample equipment are taking place in South-East Asia and Latin America, which are expected to contribute to revenues starting next year. Although, Japan has the largest number of WCDMA subscribers, their coverage is substantially lower than the Korean network infrastructure. Higher coverage is being demanded by Japanese WCDMA subscribers, since seamless connection is an imperative factor for data transmission in 3G+ environments.

KEY ASSUMPTIONS AND RISKS

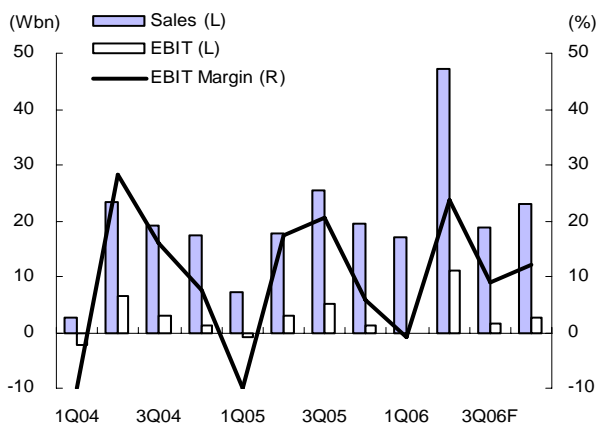
Top line growth in tandem with Telcos' capex growth

The main source of revenue for network equipment manufacturers comes from the investments made by the local telecom service providers, namely KT, SKT, KTF, LGT, and TU media. Hence, the top line growth at Solid Technologies will be in line with the capex growth of the telecom service providers.

The investment guidance of the major telecom service providers gives us an outlook on the future network equipment market. We expect the aggregated capex of the telecom service providers to grow at CAGR 5%, rising up to W8.5tn in 2010.

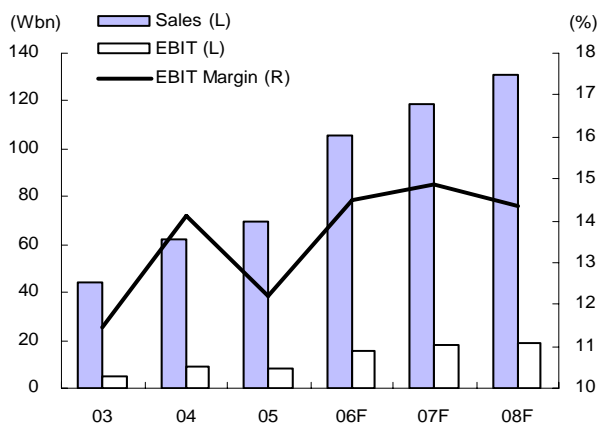
High reliance on giant telecom service providers exposes Solid Technologies to margin pressures. All network equipment manufacturers suffer from this structural weakness and Solid Technologies has been consistently making efforts to integrate their business area horizontally, displayed by Amicus, a WiBro/WiMAX chip-manufacturing subsidiary.

Figure 8. Quarterly Earning Trend



Source: Company data, Daewoo Securities

Figure 9. Yearly Earning Trend



Source: Company data, Daewoo Securities

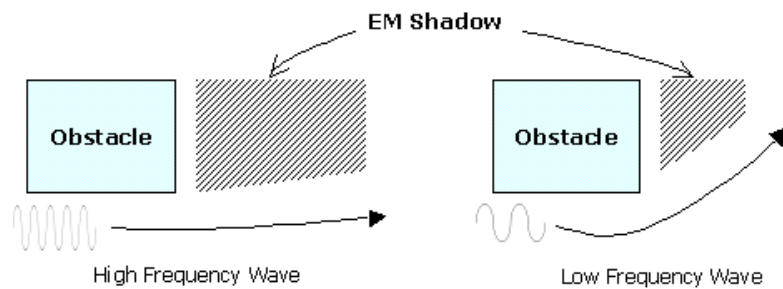
CORE COMPETENCIES

THE DIFFRACTION PHENOMENON

Higher frequency EM wave creates more EM shadows when obstacles are met

All electromagnetic (EM) waves have a diffraction property, which is characterized by lower frequency wave diffracting, or bending, more than higher frequency waves. Stated differently, higher frequency EM waves have a higher tendency to go straighter, which creates more EM shadows when obstacles are met, as shown in Figure 10. Therefore, it requires more EM wave replicating network equipments, either base stations or repeaters, in order to cover these EM shadows.

