BERNSTEIN
SOCIETE GENERALE GROUP

Global Energy Storage

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America

- LG Energy Solution secures US lithium supply for ten years.- electrive.com LG Energy Solution (LGES) has signed a 10-year lithium supply agreement with Smackover Lithium, securing 80,000 tonnes of battery-grade lithium carbonate from Arkansas beginning in 2029. Under the deal, LGES will receive 8,000 tonnes annually, equivalent to more than one-third of the project's planned 22,500-tonne annual capacity. The agreement strengthens LGES's US battery supply chain and supports expanding EV and energy storage production in North America, where the company plans to build more than 50 GWh of LFP storage battery capacity by end-2026. The lithium will be sourced using direct lithium extraction (DLE) technology and is intended to meet US local-content and supply-chain requirements.

- SK On to Supply 9 GWh of LFP Batteries to NeoVolta Power- thelec.net SK On has signed a five-year agreement to supply 9 GWh of LFP battery cells for energy storage systems (ESS) to US-based NeoVolta Power from 2027 to 2031. The batteries will be manufactured at SK On's Georgia plant, with the contract estimated to be worth about KRW 1.5 trillion (US$1.1 billion). The companies are also discussing an additional 9 GWh collaboration, which could bring total cooperation to 18 GWh. The deal supports SK On's strategy to diversify beyond EV batteries into the rapidly growing ESS market while improving utilization of its approximately 100 GWh of battery manufacturing capacity in the United States.

- Hyundai Mobis to Invest More Than 100 Billion Won in U.S. Battery Production This Year- thelec.net Hyundai Mobis plans to invest more than KRW 100 billion (US$75 million) this year to expand battery pack production capacity in the US, supporting Hyundai Motor Group's growing lineup of EVs, HEVs, and EREVs in North America. The company has already ordered more than KRW 40 billion of battery assembly equipment, with additional orders expected for EV battery production lines. Hyundai Mobis will produce battery packs using cylindrical cells for hybrids, prismatic cells for EREVs, and pouch cells for EVs. The expansion will extend to Europe, where Hyundai Mobis plans to upgrade its Czech battery plant and support Hyundai Motor's target of increasing European EV sales to 420,000 units by 2030, nearly four times 2025 levels. The company plans total 2026 capex of KRW 2.19 trillion and R&D spending of KRW 2.16 trillion, reflecting its continued focus on electrification.

- This American Battery Could Break China's Grip On The EV Supply Chain.- insideevs.com US battery startup Pure Lithium said its graphite-free lithium-metal LFP battery has achieved 9,315 charge-discharge cycles in laboratory testing, more than 3x the cycle life of conventional lithium-ion batteries. The company claims the technology can deliver twice the energy density at half the weight of current batteries by eliminating graphite, which is predominantly processed in China. Pure Lithium's current Gen 1 battery targets 300 Wh/kg, while its Gen 2 design aims for 425 Wh/kg. The company is building a pilot production line in Chicago and is seeking commercialization partners, positioning the technology as a potential North American alternative to Chinese-dominated battery supply chains.

Asia

- China's Leapmotor Delivers Over 100,000 Cars for Second Straight Month in August.- yicaiglobal.com Leapmotor delivered a record 103,100 vehicles in August, up 1.8% MoM and 81% YoY, marking its second consecutive month above 100,000 deliveries and extending its lead among China's EV startups. Deliveries in the first eight months of 2026 reached 560,900 units, up 71% YoY. The company expects overseas sales to reach 200,000 units in 2026, up from its original target of 100,000-150,000 units, supported by partner Stellantis' global network. Among peers, Xpeng delivered 39,107 vehicles, Li Auto 37,679, Zeekr 36,981, and Nio 35,836, highlighting Leapmotor's growing

scale advantage in China's EV market.

- Asahi Kasei develops novel pre-doping lithium technology for silicon anodes.- electrive.com Asahi Kasei has developed a new pre-lithiation technology for lithium-ion batteries with silicon-based anodes, targeting one of the key challenges of silicon adoption: lithium loss during the first charge cycle. Using lithium carbonate and proprietary electrolyte additives, the technology compensates for initial lithium loss and improves battery performance. In internal tests on an NMC battery containing 10% silicon monoxide (SiO) in the anode, Asahi Kasei reported a 10% increase in energy density, along with improved cycle life and lower cost per watt-hour. The company says the process can be integrated into existing battery production lines with minimal modification and plans to begin proof-of-concept testing with customers before pursuing commercial licensing.

