

# Innovest

STRATEGIC VALUE ADVISORS

*New York • Toronto • London • Paris*

## EcoValue21 – Rating in Practice

### Seoul, Korea June 17, 2003



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**“Sustainability filters can create added value regardless of whether one is a value investor, a growth investor, or an investor opting for the small, mid, or large-cap style. . .”**

**“Sustainability will, therefore, become increasingly important for the capital markets for performance reasons. We are convinced that sustainability filters will be used as a matter of course in equities investments in only a few years’ time.”**

**West LB Panmure Bank**

**2002**

**Eco-Frontier co.**

Knowledge Based Environmental Portal Service



## Background

- Specialist investment research provider, focusing on non-traditional drivers of investment risk and returns. Leading indicators of financial performance – and overall management quality – include companies' environmental, social, and governance performance, all factors of growing importance.
- Founded in 1995 and has since grown to approximately 40 professionals
- Offices in London, New York, Toronto, and Paris, clients in 20 countries
- Chairman was former Chief Investment Officer of TIAA-CREF, one of the largest pension funds in North America
- Strategic investors include ABP, largest pension fund in Europe
- Serves both mainstream and SRI investment clients
- \$800 million under structured sub-advisory mandates

What we do: we rate companies based on their environmental and sustainability performance

ISVA Symbol	Company	Country	Innovest Category	EcoValue '21 Score	EcoValue '21 Rating
BA.L	BAE SYSTEMS	Great Britain	Aerospace/Defense	1148	AA
BA	BOEING COMPANY (THE)	US	Aerospace/Defense	1307	AAA
BBD.B	BOMBARDIER INC.	Canada	Aerospace/Defense	1144	AA
BTX.L	BRITAX INTERNATIONAL	Great Britain	Aerospace/Defense	TBD	TBD
COB.L	COBHAM PLC	Great Britain	Aerospace/Defense	397	B
CDD	CORDANT TECHNOLOGIES INC.	US	Aerospace/Defense	114	CCC
	EADS EUROPEAN AERONAUTIC DEF & SP	Netherlands	Aerospace/Defense	TBD	TBD
GD	GENERAL DYNAMICS CORPORATION	US	Aerospace/Defense	814	BBB
GR	GOODRICH (B.F.) COMPANY (THE)	US	Aerospace/Defense	TBD	TBD
HON	HONEYWELL INC.	US	Aerospace/Defense	1271	A
LIT	LITTON INDUSTRIES, INC.	US	Aerospace/Defense	131	CCC
LMT	LOCKHEED MARTIN CORPORATION	US	Aerospace/Defense	1355	AAA
MGGT.L	MEGGITT PLC	Great Britain	Aerospace/Defense	558	BB
NNS	NEWPORT NEWS SHIPBUILDING INC.	US	Aerospace/Defense	725	BBB
NOC	NORTHROP GRUMMAN CORPORATION	US	Aerospace/Defense	1085	AA
ORB	ORBITAL SCIENCES CORPORATION	US	Aerospace/Defense	144	CCC
PCP	PRECISION CASTPARTS CORP.	US	Aerospace/Defense	114	CCC
RTN	RAYTHEON COMPANY	US	Aerospace/Defense	1333	AAA
RR.L	ROLLS-ROYCE PLC	Great Britain	Aerospace/Defense	1323	AAA
SMIN.L	SMITHS GROUP PLC	Great Britain	Aerospace/Defense	841	A
HO	THALES SA	France	Aerospace/Defense	TBD	TBD
UTX	UNITED TECHNOLOGIES CORPORATION	US	Aerospace/Defense	1475	AAA
VSP.L	VOSPER THORNYCROFT HOLDINGS PLC	Great Britain	Aerospace/Defense	816	BBB

All investment analysis seeks to anticipate **future** competitive trends, risks, and opportunities.

- Conventional securities analysis typically ignores or underweights 3 critical drivers of **future** profitability and value potential:
  - Quality of Strategic Management
  - Corporate Agility/Adaptability
  - Sustainability of Competitive Advantage
- Companies' performance on environmental, social, and governance issues is an increasingly potent proxy and leading indicator for **all three** drivers.

*What's More:*

- Macro-level secular factors will increase the “sustainability premium” significantly over the next 3-5+ years.

- Static, retrospective, trailing indicators of companies' performance
- Accounting practices and conventions create huge uncertainties – e.g. Dell, Cisco, Intel; NASDAQ – did they MAKE money or LOSE it?

## And, most important:

- They miss 80-85% of the true value picture



Tangible  
Value

- 1930 – Intangible value represented roughly 30% of the market value of major corporations
- 2000 – Intangible value represented 80-85%
- 2005 – And beyond ?

Intangible Value

## Four Key Intangible Value Drivers



**Financial  
Capital**

### **Stakeholder Capital**

- Labour relations
- Regulators & Policymakers
- Local communities/NGO's
- Customer relationships
- Alliance partners

### **Human Capital**

- Recruitment retention strategies
- Employee motivation
- Innovation capacity
- Knowledge Development & Dissemination
- Health & Safety
- Progressive workplace practices

### **Eco Value**

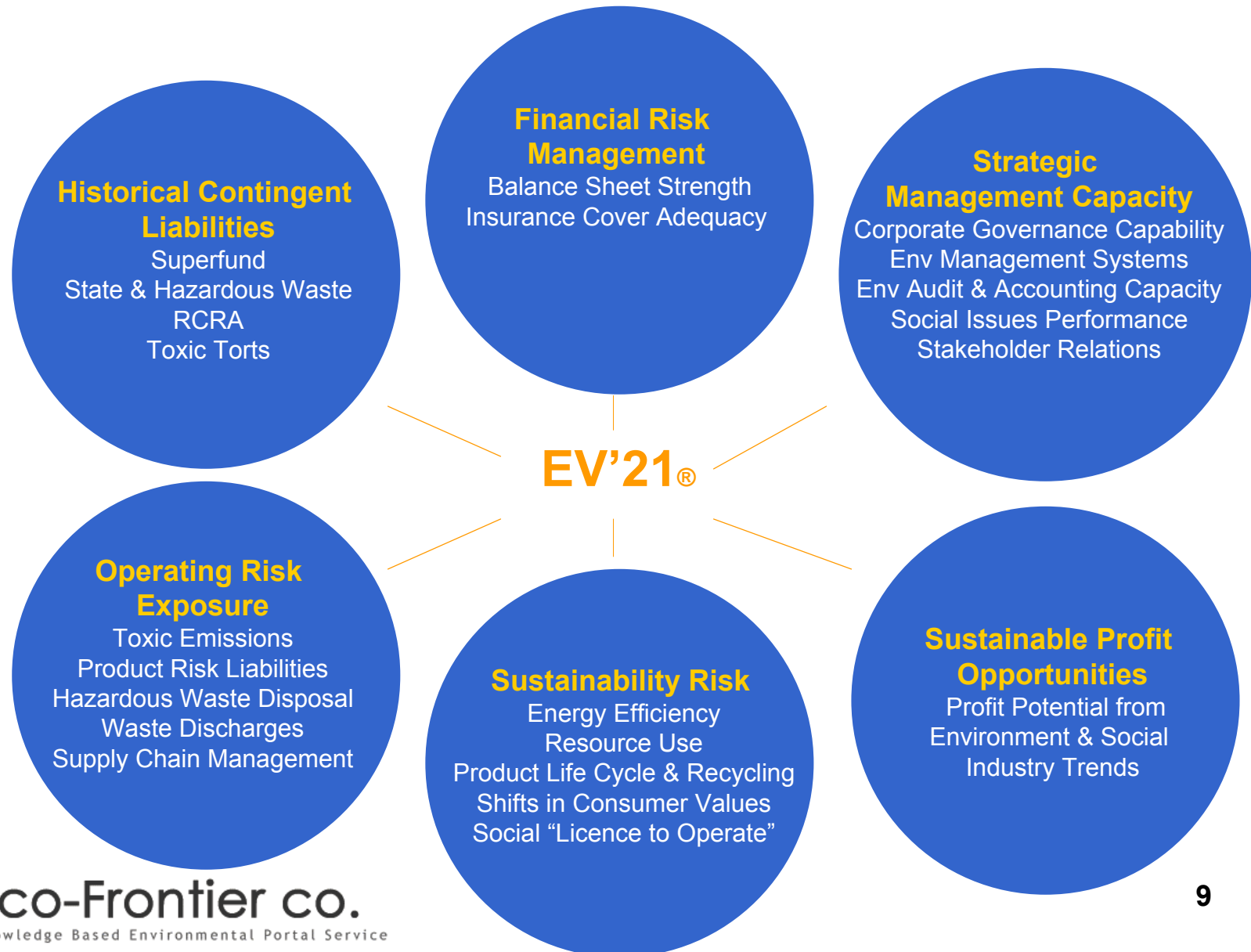
- New business opportunities
- Cost reduction
- Process efficiencies
- Innovation effect