Figure 10. Diffraction Phenomenon



Source: Daewoo Securities

Figure 11 shows the carrier frequency used for local wireless services. The lower frequency bands are mostly preoccupied by conventional wireless or broadcasting services, which leaves higher frequency bands (2GHz and higher) to be used by carriers for broadband wireless services. Global WiBro/WiMAX services use high frequency bands of up to 5.8GHz as presented in Table 2.

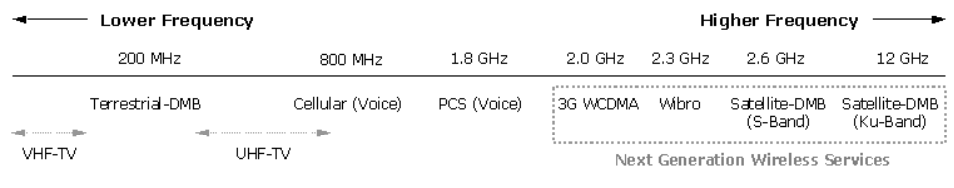
Next generation wireless technologies require higher carrier frequencies

Except for the Terrestrial-DMB, all other next generation wireless technologies require higher carrier frequency than the conventional voice services. Aside from the fact that higher frequency spectrums are available, it is only practical to use the higher frequency spectrum since we are seeking higher bandwidth for broadband data transmission than the conventional voice or 1xEV-DO data transmission. Therefore, our logic is straightforward, higher transmission bandwidth required → higher carrier frequency will be used → more EM shadow created → more base stations/repeaters required.

High demand for base stations/repeaters in urban areas

On top of the inherent characteristics of high frequency EM waves, demand for base station/repeaters will naturally increase in urban areas with high skyscrapers and underground facilities. We also project strong demand for wireless broadband services coming from countries with low penetration of broadband service. The current wireless broadband technology can provide a typical transmission rate of 2~4Mbps, which fall within the proximity of wired broadband transmission rates. Hence, wireless broadband infrastructure will be a more sensible choice for these undeveloped countries, as the initial capex requirement for constructing wireless base stations/repeaters will be substantially lower than constructing broadband lines into every fixed buildings and households.

Figure 11. Carrier Frequency for Local Wireless Services



Source: Daewoo Securities

BASE STATION VS REPEATER

Either base station or repeaters are needed to replicate EM signals

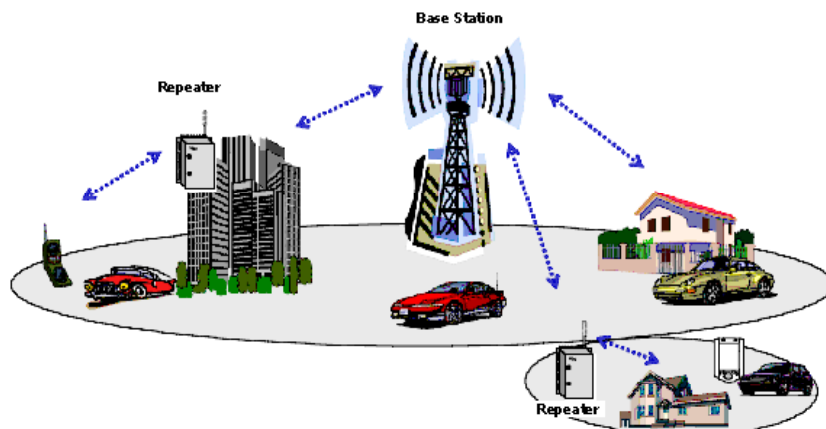
We have already established that with the new broadband wireless technologies, more intermediate signal replicators will be required to minimize EM shadows. Two solutions exist for this scenario, either base stations or repeaters. Base station and repeater equipments are compared in the Table 3.

Base stations and repeaters should be seen as complementary

Although base stations are the core nodes of the network infrastructure, the high capex and opex makes it an inefficient way to cover the entire geographic territory. A more cost-effective way to create a seamless network is to make full use of repeater equipment. Hence, these two products should be seen more as complementary than as substitutes.