- GFI Wins 15.9 Billion Won Samsung SDI ESS Fire Safety Order.- thelec.net GFI has secured a KRW 15.9 billion (US$12 million) contract from Samsung SDI to supply and install its DI-KIT battery fire safety systems at 20 energy storage system (ESS) sites in North America through 2027. DI-KIT can detect battery gas emissions within 1-3 seconds and automatically deploy fire-suppression agents to affected cells or modules. Following the North America rollout, GFI plans to expand into Europe and Southeast Asia. The company reported strong 1H26 results, with revenue rising 164.5% YoY to KRW 35 billion and operating profit increasing 183.6% YoY to KRW 5.9 billion.

- DeltaX Raises 32 Billion Won to Expand BESS Production.- thelec.net DeltaX has raised KRW 32 billion (US$24 million) in Series B funding, bringing total capital raised to approximately KRW 45 billion. The company plans to use the proceeds to expand its battery energy storage system (BESS) operations, including a US$141 million manufacturing facility in Georgia, US, a new production base in South Korea, and a 1 GWh ESS project with SoftBank in Japan targeted for mass production in 2H27. DeltaX is targeting KRW 100 billion+ revenue in 2027, supported by growing demand from utilities, AI data centers, and commercial ESS customers. The company also plans to launch a Series C funding round later this year and is preparing for a potential IPO in 1H28.

- EcoPro BM Forms Research Alliance for All-Solid-State Batteries.- thelec.net EcoPro BM has launched an industry-academia-research consortium under South Korea's government-backed Super Eul Project to develop sulfide-based all-solid-state battery materials and validate battery cell performance. The company will focus on developing high-purity lithium sulfide (Li_2S)-based solid electrolytes and securing mass-production technologies, including impurity removal, crystallinity control, and particle-size optimization. The consortium includes KETI, KIST, POSTECH, and Hanyang University, with Korean battery manufacturers set to evaluate the resulting battery cells. EcoPro BM currently operates a 40-ton-per-year pilot plant for sulfide solid electrolytes and aims to support the early commercialization of sulfide all-solid-state batteries by 2027.

- Samsung SDI to Supply LFP Batteries to Top-Tier Global BESS Company.- thelec.net Samsung SDI is reportedly close to signing a three-year LFP battery supply agreement with a leading global energy storage system (ESS) company, with annual shipments expected to reach several GWh and the total contract value potentially reaching trillions of won. To support the deal, Samsung SDI plans to dedicate a third LFP production line at its StarPlus Energy (Stellantis JV) plant in the US, in addition to lines already allocated for its Samsung Battery Box (SBB) 2.0 and Tesla ESS batteries. The move reflects growing US demand for domestically produced ESS batteries and Samsung SDI's strategy to expand its LFP footprint beyond EVs, while diversifying supply chains away from Chinese battery suppliers.

- Chery targets 2027 vehicle validation for 400 Wh/kg all-solid-state battery.- cnevpost Chery Auto announced plans to begin vehicle validation of all-solid-state batteries in 2027, while its solid-liquid hybrid batteries are scheduled to enter vehicle applications in 4Q26. Chery said its Rhino solid-state battery has achieved an energy density of 400 Wh/kg, while a higher-spec polymer-based version targets 600 Wh/kg and a driving range of over 1,500 km. The roadmap places Chery alongside CATL, BYD, and Geely, all targeting early solid-state battery deployments around 2027. Despite the progress, Chery acknowledged that challenges remain in cost, manufacturing yield, and reliability before large-scale commercialization can be achieved.

- Huawei-Dongfeng's Epicland weighs battery-swap model as more new brands explore similar moves.- cnevpost Epicland, the EV brand jointly developed by Dongfeng Motor and Huawei, is reportedly evaluating a battery-swap version of its next vehicle model, although the project remains at an early research stage. If adopted, Epicland would become one of the first brands in Huawei's automotive ecosystem to embrace battery swapping. The move could leverage CATL's rapidly expanding Choco swap network, which had reached 2,000 swap stations across 180 Chinese cities as of June and is targeting 3,000+ stations by the end of 2026. The development follows reports that Seres-backed Aiva is also exploring CATL's battery-swap ecosystem, highlighting growing interest among new EV brands in using public battery-swap infrastructure to reduce upfront vehicle costs, accelerate market entry, and avoid large investments in proprietary charging networks.