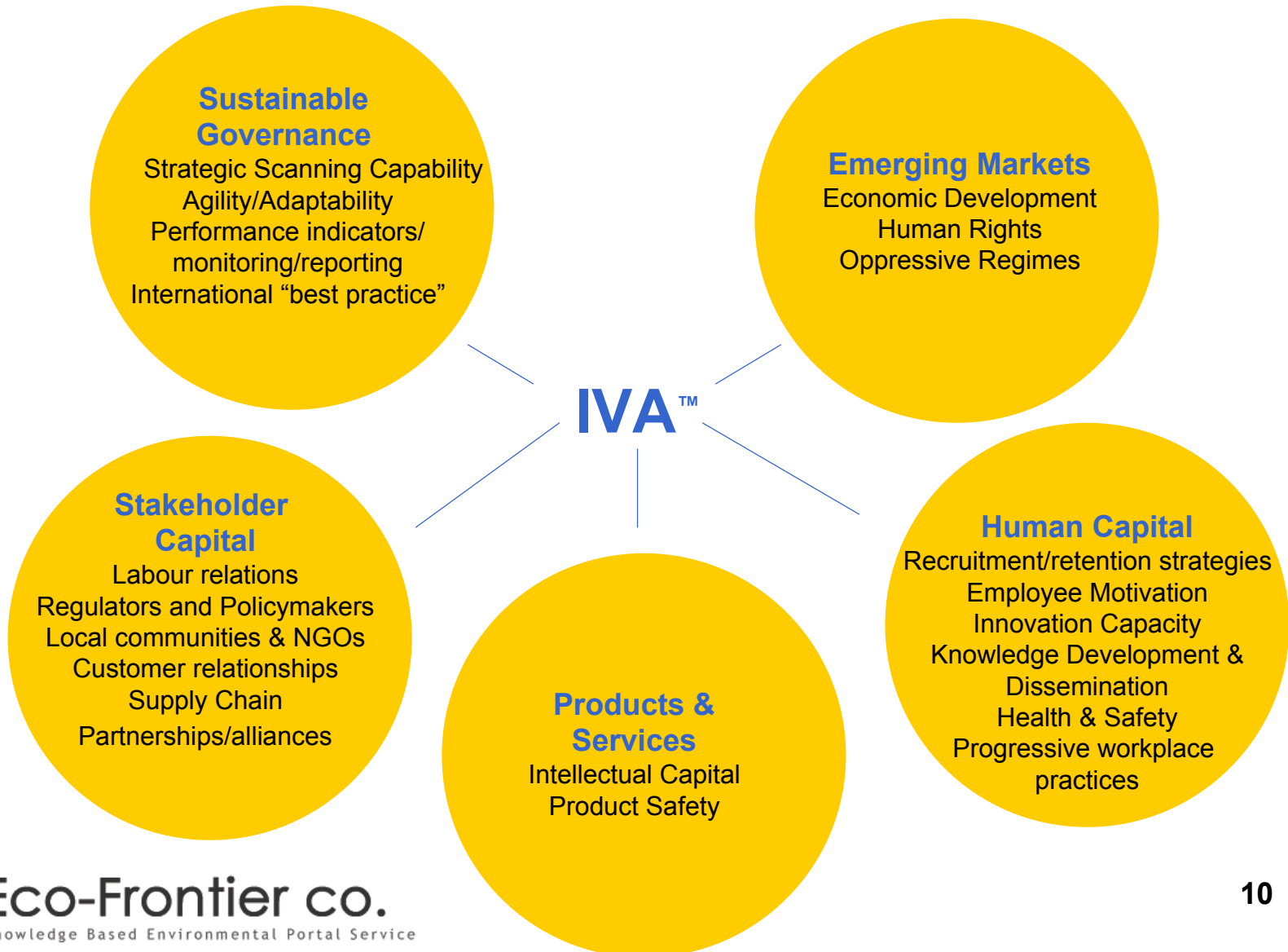
### **Sustainable Governance**

- Strategic scanning capability
- Agility/adaptation
- Performance indicators/monitoring
- International "best practice"

# How Can These Factors Add Value?







## Sector-Specific Weightings

- **Within a given industry, the criteria carry different weightings according to importance** (e.g. *Liabilities, Spills and Releases for Oil & Gas companies have greater financial impact than those from Hazardous Waste*)
- **Between industries, the criteria are afforded different weightings based on their relevance to that particular industry** (e.g. *Risks of Spills and Releases for Oil & Gas companies are greater than those for Pharmaceutical companies*).

	Oil & Gas		Pharmaceuticals		Insurance	
Historic Liabilities	Contaminated Site Liabilities	10%	Contaminated Site Liabilities	8%	Contaminated Site Liabilities	20%
	Other Historic Liabilities	9%	Other Historic Liabilities	7%	Other Historic Liabilities	5%
Operating Risk	Spills and Releases	8%	Spills and Releases	4%	Spills and Releases	2%
	Regulatory Compliance	4%	Regulatory Compliance	5%	Regulatory Compliance	2%
	Toxic Emissions	8%	Toxic Emissions	6%	Toxic Emissions	3%
	Hazardous Waste	4%	Hazardous Waste	5%	Hazardous Waste	2%
	Other Operating Risk	3%	Env. Burden Risk	2%	Other Operating Risk	1%

**Notes:** Historic Liabilities and Operating Risk factors are just two of the six components that comprise the total EV'21<sup>®</sup> score. Hence, the figures above do not total 100% and contribute only partially to the final score. The weightings may not represent the actual weightings used in the rating process.