Another important factor in network design is in the allocation and planning of repeaters for a given geographic territory. Too many repeaters will create multiple coverage and cause devices to switch back and forth between repeaters. This will generate unnecessary network traffic and lead to higher power consumption on the device. On the other hand, a shortage of installed repeaters will result in low transmission quality. The ability to design optimal network configurations requires highly skilled network engineers with extensive experience. The skills required for network design is often acquired through actual fieldwork than textbooks. The empirical nature of network design, on top of the equipment manufacturing itself, acts as an entry barrier for potential new entrants in the network equipment market.

Figure 12. Base Station vs Repeaters



Source: Daewoo Securities

Table 3. Comparison of Base Station and Repeater

	Base Station	Repeater
Functionality	Replication and Amplification, Signal Processing, Multi Access Scheme, Standardized Architecture	Replication and Amplification
Cost	KRWm100, Higher capex/opex	KRWm15~20, Lower capex/opex
Coverage	Dependent on AMP, Typically 2~3 Km	Dependent on AMP, Typically 1~2 Km
Major Manufacturers	Samsung Electronics, Motorola, Lucent Technologies	Solid Technologies, SK Telesys, Kisan Tel, Youngwoo Tel, C&S Microwave

Source: Company data, Daewoo Securities

THE COMPETITION

BMT prevents potential entrants beforehand

The Korean network equipment market has a unique structure, where giant telecommunication service providers select equipment suppliers through an open Benchmarking Test (BMT). The telecommunication service providers then select 2~3 qualified companies in each specific technology areas. Once selected as a qualified equipment supplier for telecommunication service providers, BMT prevents new entrants from participating as a new equipment supplier.

The MTBF (Mean Time Before Failure) of network equipments are 7~8 years on average. However, the technological life cycle is known to be 3~5 years on average, before the equipment becomes obsolete. During this period, qualified equipment suppliers enjoy reasonable profits. For example, the CDMA repeaters provided by Solid Technologies since 1999 become obsolete in 2004, when they were replaced by dual band CDMA repeaters.

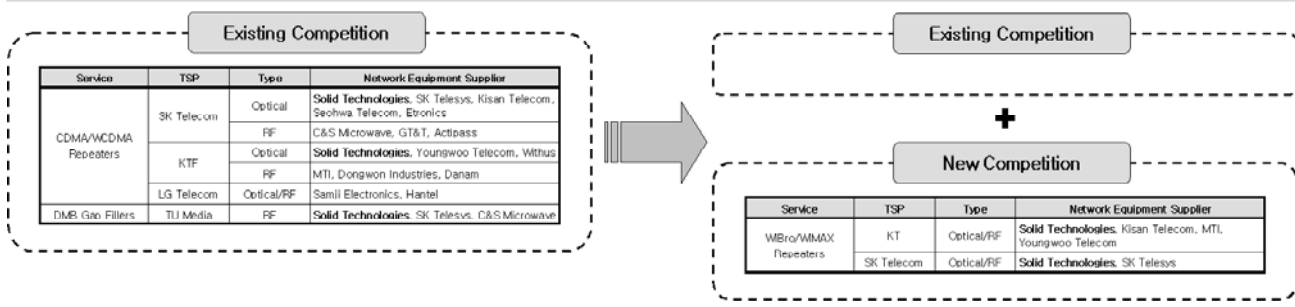
Core strength lies in diversified product mix and customer mix

The core strength of Solid Technologies lay in their broad and optimized product mix, covering CDMA, WCDMA repeaters, DMB gap fillers and WiBro/WiMAX equipments. Their diverse customer base, which includes KT, SK Telecom, KTF and TU media, is another advantage over their counterparts, as described in Figure 13. Most equipment companies are dedicated to a single telecommunication service provider.

We expect sales of WCDMA and WiBro/WiMAX equipment to contribute more to their top line going forward. Solid Technologies should be able to absorb greater portion of the telecommunication service providers' future capex as the competition in WiBro/WiMAX market is less fierce than the conventional CDMA/WCDMA market.

DMB gap filler market is at its final stage based on two factors. Terrestrial DMB inherently uses very few repeaters due to the fact that its carrier frequency is in the low 200 MHz. TU media has proclaimed that no more mass capital expenditure would be made for satellite DMB, except for the maintenance expenditure for their current infrastructure.