- Shandong's New Energy Storage Policy Favors Long-Duration Flow Batteries.- solare.com Shandong Province has introduced China's first detailed provincial policy governing energy storage requirements for renewable energy projects, making storage deployment increasingly mandatory for wind and solar plants. Under the new rules, existing projects that fail to meet storage obligations by 2027 could face generation curtailment, while developers are encouraged to increase storage duration and capacity. The policy also differentiates

construction timelines by technology, granting 18 months for emerging technologies such as flow batteries, compared with 12 months for mature lithium-ion systems. Industry participants believe the framework will benefit vanadium flow batteries, whose economics improve at durations above 4 hours and which offer inherent safety advantages for large-scale, long-duration energy storage. Shandong is targeting 15 GW of energy storage capacity, making it one of China's largest and most active storage markets.

- Cornex Signs Four Latin America Energy Storage Partnerships, Including 1.5 GWh Supply Deal.- solare.com Cornex New Energysigned cooperation agreements with four partners in Latin America during the South America Smart Energy Expo in Brazil, expanding its presence across key regional markets including Brazil, Argentina, Costa Rica, and other parts of the Americas. The agreements include a 1.5 GWh battery cell supply framework agreement with Windey Energy Technology Group to support a battery factory in Brazil, as well as partnerships with Intermepro, ION Energy, and JSN Energia covering energy storage system sales, local delivery and O&M services, and commercial & industrial (C&I) storage projects. The deals strengthen Cornex's position in one of the world's fastest-growing energy storage markets and support the development of localized energy storage supply chains across Latin America.

Europe

- CATL's Hungary Plant Suspended on Safety Concerns, Caixin Says.-BNEF CATL's €8.4 billion (US$8.4 billion) battery plant in Debrecen, Hungary has reportedly been temporarily suspended ahead of trial production after several workers were found to have been exposed to elevated nickel levels. Local authorities have ordered CATL to address safety deficiencies before operations can resume. The project, one of Europe's largest battery investments, has come under greater scrutiny as Hungary's new government pushes for stricter environmental and workplace safety standards. Following the report, CATL shares fell as much as 4.8% in Hong Kong and 2.8% in Shenzhen, reflecting investor concerns about potential delays at the company's key European production hub.

- XD Thermal develops new battery cooling system for electric buses.- electrive.com XD Thermal has developed a new integrated battery cooling architecture for a European electric bus platform, designed around 35.3 kWh battery modules. By integrating liquid cooling directly into the battery housing, the system reduces cooling-related components by approximately 25% while improving thermal uniformity and simplifying assembly. The company delivered its first prototype in about six weeks and achieved production readiness within two months. The modular design can be adapted to different battery sizes and vehicle platforms, supporting growing demand for more compact and efficient thermal management solutions in electric buses and commercial vehicles.

- 'SHERLOCK' project aims to standardise black mass for battery recycling.- electrive.com A new German research initiative, SHERLOCK, is developing standardized quality classifications for black mass, the key intermediate material recovered from lithium-ion battery recycling that contains valuable metals such as lithium, nickel, cobalt, and graphite. The project aims to improve recycling efficiency by creating common testing, characterization, and quality standards, while reducing impurities that can lower material recovery rates. The resulting specifications are expected to be submitted to DIN and ISO standardization bodies, supporting the EU's upcoming battery recycling requirements. The initiative comes as Europe seeks to improve battery recycling economics, with recent studies estimating current recycling losses at about €1.90/kg of battery pack, while stricter recycled-content requirements for new EV batteries are set to take effect beginning in 2031.