## 1 **Overview of Sector**

Analyst reviews general information on the sector which is being analyzed  
Analyst determines major risks and opportunities of the sector, which will determine the focus of the analysis

## 2 **Collection of Data**

From Companies - Annual Reports, 10Ks, Environmental Reports, websites  
From Government – EPA data, DOE data, other gov't data  
From NGOs, other research organizations, and many other sources

## 3 **Preliminary Work on Rating Matrix**

Analyst fills in data and scores each of 60 factors in the rating matrix for each company in a sector

## 4 **Company Interview**

Analyst interviews each company, honing in on questions resulting from preliminary analysis

## 5 **Completion of Rating Matrix**

Analyst fills in data and scores each of 60 factors in the rating matrix for each company in a sector

## 6 **Reality Check**

Analyst defends final ratings in front of MD of Research or CEO

## 1 Overview of Sector

- Analyst reviews general information on the sector which is being analyzed and identifies the major risks and opportunities of the sector, which will determine the focus of the analysis
- **Examples**
  - Electric Utilities – SO<sub>2</sub>, CO<sub>2</sub>, NO<sub>x</sub> emissions; fuel mix; power plant energy efficiency; project development; emissions trading
  - Automobiles – fleet fuel efficiency; development of new technologies
  - Forest Products – Sustainable forestry practices; use of chlorine
  - Food Production – Genetically modified foods; pesticide use; packaging issues
  - Pharmaceuticals – GMO, development of drugs from natural sources; equitable compensation to indigenous people
  - Oil production – resource mix (gas vs. oil vs. renewables); siting of new projects

## Collection of Data - Examples

- **From Companies**
  - Annual Reports, 10Ks, other government filings, brokerage reports
  - Environmental/Sustainability Reports – increasingly common
  - Websites, product brochures and other company material
- **From Government**
  - US Environmental Protection Agency - Toxic Release Inventory
  - Similar databases in many other countries
- **From NGOs, other research organizations, and many other sources**
  - Electric Utilities – NRDC data on emissions
  - Autos – ACEEE analysis
  - Forest Products – World Resources Institute research
  - Innovest NGO outreach network
- **From Industry Groups**
  - American Chemical Council

## Industry Specific Data

Analyst assembles and analyzes industry specific data  
 Example of Strategic Profit Opportunities in the Auto sector

2

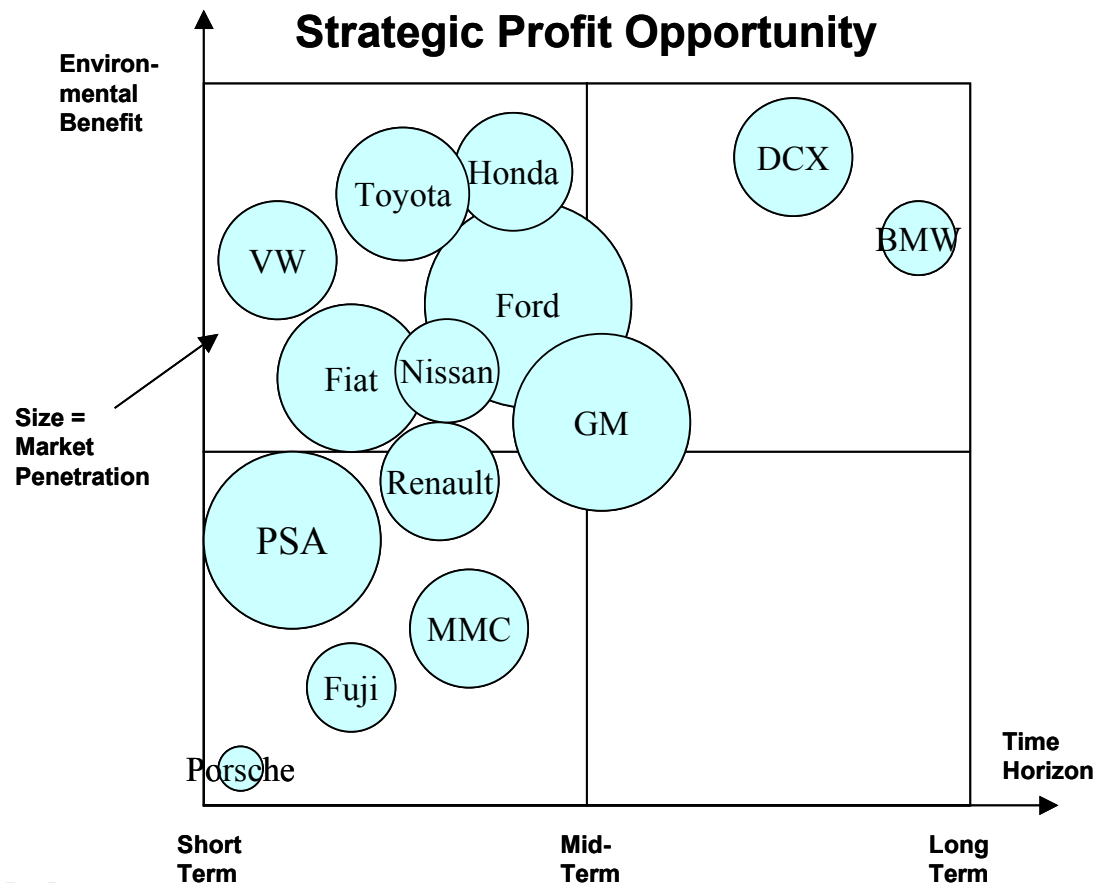
Ticker	Name	Number of AFV on the market	Hybrid Electric Vehicles (HEV)	Fuel Cell Electric Vehicle (FCEV)	Battery Electric Vehicle (BEV)	Nat.Gas/LPG car (AFV)	Ethanol/methanol car (AFV)	Hydrogen fueled vehicle	Small Urban Vehicles	Fuel efficient vehicle (3 l car)	Smart Mobility Systems	Total score
BMW	Bayerische Motoren Werke	2	0	1	3	10	0	3	0	0	7	138
DCX	Daimler Chrysler	11	3	5	10	10	0	0	10	0	10	482
VOW	Volkswagen Group	2	0	3	0	10	10	0	3	10	10	393
7203	Toyota Motor	6	10	5	10	10	0	0	10	0	10	660
7267	Honda Motor	3	10	0	10	10	0	0	0	0	5	463
GM	General Motors	12	5	3	10	10	0	0	0	0	0	388
F	Ford Motor Company	21	3	3	10	10	10	0	10	0	7	550
7201	Nissan Motor	5	10	0	10	0	0	0	5	0	5	521
FIA	Fiat SPA	2	3	1	5	10	10	0	10	0	9	363
UG	Peugeot SA	4	3	3	10	5	5	0	5	0	0	312
RNO	Renault SA	3	3	3	10	5	0	0	1	0	5	263
7211	Mitsubishi Motors	1	3	3	5	5	0	0	3	5	5	319
POR3	Porsche	0	0	0	0	0	0	0	0	0	0	0
7270	Fuji Heavy Industries	1	3	1	10	5	10	0	0	0	10	259
		min	0	Research		1					min	0
		max	21	Concept		3					max	660
		avg	5.2	Prototype		5					avg	365.1

In this case, we have analyzed the research & development activities of the major auto manufacturers and evaluated them in terms of their potential positive environmental impact and how soon the technologies would come to market

## Industry Specific Data

Analyst assembles and analyzes industry specific data  
 Example of Strategic Profit Opportunities in the Auto sector

Toyota and Honda, our #1 and #2 rated companies, have developed technologies that have high environmental benefit and are available in the short term. Both now have commercially available hybrid electric/gas cars, the Prius and the Insight, respectively



## Industry Specific Data

Analyst assembles and analyzes industry specific data  
Example of data examined in the Auto sector

To analyze emissions and fuel efficiency, we have utilized government Corporate Average Fuel Efficiency data, industry vehicle production data, ACEEE research on emissions, and our own work to develop benchmarking data.