Figure 13. Competition Anatomy in Korean Repeater Market



Source: Company Data, Daewoo Securities

THE NEXT GROWTH ENGINE

OFDMA AT THE CORE

OFDMA is emerging as a clear choice for the next generation wireless networks

How does every mobile phone user get a dedicated connection with their counterpart without transmissions getting mixed up? The answer to this is the ‘multiple access’ scheme that allows efficient use of limit frequency spectrum among multiple users. CDMA (Code Division Multiple Access) and TDMA (Time Division Multiple Access) are examples of multiple access schemes and are at the heart of today’s wireless technology. OFDMA (Orthogonal Frequency Division Multiple Access) is emerging as a clear choice for the next generation wireless networks, as it is known to be superior to its predecessor. Figure 14 illustrates the technology of allocating different users with different channels across the time domain (TDMA), frequency spectrum (FDMA), or both (CDMA/OFDMA). OFDMA combines the advantages of conventional multiple access schemes to achieve better spectral efficiencies. Although the OFDMA principles have been known for 40 years, its underlying complexity made it unfeasible to implement until the recent development of DSP (Digital Signal Processing). OFDMA is the multiple access scheme used in mobile WiMAX/WiBro technologies as described in IEEE 802.16e standard.

OFDMA works by dividing a given spectrum block into a number of sub-channels, each of which is individually modulated and then transmitted orthogonally to minimize interference with each other. OFDMA is known to be more efficient than CDMA and WCDMA technology when used in 3G systems, and delivers better performance in urban environments due to better resistance to multi-path interference.

Solid Technologies are taking their stake in the OFDMA patent war

Having experienced the Qualcomm CDMA royalty strategy, global telecommunication companies, including Qualcomm, Adaptix, Samsung Electronics, Lucent Technologies etc., are pursuing their research forces to preoccupy OFDMA patents. Although very minimal compared to the giant telecommunication companies, Solid Technologies is also claiming their stake in the OFDMA patent war, which no other competitor in their industry has done. Putting aside the bargaining power of their patents, this clearly reflects the R&D power that Solid Technologies has over their counterparts.

Table 4. OFDMA Patent Registration in Korea

Company	2001	2002	2003	2004	2005	Total
Samsung Electronics	3	3	5	39	2	52
ETRI	0	5	10	1	4	20
SEC/ETRI/Telecom Consortium	0	0	13	9	4	26
Solid Technologies	0	0	1	2	0	3
Solid Technologies/KT	0	0	0	2	1	3

Source: Institute for Information Technology Advancement (ITA)

Figure 14. Evolution of Multiple Access Schemes



Source: IDEC, Daewoo Securities

AMICUS WIRELESS TECHNOLOGY

The Korean government demonstrated the WiBro technology during APEC summit last November in Busan. Samsung Electronics provided the PSS (Portable Subscriber Stations), which were equipped with Runcom and Beceem Communications WiBro chips embedded in the terminals. The trial service was an overall success, however, Samsung discovered some technical problems, especially in the power consumption, as the terminals heated up noticeably. Our recent updates have shown that Samsung has dropped Runcom WiBro chips for their terminals.

OFDMA technology has an inherent characteristic of high power consumption

OFDMA technology has an inherent characteristic of complex underlying computation consisted of FFT (Fast Fourier Transform). Complex computation leads to higher power consumption, which is dissipated as heat. The WiBro chips that were used during APEC demonstration are known to operate at 1Watt level. The industry requires the power consumption level to be down to 0.5Watt to be economically feasible. Therefore, the company that overcomes the power consumption constraint is likely to have a leading edge in the global WiBro chip market.

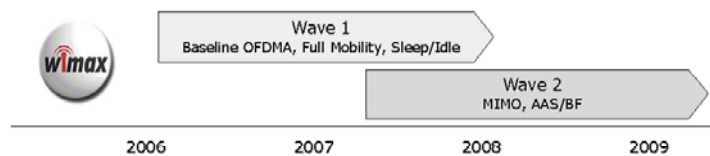
Amicus is a fabless chip manufacturer for WiBro and mobile WiMAX

Amicus Wireless Technology is a fabless chip manufacturer for WiBro/WiMAX based in Silicon Valley, San Jose. Solid Technologies has invested around US\$5.0mn and holds 64% stake of this subsidiary. Solid Technologies has migrated some of their core OFDMA engineers to Amicus and expects their first WiBro/WiMAX commercial chips to be operating around third quarter of 2007. We strongly believe that Amicus has the capacity to be a key player in the WiBro /WiMAX chip market, along with its global competitors Intel, Runcom and Beceem. Amicus stands out as having a strong track record of constructing wireless broadband network infrastructures, such as WiBro and HSDPA in Korea, and this should serve them as a competitive edge over their counterparts. Figure 15 shows the timeline for mobile WiMAX release 1 system profile. The Wave 1 profile products, currently used for WiBro service in Korea, uses SISO antenna configurations and support mobile speeds >60 km/hr. Amicus is currently developing chips with Wave 2 profile, supporting MIMO (Multiple-Input Multiple-Output) and AAS (Adaptive Antenna System), known to be more efficient than Wave 1 profile.