- Altilium secures UK patent for EV battery recycling.- electrive.com UK battery recycling company Altilium has been granted its first UK patent for its EcoCathode process, which recovers and regenerates battery-grade cathode materials from end-of-life lithium-ion batteries. The patented hydrometallurgical technology is designed to produce high-purity battery materials directly from black mass, supporting a closed-loop battery supply chain while reducing energy use and emissions compared with conventional recycling methods. The patent supports the commercialization of Altilium's planned ACT4 recycling facility in Teesside, which is expected to process battery waste from more than 150,000 EVs annually and produce 30,000 tonnes of cathode active material (CAM) per year. The development strengthens the UK's efforts to build a domestic and sustainable battery materials supply chain.

- Hyundai Mobis Starts EV Powertrain Production in Slovakia.- thelec.net Hyundai Mobis has started production of electrification powertrain (PE) systems at its new plant in Nováky, Slovakia, marking its first EV powertrain manufacturing facility in Europe. The company invested approximately KRW 250 billion (US$185 million) in the site, which has annual production capacity of up to 280,000 PE systems. The facility manufactures key EV components including electric motor stators and inverters, and will supply powertrain systems to Hyundai Motor, Kia, and other global automakers. With existing battery system assembly plants in the Czech Republic and Spain, the new Slovak facility expands Hyundai Mobis' European electrification production footprint to three sites, supporting growing EV demand across the region.

Others

- Denmark's CIP Buys Australian Battery and Wind Farm Project.- BNEF Copenhagen Infrastructure Partners (CIP) has acquired full ownership of the Gawara Baya renewable energy project in Queensland, Australia, from Windlab and reached a final investment decision. The project combines a 408 MW onshore wind farm with a 104 MW battery energy storage system (BESS) and is expected to be fully

operational by 2030. CIP has secured A$1.7 billion (US$1.2 billion) in financing from 10 banks to support construction. Backed by Australia's Capacity Investment Scheme, the project is expected to generate enough electricity to power approximately 240,000 homes and supports Australia's transition away from coal-fired generation. The investment further expands CIP's renewable energy portfolio across the Asia-Pacific region.

- This Study Covered 500,000 EV Batteries. Some Models Aged Much Better Than Others.- insideevs.com Battery diagnostics firm Aviloo analyzed 500,000 EV battery health tests across 20 popular EV models and found that most vehicles retain more than 90% of their original battery capacity after 150,000 km (93,000 miles). The Hyundai Ioniq 5 was the top performer, retaining 97% capacity at 50,000 km, 95% at 100,000 km, and 93.8% at 150,000 km. Other strong performers included the Mercedes EQA, Hyundai Kona Electric, BMW i4, and Ford Mustang Mach-E. Tesla's Model Y and Model 3 retained 90.3% and 88.9% capacity, respectively, after 150,000 km. Battery degradation was generally higher in older air-cooled models such as the Nissan Leaf and Renault Zoe, while factors such as climate, charging behavior, and battery chemistry significantly influenced long-term battery health.

EXHIBIT 1: **Key commodities price performance**

	Price 4-Sep	Ccy	Mkt cap $bn	P/E 26E	EV /EBITDA 26E	%1D	%1W	%1M	%1Y	1Y px chart
Metal prices (US$/tonne)										
LiCO (spot)	23,443					0.0%	3%	13%	124%	
LiOH (spot)	21,955					0.0%	3%	14%	110%	
LiCO (contract)	18,000					0.0%	-10%	-10%	89%	
LiOH (contract)	18,500					0.0%	-5%	-5%	113%	
Cobalt (spot)	48,077					-4.3%	-14%	-14%	46%	
Nickel (spot)	16,786					-0.8%	0%	-2%	10%	
Component prices										
Cathode NMC811						0.0%	-1%	-2%	33%	
Cathode LFP						0.0%	1%	8%	62%	
Precursor NMC811						0.0%	0%	-8%	12%	
Precursor LFP						0.0%	1%	3%	52%	
Artificial Graphite						0.0%	0%	0%	6%	
Natural Graphite						0.0%	0%	0%	0%	
Electrolyte NMC						0.0%	0%	2%	38%	
Electrolyte LFP						0.0%	0%	3%	59%	
Separator						0.0%	0%	0%	28%	
Spot battery cell cost (US$/kWh)										
LFP	61					0.0%	0%	2%	17%	
NMC532	84					0.0%	0%	-2%	20%	
NMC622	80					0.0%	0%	-2%	15%	
NMC811	83					0.0%	0%	-1%	18%	
Spot battery pack cost (US$/kWh)										
LFP	74					0.0%	0%	2%	0%	
NMC532	115					0.0%	0%	-1%	14%	
NMC622	113					0.0%	0%	-1%	10%	
NMC811	116					0.0%	0%	-1%	12%	