Ticker	OEM	Car CAF? (D)	Car CAF? (I)	Car CAF? (Total)	Score CAF? (car)	Truck CAF□	Score Truck CAF□	Car (D)	Car (I)	Truck	Total Vehicles
F	Ford Motor	27.2	30.1	27.6	3.6	20.4	2.5	1,668,126	253,908	2,531,446	4,453,480
GM	GM	27.6	27.9	27.6	3.6	20	1.8	2,536,811	54,609	2,499,417	5,090,837
DCX	DaimlerChrysler	27.5	26.3	27.3	3.3	20.7	3.1	745,275	144,231	1,893,286	2,782,792
7203	Toyota	33.3	28	31.8	8.1	22.6	6.9	637,322	251,647	586,472	1,475,441
7267	Honda	34.4	29.4	33.6	10.0	24.2	10.0	625,146	112,212	221,529	958,887
7201	Nissan	29.9	29.5	29.7	5.9	21.1	3.9	218,251	131,782	254,542	604,575
7211	Mitsubishi	28.8	29.6	29.0	5.1	22.3	6.3	136,656	60,476	64,122	261,254
VOW	Volkswagen	28.2	28.2	28.2	4.2	19.1	0.0	232,478	80,364	3,395	316,237
BMW	BMW	25.4	25.4	25.4	1.3			20,062	133,596	1,312	154,970
POR3	Porsche	0	24.2	24.2	0.0			0	20,875	0	20,875
7270	Fuji Heavy Industries	0	27.5	27.5	3.5			87,267	69,539	0	156,806

## 3 Preliminary Work on Rating Matrix

- **Determine what quantitative data is available and how best to use it; integrate results into the Rating Matrix**
- **Determine which industry specific items will be used**
- **Determine which data fields will not be used**
- **Complete remainder of Rating Matrix, scoring each item on a 0 to 10 scale, either through benchmarking of quantitative data or evaluation of qualitative data**
- **Provide comments for each item justifying the 0 to 10 score**

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## Preliminary Work on Rating Matrix

Major Categories of the Rating Model (many of these also have sub-categories)

RISK FACTORS	
1) HISTORIC LIABILITIES	A. Contaminated Site Liabilities
	B. Other Historic Liabilities
2) OPERATING RISK	A. Spills and Releases
	B. Regulatory Compliance
	C. Toxic Emissions
	D. Hazardous Waste
	E. Other Operating Risk
3) LEADING/SUSTAINABILITY RISK INDICATORS	A. Resource Use Efficiency/Recycling
	B. Energy Efficiency
	C. Market Risk
	D. Regulatory/Legal Risk
	E. Vehicle Emissions Risk
	F. ELV regulatory risk
4) INDUSTRY SPECIFIC RISK	A. Industry Specific Risk
	B. Industry Specific Risk
	C. Industry Specific Risk
	D. Industry Specific Risk
ENVIRONMENTAL MANAGEMENT CAPACITY	
1) Environmental Strategy	A. Policies
	B. Integration with core business
	C. Profitability Linkages
	D. Consistency - All Operations/ International
	E. Culture
2) Corporate Governance	A. Board Structure
	B. Senior environmental officer level
	C. Environmental Factor in Compensation
3) Environmental Management Systems	A. Existence
	B. Number and Qualifications of Environmental staff
	C. ISO 14000 or other certified EMS
	D. Environmental Performance Indicators
4) Audit	A. Existence
	B. Adequacy
	C. Frequency
	D. Impartiality
5) Environmental Accounting/ Reporting	A. Environmental Reporting
	B. Environmental Accounting
6) Env. Training & Development	A. Env. Training & Development
	B. Other
7) Certification	A. CERES
	B. Other outside code
	C. Voluntary EPA programs
8) Products/Materials	A. Life cycle analysis
	B. Suppliers - environmental screen
	C. ELV Management
PERFORMANCE IMPROVEMENT FACTORS	
Performance Improvement Vector	A. Open
	B. Open
	C. Open
OPPORTUNITY FACTORS	
1) Strategic Competence	A. Environmental Business Development Strategy/ Planning
	B. Organizational Structure
2) Environmental Opportunity	A. Environmental Sensitivity of Geographic Regions Served
	B. Environmental Sensitivity of Demographic Groups Served
	C. Phase-out Risk of Products and Services
	D. Environmental Improvement Potential
	E. Environmental Positioning Within Sector
3) Performance	Current Environmental Businesses
	Environmental Businesses Under Development

# Rating Model

3

## Preliminary Work on Rating Matrix

Analyst fills in rating matrix with quantitative and qualitative data from many sources

1	2	3	4	5	6	7
Environmental Management Capacity			1) Environmental Strategy			
Environmental Management Capacity			A. Policies	Comment	B. Integration with core business	Comment
Possible points:			4.0%	6.0%		
Symbol	Company Name	Overview	1A	1A-C	1B	1B-C
BMW	Bayerische Motoren Werke	BMW has adopted solid environmental practices for its activities worldwide, strong EMS, ELV, compliance record, etc. However, BMW remains stuck in a low fuel efficiency bracket as a producer of large upper-end sedan cars. Despite numerous R&D projects, BMW has taken a very conservative approach with respect to eco-efficient vehicles.	10	BMW revised its environmental guidelines in 1998 to adapt it to its international operations. Follows the ICC Charter for Sustainable Development. Objectives focus on efficient use of resources. Beyond compliance when technically and economically feasible. Alternative fuel vehicle concepts are mainly focused on combustion engine, using natural gas or hydrogen. BMW does not believe in the 3liter concept as a viable strategy.	6	BMW has a high environmental culture and adopted high eco-efficiency standards across entire value chain. BMW plants are all state art, probably one of the best in industry. Yet BMW remains on the high end segment of sport sedan. The corporate average fuel efficiency remains way above other European companies. BMW has done a lot of research on AFV. Yet it believes that the future lies in the combustion engine, be it with natural gas or hydrogen. This change of fuel would require implementation of a new fuel infrastructure is not likely to happen without a strong political commitment.
DCX	Daimler Chrysler	DaimlerChrysler is applying the best practices from either Chrysler or Daimler. Daimler-Benz env guidelines are applied group-wide. Fuel-efficiency has improved by 1.4 l/100 km since 1996. thanks to use of CDI diesel, class-A and Smart. Env criteria with suppliers has been reinforced.	8	DCX has made a strong strategic move by pulling out of the Global Climate Coalition. The smart and the Class A CDI exemplify efforts made by DCX to curb its impact on GW. However, DCX remains focused on the high end market segment. The Environmental Protection Guidelines laid down by the board of management and are binding for all employees and at all corporate locations. Fundamental corporate objectives.Environmental Protection Process Development people started to get involved since 1970. DaimlerChrysler followed Ford in Spring 2000 by pulling-out from the GCC.	7	DCX demonstrates patently that the environment is at the core of its business strategy. However, most of DCX vehicles still operate in the high end, less sustainable segment. Fuel efficiency improvement is a major focus. Smart and Class A contribute positively to diversifying the market segments. DfE, LCA and life cycle environmental costing techniques are spreadout. Env training has high integration. EMS now covers central divisions such as development. ELV recycling goals are 95% by 2005. Also, the NECAR 3 viable fuel cell concept.