Amicus to work in cooperation with KT for Wave 2 mobile WiMAX

KT has recently announced a strategic partnership agreement in Wave 2 mobile WiMAX with Amicus. The Amicus/KT partnership will focus on the development of AWT2000 chipset, the mobile WiMAX Wave 2 profile chipset, expected to deliver superior power/performance characteristics over any carrier-class wireless data service. KT has initiated pilot service of WiBro in limited metropolitan areas of Seoul starting July this year. The number of subscribers for the WiBro service is still at a disappointing level, due to the (1) limited coverage and (2) lack of varieties in PSS available for end-users. KT plans to continue their efforts to increase their coverage level and the partnership with Amicus shows that KT is willing to actively invest in PSS development as well. KT has made US\$1.0mn investment in Amicus and we expect more to be carried out going forward.

Figure 15. Mobile WiMAX Release 1 Timeline

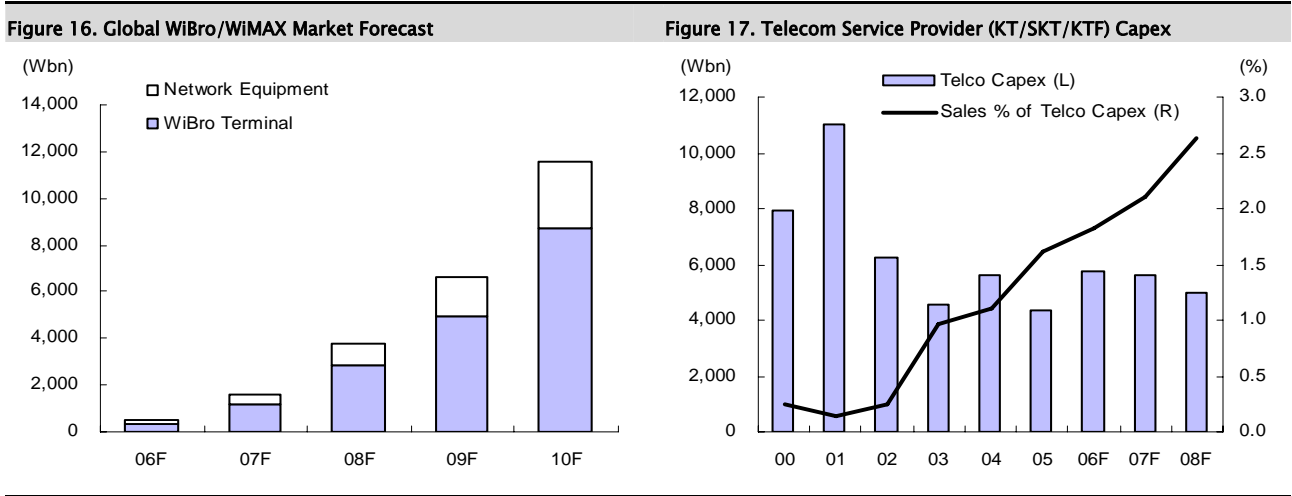


Source: Intel

The key to success is finding strategic partners to deploy their chipset

The global WiBro/WiMAX chip market forecast is given in Figure 16. The market size for WiBro/WiMAX chip is substantially greater than the network equipment market. We believe the keys to Amicus' success is to find a strategic partner to deploy their chips in the PSS, likely to be handsets. If Amicus is able to partner with major Korean handset makers, such as Samsung Electronics or LG Electronics, they stand a good chance in the market.

As a start up company, equity method loss of US\$2.5mn/year is expected for at least two years from Amicus' operations. Amicus intends to raise more capital up to US\$30mn, as they scale up their business reach greater capacity. We are strong believers of the fundamentals and R&D capacity when it comes to the IT industry. Amicus has long-term value added potential and should be the next growth engine for Solid Technologies.