Source: Bloomberg, Baiinfo, Bernstein analysis and estimates (cell and pack cost)

EXHIBIT 2: **Key companies price performance and valuation**

	Price 4-Sep	Ccy	Mkt cap $bn	P/E 26E	EV /EBITDA 26E	%1D	%1W	%1M	%1Y	1Y px chart
Cell makers										
LGES	360,500	KRW	62.1	n.a.	15.3x	3.7%	-2%	10%	3%	
Samsung SDI	550,000	KRW	32.6	79.9x	16.7x	3.0%	-4%	32%	172%	
CATL	354.2	CNY	248.5	17.1x	11.9x	1.3%	-4%	-10%	16%	
CALB	17.4	HKD	3.9	9.8x	2.5x	1.9%	-4%	-4%	-30%	
EVE Energy	51.9	CNY	16.8	15.3x	9.7x	1.4%	-4%	-6%	-22%	
Gotion	26.4	CNY	7.1	24.8x	6.1x	1.0%	-3%	-6%	-35%	
Sunwoda	17.3	CNY	4.8	15.4x	5.1x	1.8%	-4%	-7%	-32%	
Farasis	9.3	CNY	1.7	n.a.	n.a.	2.4%	-8%	-10%	-54%	
Lithium Miners/Refiners										
Albemarle	132.2	USD	15.6	11.3x	5.5x	-4.1%	-4%	9%	67%	
SQM	79.8	USD	21.8	10.7x	5.2x	-1.7%	1%	16%	80%	
Pilbara Minerals	5.0	AUD	11.7	27.6x	14.1x	-3.5%	-6%	17%	117%	
Ganfeng Lithium	38.2	HKD	14.5	8.6x	7.6x	0.2%	-8%	-3%	23%	
Tianqi Lithium	47.0	CNY	11.4	11.0x	4.0x	0.1%	-6%	0%	10%	
Cathode										
LG Chem	280,500	KRW	14.6	n.a.	2.7x	-1.4%	1%	9%	1%	
EcoPro BM	106,300	KRW	7.8	541.8x	52.0x	0.8%	-7%	6%	-7%	
L&F	120,100	KRW	3.6	n.a.	15.8x	-0.7%	-11%	53%	96%	
Umicore	23.1	EUR	6.6	12.8x	5.6x	0.4%	-3%	3%	75%	
Ningbo Ronbay	25.4	CNY	2.7	45.3x	12.1x	2.3%	-4%	-10%	2%	
Beijing Easpring	39.7	CNY	3.2	19.7x	12.6x	1.8%	-3%	-6%	-18%	
GEM	6.5	CNY	4.9	17.5x	5.3x	0.6%	-3%	-4%	-8%	
Huayou Cobalt	39.0	CNY	11.0	9.3x	4.1x	1.0%	-2%	-4%	-17%	
Dynanonic	43.2	CNY	1.8	14.2x	6.0x	0.9%	-6%	-2%	15%	
Anode										
Posco	184,800	KRW	12.1	481.1x	49.1x	1.5%	-1%	29%	37%	
Putailai	23.0	CNY	7.3	15.1x	9.4x	1.2%	-3%	-5%	-1%	
Shanshan	11.7	CNY	3.9	n.a.	n.a.	0.4%	-3%	-8%	2%	
Separator										
Asahi Kasei	1,623	JPY	14.2	15.0x	5.6x	-1.9%	0%	3%	34%	
SK IE	16,320	KRW	1.0	n.a.	-20.0x	4.1%	-1%	16%	-41%	
Toray Industries	1,252	JPY	12.1	23.3x	7.4x	-1.8%	-3%	9%	29%	
W-Scope	167	JPY	0.1	n.a.	n.a.	5.7%	5%	6%	-31%	
Yunnan Energy	50.1	CNY	7.3	22.6x	8.5x	-0.7%	-8%	-6%	49%	
Shenzhen Senior	14.3	CNY	3.3	28.7x	10.1x	-1.0%	-6%	6%	14%	
Sinoma Science	49.4	CNY	12.3	27.7x	12.0x	-0.7%	-6%	11%	59%	
Electrolyte										
Enchem	20,650	KRW	0.3	n.a.	n.a.	3.5%	-4%	-9%	-71%	
Tinci Minerals	34.8	CNY	10.6	11.0x	7.9x	0.6%	-6%	-6%	50%	
Capchem	64.7	CNY	7.3	22.6x	16.7x	1.6%	-1%	2%	47%	
Jiangsu Guotai	7.8	CNY	1.9	9.8x	n.a.	0.6%	-1%	-1%	-5%	
Shanshan	11.7	CNY	3.9	n.a.	n.a.	0.4%	-3%	-8%	2%	
Equipment Maker										
Hirano	1,827	JPY	0.2	17.3x	n.a.	0.1%	-1%	13%	12%	
CKD	5,170	JPY	2.3	27.8x	14.7x	-1.0%	-6%	-18%	115%	
Wuxi Lead	32.5	CNY	8.0	22.0x	17.6x	1.4%	-3%	-5%	-27%	
Shenzhen Yinghe	21.7	CNY	2.1	21.0x	12.6x	2.1%	2%	6%	-22%	
Zhejiang HangKe	21.5	CNY	1.9	24.4x	20.0x	1.1%	-3%	0%	-33%	
Guangdong Lyric	34.1	CNY	0.9	36.9x	15.0x	2.3%	-2%	-4%	-40%	
Shenzhen United	21.4	CNY	1.1	21.7x	13.3x	1.2%	1%	12%	-7%	