# Rating Model

3

## Preliminary Work on Rating Matrix

Analyst reviews rating categories and weights, modifying as necessary to reflect data availability and industry specific issues

			BMW		BMW		DCX		DCX
			Bayerische Motoren Werke		Bayerische Motoren Werke		Daimler Chrysler		Daimler Chrysler
Industry: <b>Automobiles</b>			Automobiles		Automobiles		Automobiles		Automobiles
Category		Category %	Raw Score	Weighted Score	Relative Performance	Raw Score	Weighted Score	Relative Performance	
<b>RISK FACTORS</b>									
<b>2) OPERATING RISK</b>									
	A. Spills and Releases	0.000%	0.0	0		0.0	0		
	B. Regulatory Compliance	0.000%	0.0	0		0.0	0		
	C. Toxic Emissions	10.000%	9.0	54	Top Tier	7.0	42	Top Tier	
	D. Hazardous Waste	5.000%	9.0	27	Top Tier	6.5	20	Middle T	
	E. Other Operating Risk	0.000%	0.0	0		0.0	0		
	Total		9.0	81	Top Tier	6.8	62	Top Tier	
<b>3) LEADING/SUSTAINABILITY RISK INDICATORS</b>									
	A. Resource Use Efficiency/Recycling	7.500%	9.0	41	Top Tier	7.0	32	Top Tier	
	B. Energy Efficiency	7.500%	9.0	41	Top Tier	9.0	41	Top Tier	
	C. Market Risk	10.000%	9.0	54	Top Tier	4.0	24	Middle T	
	D. Regulatory/Legal Risk	0.000%	0.0	0		0.0	0		
	E. Vehicle Emissions Risk	10.000%	5.9	35	Middle Tier	0.0	0	Worst in C	
	F. ELV regulatory risk	10.000%	9.0	54	Top Tier	8.0	48	Top Tier	
	Total		8.3	224	Top Tier	5.3	144	Middle T	
<b>4) INDUSTRY SPECIFIC RISK</b>									
	A. Global Warming	40.000%	3.0	72	Bottom Tier	0.0	0	Worst in C	
	B. Industry Specific Risk	0.000%	0.0	0		0.0	0		
	C. Industry Specific Risk	0.000%	0.0	0		0.0	0		
	D. Industry Specific Risk	0.000%	0.0	0		0.0	0		

EC

## Company Interview

- **After completing the rating matrix to the greatest extent possible from the data available to us, the analyst prepares a list of very focused questions resulting from the preliminary analysis**
- **Each company is then interviewed**
- **Some prefer written questions and written replies**
- **Whenever possible, we insist on interviews even if written answers are presented in order to hone in on any important issues**
- **Some companies refuse to participate**
- **Our ratings are definitely and unapologetically biased in favor of full disclosure. The financial markets share this bias.**
- **By looking at many sources other than the company, we ensure that we are not taken in by “greenwashing”**

## Completion of Rating Matrix

After interviews, analyst finalizes the company rating. When all company ratings are complete, the analyst compared the competitive set on all parameters to ensure that the relative 0 to 10 scores properly reflect the quantitative and qualitative data.

1	2	3	4	5	6	7
Environmental Management Capacity			1) Environmental Strategy			
			A. Policies	Comment	B. Integration with core business	Comment
Possible points:			4.0%		6.0%	
Symbol	Company Name	Overview	1A	1A-C	1B	1B-C
BMW	Bayerische Motoren Werke	<p>BMW has adopted solid environmental practices for its activities worldwide, strong EMS, ELV, compliance record, etc.</p> <p>However, BMW remains stuck in a low fuel efficiency bracket as a producer of large, super-engine sedans. Despite numerous R&amp;D projects, BMW has taken a very conservative approach with respect to eco-efficient vehicles.</p>	10	<p>BMW revised its environmental guidelines in 1998 to adapt it to its international operations. Follows the ICC Charter for Sustainable Development. Objectives focus on efficient use of resources. Beyond compliance when technically and economically feasible.</p> <p>Alternative fuel vehicle concepts are mainly focused on combustion engine, using natural gas or hydrogen. BMW does not believe in the 3liter concept as a viable strategy.</p>	6	<p>BMW has a high environmental culture and has adopted high eco-efficiency standards across its entire value chain. BMW plants are all state of art, probably one of the best in industry. Yet, BMW remains on the high end segment of luxury sport sedan. The corporate average fuel efficiency remains way above other European companies. BMW has done a lot of research on AFV. Yet it believes that the future lies in the combustion engine, be it with natural gas or hydrogen. This change of fuel would require implementation of a new fuel infrastructure which is not likely to happen without a strong political commitment.</p>
DCX	Daimler Chrysler	<p>DaimlerChrysler is applying the best practices from either Chrysler or Daimler. Daimler-Benz environmental guidelines are applied group-wide.</p>	8	<p>DCX has made a strong strategic move by pulling out of the Global Climate Coalition. The smart and the Class A CDI exemplify efforts made by DCX to curb its impact on GW.</p>	7	<p>DCX demonstrates patently that the environment is at the core of its business strategy. However, most of DCX vehicles still operate in the high end, less sustainable segment. Fuel efficiency</p>

**FINAL**

## Completion of Rating Matrix

Based on the quality of the data obtained and the importance of each factor for the particular industry, weights are fine tuned and finalized.

			BMW		BMW		DCX		DCX
			Bayerische Motoren Werke		Bayerische Motoren Werke		Daimler Chrysler		Daimler Chrysler
Industry: <b>Automobiles</b>			Automobiles		Automobiles		Automobiles		Automobiles
Category		Category %	Raw Score	Weighted Score	Relative Performance	Raw Score	Weighted Score	Relative Performance	
<b>RISK FACTORS</b>									
<b>2) OPERATING RISK</b>									
	A. Spills and Releases	0.000%	0.0	0		0.0	0		
	B. Regulatory Compliance	0.000%	0.0	0		0.0	0		
	C. Toxic Emissions	10.000%	9.0	54	Top Tier	7.0	42	Top Tier	
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<b>4) INDUSTRY SPECIFIC RISK</b>									
	A. Global Warming	40.000%	3.0	72	Bottom Tier	0.0	0	Worst in C	
	B. Industry Specific Risk	0.000%	0.0	0		0.0	0		

**FINAL**

EC

## Reality Check

6

Analyst defends final ratings in front of MD of Research or CEO

**Rating Matrix**

Ticker	Company	Score	Rating	Rank
7203	Toyota Motor	1556	AAA	1
7267	Honda Motor	1529	AAA	2
VOW	Volkswagen Group	1454	AA	3
RNO	Renault SA	1304	A	4
UG	PSA Peugeot Citroen	1280	A	5
7201	Nissan Motor	1266	BBB	6
FIA	Fiat SPA	1266	BBB	7
F	Ford Motor Company	1258	BBB	8
DCX	Daimler Chrysler	1244	BBB	9
BMW	Bayerische Motoren Werke	1157	BB	10
GM	General Motors	1136	BB	11
7270	Fuji Heavy Industries	1132	B	12
7211	Mitsubishi Motors	1125	B	13
POR3	Porsche	1112	CCC	14