Source: ETNews, Daewoo Securities

Source: Company data, Daewoo Securities

VALUATION

STILL IN COMFORT ZONE WITH 31% UPSIDE POTENTIAL

We believe the share price is still highly undervalued with 31% upside potential. The share price poorly reflects the current operational capacity of Solid Technologies and the growth potential of Amicus Wireless Technology. Our 12 month price target, based on DCF (Discounted Cash Flow) Model, is W20,500. We assumed 4.8% risk free rate, a 7.0% equity risk premium, and 1.1 beta, which is the 14-month average beta, for our calculation. We explicitly valued Solid Technologies operation until 2010, which we expect to be the peak year, and thus assume a no growth perpetuity model for our residual value.

Table 5. Solid Technologies P&L Forecast

(KRWb)	2004	2005	2006F	2007F	2008F
Sales	62.5	69.7	105.8	118.6	131.1
CDMA	16.1	3.6	1.6	0.9	0.8
WCDMA	14.0	41.3	79.2	76.0	64.7
Mobile WiMAX/WiBro	-	2.5	11.4	24.8	31.2
DMB Gap Filler	20.0	15.6	6.2	4.4	3.7
4G Technology	-	-	-	-	5.0
Overseas	-	-	-	3.5	14.0
Others	12.4	6.8	7.4	8.9	11.6
Operating Profit	8.8	8.5	15.4	17.6	18.8
Net Profit	8.1	7.2	10.6	13.9	17.9
P/E (x)	-	19.7	12.5	9.4	7.3

Source: Company Data, Daewoo Securities Estimates

We explicitly valued Amicus Wireless Technology, based on the following assumption.

- Net loss of W5.0bn for 2006 and 2007.
- Profitable starting 2008 with single digit market share until 2010.
- Net profit margin of 10%, based on the fabless semiconductor peers.
- Stake should be diluted to 45% as second round rights offering comes through.

Table 6. Net Profit Margin of Fabless Semiconductor-Manufacturing Companies

	Company Name	2003	2004	2005
Domestic	Telechips	15.6%	13.9%	20.5%
	Core Logics	28.8%	30.2%	16.4%
	MtekVision	23.6%	20.4%	18.3%
Global	Broadcom	-59.6%	9.1%	15.4%
	Cirrus Logic	23.7%	-6.8%	28.0%
	Nvidia Corp	4.1%	5.0%	12.7%
	ATI Technology	2.5%	10.3%	0.8%
	Xilinx	21.7%	19.9%	20.5%
	Actel Corp	4.2%	1.4%	3.9%
	Average	7.2%	11.5%	15.2%

Source: Bloomberg, Daewoo Securities

Table 7. DCF Model

(KRWm)	2006F	2007F	2008F	2009F	2010F
EBIT	15,357	17,629	18,810	22,572	23,926
NOPAT	11,134	12,781	13,637	16,364	17,346
Dep/Amort	1,878	2,584	2,930	2,823	2,917
Capex/Net Change in Working Capital	4,042	10,085	9,876	2,836	4,099
Free Cash Flow	8,970	5,280	6,691	16,352	16,164
Discount Factor	1.00	0.91	0.82	0.75	0.68
PV of FCF	8,970	4,791	5,508	12,214	10,955
Sum of PV	42,438				
Residual Value	107,269				
Enterprise Value	149,708				

Amicus Explicit Valuation	2006F	2007F	2008F	2009F	2010F	2011F	2012F	2013F	2014F
Sales	0	0	2,850	14,850	43,500	69,600	90,480	95,004	99,754
Net Profit	-5,000	-5,000	285	1,485	4,350	6,960	9,048	9,500	9,975
Stake Owned	64%	45%	45%	45%	45%	45%	45%	45%	45%
Equity Method Gain	-3,200	-2,250	128	668	1,958	3,132	4,072	4,275	4,489
Discount Factor	1.00	0.91	0.82	0.75	0.68	0.61	0.56	0.51	0.46
PV of Equity Method Gain	-3,200	-2,178	106	499	1,327	1,926	2,272	2,164	2,062
Sum of PV	4,978								
Residual Value	25,608								
Amicus Investment Value	30,586								