Source: Bloomberg (all estimates), Bernstein analysis

Company Models

CATL | LG Energy Solution | Samsung SDI

LG Chem | EcoPro BM | Posco Future M

Tianqi Lithium

Sungrow

Industry Models

Model: ESS tracker

Model: Monthly EV Tracker

Model: Battery Gigafactory Database

Industry model: Global EV TAM

Industry model: Global ESS TAM

Industry model: Battery TAM

Industry model: Battery supply and demand

Blackbook

Battery Utopia

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Global Energy Storage: Is LMR the LFP killer?

Global Energy Storage: Valuation of energy storage companies

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CATL: HK IPO - key investor questions answered

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Global Energy Storage: More downside risks ahead for Korean cathode makers

CATL: Initial perspectives on HK IPO plans

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BERNSTEIN TICKER TABLE

			3 Sep 2026		TTM	Reported EPS				Reported P/E (x)	
Ticker	Rating	Cur	Closing Price	Price Target	Rel. Perf.	Cur	2025A	2026E	2027E	2025A	2026E	2027E
300750.CH (CATL)	O	CNY	349.50	800.00	(14.4)%	CNY	16.14	21.95	28.77	21.7	15.9	12.1
3750.HK (CATL)	O	HKD	567.50	770.00	5.7%	CNY	16.14	21.95	28.77	30.1	22.1	16.9
051910.KS (LG Chem)	M	KRW	284,500	312,000	(28.3)%	KRW	(13,258.70)	2,693.22	28,743	(21.5)	105.6	9.9
373220.KS (LGES)	M	KRW	360,500	351,000	(27.9)%	KRW	(4,580.94)	(2,364.33)	10,225	(78.7)	(152.5)	35.3
006400.KS (SDI)	M	KRW	534,000	520,000	133.1%	KRW	(9,933.80)	1,751.66	18,577	(53.8)	304.9	28.7
247540.KS (EcoPro BM)	U	KRW	105,500	140,000	(38.7)%	KRW	403.00	854.00	1,963.00	261.8	123.5	53.7
300274.CH (Sungrow)	O	RMB	87.08	151.00	(55.5)%	RMB	6.55	6.93	7.95	13.3	12.6	11.0
002466.CH (Tianqi Lithium)	O	CNY	46.92	80.00	(20.6)%	CNY	0.28	3.90	7.75	166.3	12.0	6.1
9696.HK (Tianqi Lithium)	O	HKD	36.20	65.00	(38.5)%	CNY	0.28	3.90	7.75	109.8	7.9	4.0
ASIAX			1,948.83									

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

Source: Bloomberg, Bernstein estimates and analysis.

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