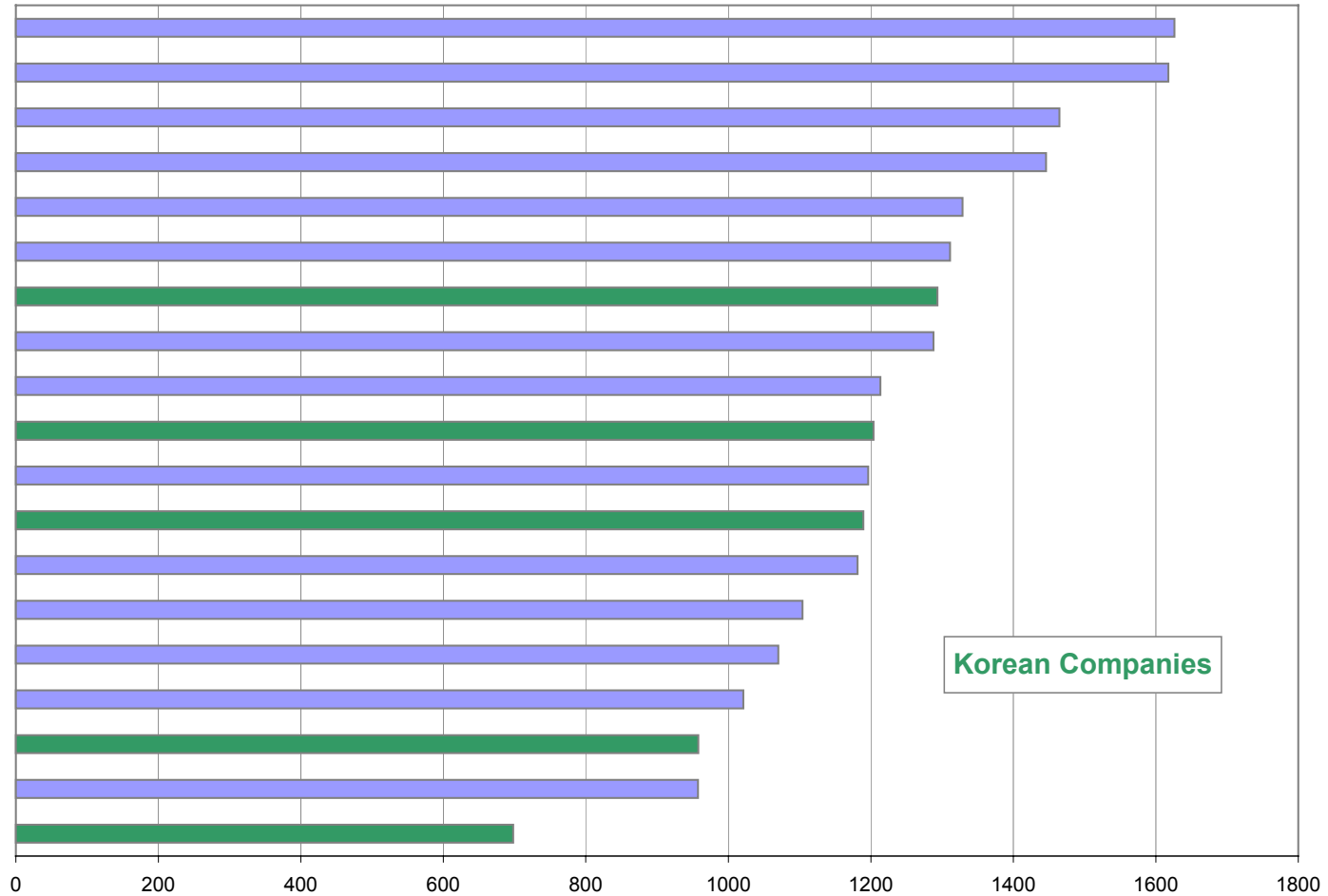
Final scores and ratings are discussed between the analyst and the MD of Research or the CEO for the final reality check.

Analysts defend their analysis as would an analyst presenting to credit committee or investment committee.

Ratings are made public via press releases and other means.

**ANALYSTS TAKE THE PHONE CALLS, INCLUDING THE ONES FROM ANGRY INVESTOR RELATIONS REPRESENTATIVES AND CORPORATE ATTORNEYS!**

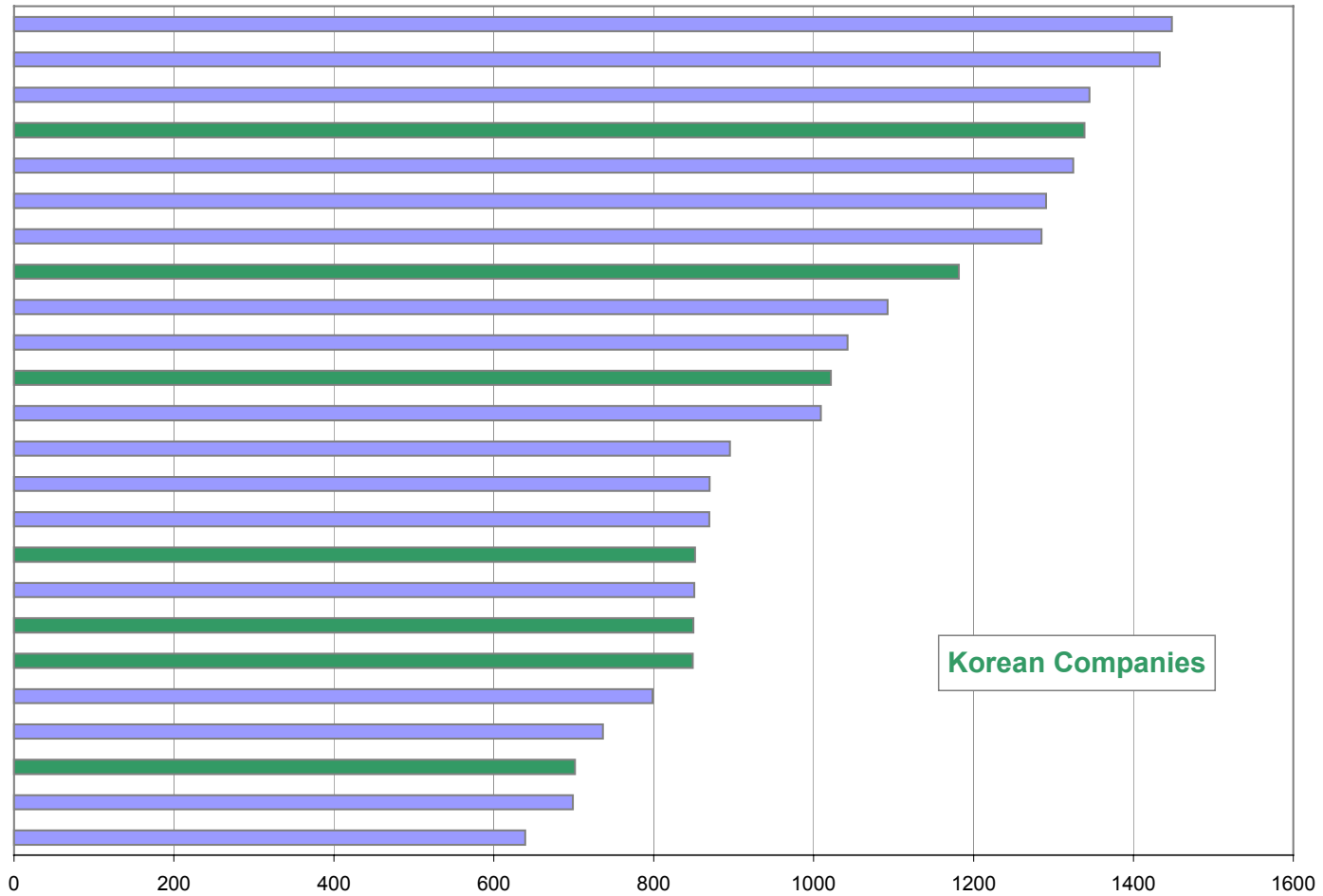
Ticker	Company	Rating	Rank
BMW	BAYERISCHE MOTOREN WERKE		
DCX	DAIMLER CHRYSLER		
FIA	FIAT SPA		
F	FORD MOTOR COMPANY		
7270	FUJI HEAVY INDUSTRIES		
GM	GENERAL MOTORS		
GMD	GM DAEWOO	B	17
7267	HONDA MOTOR	AAA	1
HMC	HYUNDAI MOTOR COMPANY	A	7
KMA	KIA MOTOR COMPANY	BBB	12
7211	MITSUBISHI MOTORS		
7201	NISSAN MOTOR		
POR3	PORSCHE		
UG	PSA PEUGEOT CITROEN		
RNO	RENAULT SA		
RSM	RENAULT SAMSUNG MOTOR	BBB	10
SMA	SSANGYONG MOTOR COMPANY	CCC	19
7203	TOYOTA MOTOR		
VOW	VOLKSWAGEN GROUP		
	TOTAL		19