		Assumption for Residual Value	
Total Enterprise Value	180,294	Terminal Growth for Solid Technologies	0.0%
Total 12 month Appraised EV	198,707	Terminal Growth for Amicus	2.0%
Cash and Equivalents	12,714	Risk Free Rate	4.8%
ST Investments	-	Risk Premium	7.0%
Amicus Book Value	2,445	Beta	1.1
Interest Bearing Liabilities	10,210	Cost of Equity	12.2%
Intrinsic Equity Value	173,526	Cost of Debt	5.9%
No. of Shares (mn)	8.431	Equity Weight (E)	75.3%
Equity Value per Share	20,582	Debt Weight (E)	24.7%
		Tax Rate	27.50%
		WACC	10.2%

Source: Daewoo Securities

Solid Technologies (050890) - Financial Statement

Balance Sheet (Summarized)

(Wbn)	12/05	12/06F	12/07F	12/08F
Current assets	43.8	42.6	52.6	64.4
Cash and cash equivalents	10.3	3.7	9.8	18.0
Short-term financial goods	7.5	9.0	9.0	9.0
Accounts receivable	18.8	20.8	23.3	25.7
Inventories	4.8	7.3	8.2	9.1
Other current assets	2.3	1.8	2.3	2.6
Non-current assets	19.4	37.4	43.6	52.0
Investment assets	8.3	20.5	21.1	24.0
Tangible assets	10.8	12.8	19.1	25.2
Intangible assets	0.3	4.1	3.4	2.8
Total assets	63.2	80.0	96.2	116.3
Current liabilities	12.7	20.0	21.1	22.0
Accounts payable	8.2	13.0	14.6	16.1
Short-term borrowings	0.0	4.2	2.9	1.9
Current portion of long-term debt	0.4	0.2	0.8	0.8
Other current liabilities	4.1	2.6	2.9	3.2
Non-current liabilities	7.0	7.1	8.1	9.3
Bonds	3.0	3.0	3.0	3.0
Long-term debt	2.8	2.8	3.6	4.7
Other non-current liabilities	1.2	1.3	1.4	1.6
Total liabilities	19.7	27.1	29.2	31.3
Capital stock	4.2	4.2	4.2	4.2
Capital surplus	18.5	18.8	18.8	18.8
Retained earnings	21.6	32.2	46.2	64.3
Capital adjustments	-0.8	-2.2	-2.2	-2.2
Total stockholders' equity	43.5	53.0	67.0	85.1

Cash Flow (Summarized)

(Wbn)	12/05	12/06F	12/07F	12/08F
Cash flow from operating activities	7.6	14.4	15.5	16.9
Net profit	7.2	10.6	14.0	18.1
Non-cash income and expense	3.0	5.6	3.7	0.7
Tangible assets depreciation	1.3	1.4	1.7	2.0
Intangible assets depreciation	0.0	0.5	0.9	0.9
Others	1.7	3.7	1.1	-2.3
Chg in assets & liabilities from oper. activities	-2.7	-1.7	-2.2	-1.9
Chg in accounts receivable	-7.5	-2.2	-2.6	-2.6
Chg in inventories	0.1	-3.0	-0.9	-0.9
Chg in accounts payable	5.0	4.8	1.6	1.5
Others	-2.4	-1.3	-0.2	0.1
Cash flow from investment activities	-21.8	-24.0	-9.8	-8.9
Disposal (acquisition) of tangible assets	-9.2	-3.0	-8.0	-8.1
Reductions (growth) in intangible assets	-0.1	-4.3	-0.2	-0.2
Tangible assets investment	-4.3	-12.4	-1.6	-0.5
Others	-8.2	-4.3	0.0	0.0
Cash flow from financing activities	15.3	3.0	0.3	0.2
Chg in bonds and borrowings	3.0	4.0	0.1	0.0
Chg in equity	12.3	-0.9	0.0	0.0
Dividends	0.0	0.0	0.0	0.0
Others	0.0	-0.1	0.2	0.2
Chg in cash	1.0	-6.6	6.1	8.2
Beginning cash balance	9.3	10.3	3.7	9.8
Ending cash balance	10.3	3.7	9.8	18.0

Income Statement (Summarized)