# Korean Results - Steel

<b>Ticker</b>	<b>Company</b>	<b>Rating</b>	<b>Rank</b>
AKS	AK STEEL HOLDING CORP		
AGA-T	ALGOMA STEEL, INC.		
ATI	ALLEGHENY TECHNOLOGIES		
LOR-FR	ARCELOR		
CS.L	CORUS GROUP		
DFS	DOFASCO		
DBSTL	DONG BU STEEL	A	8
DKS	DONG KUK STEEL	BB	16
UCR	GRAFTECH		
HHYSCO	HYUNDAI HYSCO	BBB	11
INI	INI STEEL	BB	19
IPS	IPSCO INC		
IST	ISPAT INTL N V -CL A		
5404	JFE HOLDINGS		
KISCO	KOREA IRON & STEEL	CCC	22
5401	NIPPON STEEL CORPORATION	AAA	1
NUE	NUCOR CORP		
PKX	POSCO	AA	4
RT	RYERSON TULL		
SEAH	SEAH STEEL	BB	18
STE.A	STELCO		
TKA	THYSSEN KRUPP		
X	USX-U S STEEL GROUP		
WOR	WORTHINGTON INDUSTRIES		
	TOTAL		24

# Korean Results - Steel

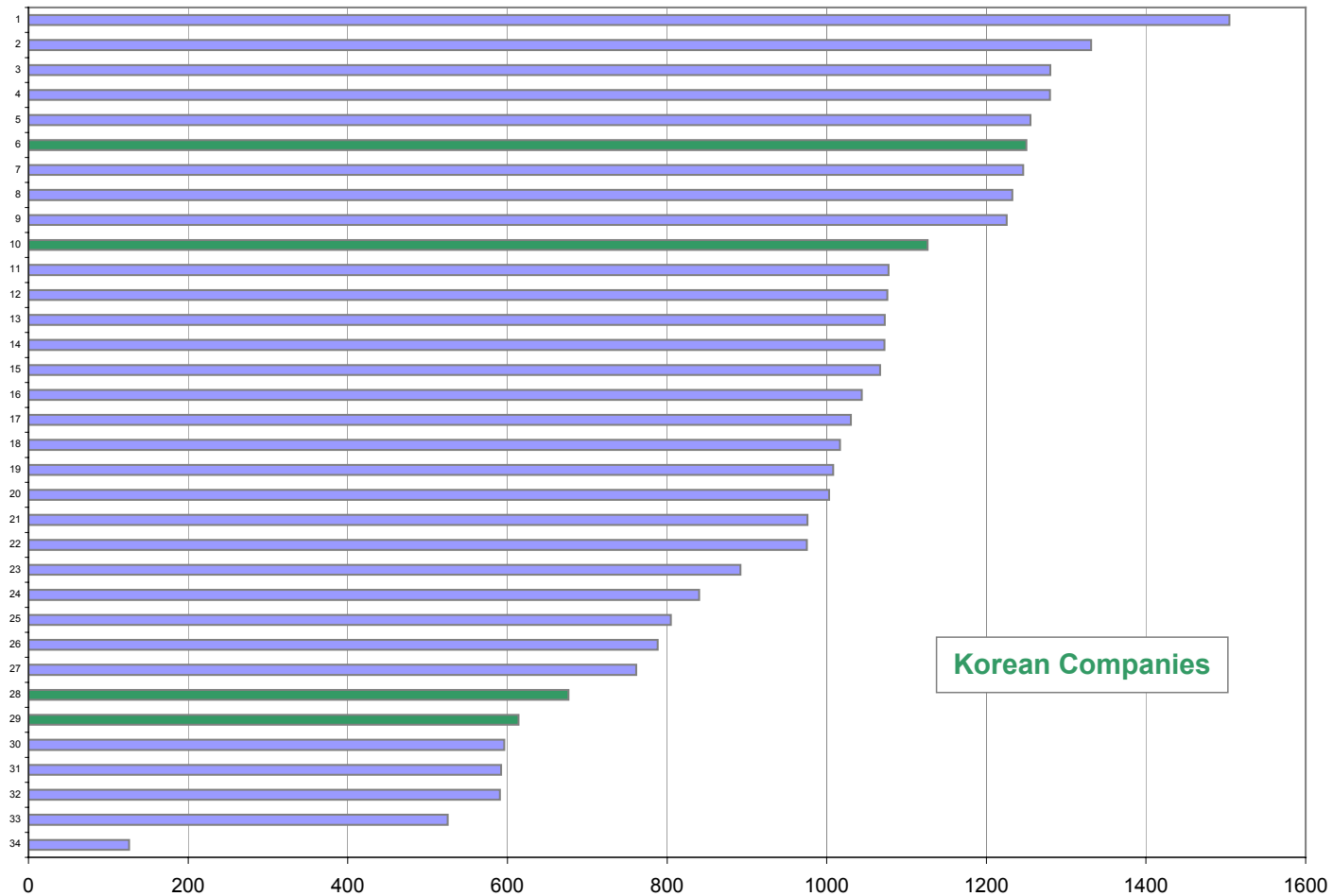


# Korean Results - Semiconductors

Ticker	Company	Rating	Rank	Ticker	Company	Rating	Rank
AMD	ADVANCED MICRO DEVICES			LSI	LSI LOGIC CORPORATION		
6857	ADVANTEST CORPORATION			MXIM	Maxim Integrated Products		
ALTR	ALTERA CORPORATION			MU	MICRON TECHNOLOGY		
ADI	ANALOG DEVICES INC.			NSM	NATIONAL SEMICONDUCTOR		
ANAM & DONGBU	ANAM & DONG BU SEMICONDUCTOR	BB	28	NVLS	NOVELLUS SYSTEMS, INC.		
AMAT	APPLIED MATERIALS			NVDA	NVIDIA CORP.		
AMCC	APPLIED MICRO CIRCUITS CORP.			PRH.L	PARTHUS TECHNOLOGIES PLC		
ARM.L	ARM HOLDINGS PLC			QLGC	QLOGIC CORPORATION		
ASML	ASM LITHOGRAPHY			6963	ROHM COMPANY LIMITED		
BRCM	BROADCOM			SEC	SAMSUNG ELECTRONICS	AA	3
CNXT	CONEXANT			STM	STMICROELECTRONICS	AAA	1
HYNIX	HYNIX SEMICONDUCTOR	AA	10		TAIWAN SEMICONDUCTOR MANUFACTURING CO		
IFX	INFINEON TECHNOLOGIES AG			T2330	MANUFACTURING CO		
INTC	INTEL			TER	TERADYNE		
KEC	KEC SEMICONDUCTOR	BB	29	TXN	TEXAS INSTRUMENTS		
KLAC	KLA TENCOR			8035	TOKYO ELECTRON		
LLTC	LINEAR TECHNOLOGY			VTSS	VITESSE SEMICONDUCTOR		
				XLNX	XLINX		
					TOTAL		34

# Korean Results - Semiconductors

Innovest



## PRELIMINARY RESULTS

Real Time Simulation of Innovest Ratings  