(Wbn)	12/05	12/06F	12/07F	12/08F
Sales	69.7	105.8	118.6	131.1
Cost of goods sold	43.9	70.3	79.2	88.9
Gross profit	25.8	35.6	39.4	42.2
SG&A expenses	17.3	20.2	21.8	23.4
Operating profit	8.5	15.4	17.6	18.8
Non-operating profit	-0.2	-2.9	-1.1	2.5
Interest income/expenses	0.3	0.0	-0.1	0.1
FX-related gains/losses	0.0	0.0	0.0	0.0
Equity method gains/losses	0.0	-2.8	-1.0	2.4
Asset disposal gains/losses	0.1	-0.1	0.0	0.0
Other non-operating profit/losses	-0.5	0.0	0.0	0.0
Extraordinary gains/losses	0.0	0.0	0.0	0.0
Pretax profit	8.4	12.4	16.5	21.3
Tax	1.1	1.9	2.5	3.2
Net profit	7.2	10.6	14.0	18.1
Free cash flow	-3.9	4.0	4.8	6.2
EBITDA	9.8	17.3	20.2	21.7
Depreciation of tangible/intangible assets	1.3	1.9	2.6	2.9
Gross margin (%)	37.0	33.6	33.2	32.2
EBITDA margin (%)	14.1	16.3	17.0	16.6
Operating margin (%)	12.2	14.5	14.9	14.4
Recurring margin (%)	12.0	11.8	13.9	16.2
Net margin (%)	10.4	10.0	11.8	13.8
Receivable turnover (x)	4.6	5.3	5.4	5.3
Inventory turnover (x)	13.2	17.4	15.2	15.1
Payables turnover (x)	12.2	10.0	8.6	8.5

Forecasts/Valuations (Summarized)

	12/05	12/06F	12/07F	12/08F
P/E (x)	19.7	12.5	9.4	7.3
P/CF (x)	16.8	11.0	8.4	6.5
P/S (x)	2.0	1.2	1.1	1.0
P/B (x)	3.8	2.7	2.1	1.6
P/EBITDAPS (x)	14.5	7.6	6.5	6.1
EV/EBITDA (x)	15.5	7.5	6.1	5.3
EPS (W)	1,001	1,260	1,671	2,157
CFPS (W)	1,176	1,426	1,873	2,400
SPS (W)	9,653	12,626	14,145	15,636
BPS (W)	5,194	5,825	7,580	9,813
EBITDA per share (W)	1,358	2,059	2,411	2,593
Dividend payout ratio (%)	0.0	-	-	-
Dividend ratio (%)	0.0	0.0	0.0	0.0
Dividend yield (%)	0.0	-	-	-
Debt-to-equity ratio (%)	45.3	51.1	43.7	36.8
Current ratio (%)	344.1	213.4	248.9	292.7
Borrowings/equity (%)	14.3	19.3	15.5	12.2
Net borrowings/equity (%)	-26.6	-4.7	-12.6	-19.5
Net borrowings/sales (%)	-16.6	-2.4	-7.1	-12.6
Net interest expenses/sales (%)	-0.4	0.0	0.1	-0.1
Interest coverage (x)	32.6	28.9	26.5	28.0
ROA (%)	14.4	14.8	15.9	17.0
ROE (%)	21.5	21.9	23.4	23.8
ROIC (%)	29.2	37.3	34.2	30.3

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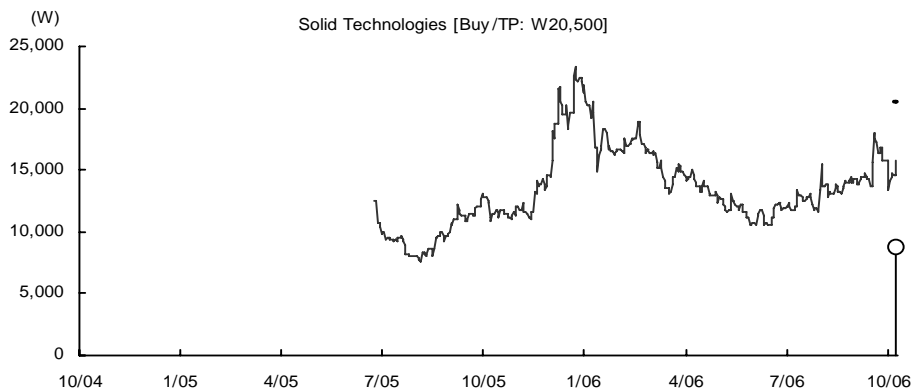
Source: Daewoo Securities

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