Applied to Actual Portfolios of a U.S. Pension Fund  
For the Year 2002

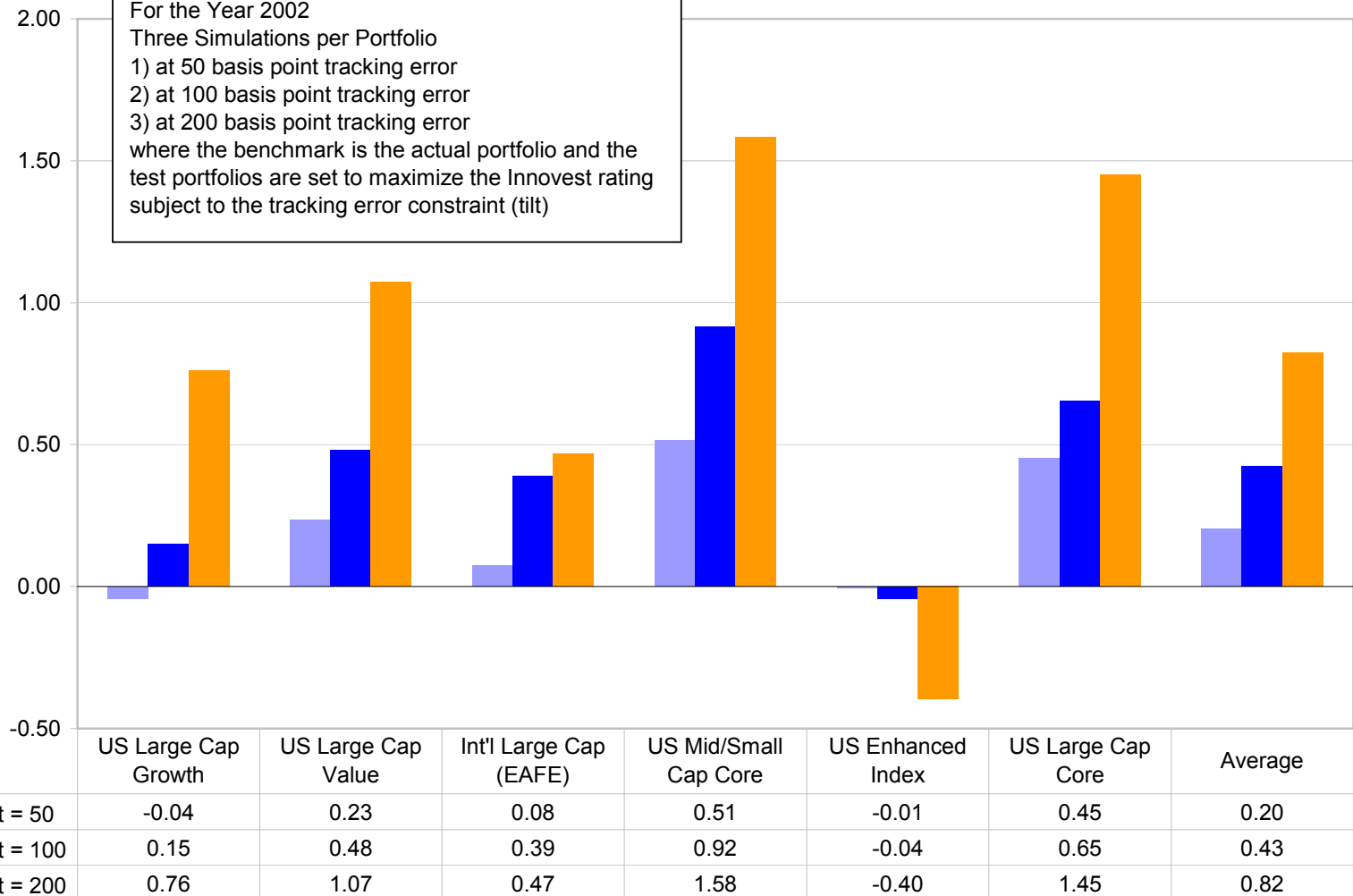
Three Simulations per Portfolio

1) at 50 basis point tracking error

2) at 100 basis point tracking error

3) at 200 basis point tracking error

where the benchmark is the actual portfolio and the  
test portfolios are set to maximize the Innovest rating  
subject to the tracking error constraint (tilt)



## Innovest investment research has been used by:

### Financial Institutions

- ABN-AMRO Bank
- ABN-AMRO Asset Management
- ABF Capital
- ABP Investments
- Aeltus Investment Management (ING)
- Bank Sarasin
- BNP Paribas
- BP Pension
- Brown Brothers Harriman
- CalPERS
- Contra Costa County Employees' Retirement Association
- Daiwa Securities
- Dreyfus Investment Advisors
- Friends, Ivory & Sime
- Frontier Capital Management
- Glenmede Trust
- IBK Capital Corp.
- John A. Levin & Co.
- Legg Mason Funds Management
- Lombard Odier & Cie
- Mellon Capital Management
- Mellon Equity
- Neuberger Berman
- Rockefeller & Co.
- Schroders Investment Management
- Societe Generale
- SNS Asset Management
- Swiss RE Asset Management
- State Street Global Advisors
- T. Rowe Price
- Wellington Management
- World Bank
- Zurich Scudder

## Innovest investment research has been used by:

### Corporations

- AT & T
- Bethlehem Steel
- Boise Cascade
- BP Amoco
- Bristol-Myers Squibb
- Chevron Corporation
- Compaq Computer Corporation
- Con Edison of New York
- Dole Corporation
- Deutsche Telecom
- Dow Chemical
- Duke Energy
- Elf Aquitaine
- ExxonMobil Corporation
- Ford Motor Company
- FPL Group
- Lucent Technologies
- Mirant Corp.
- Niagara Mohawk
- Novartis
- NTT
- Petroleos de Venezuela
- Pfizer
- Phillips Petroleum
- PPL Generation LLC
- Schlumberger
- Severn Trent
- Shell International
- Southern California Edison
- Stora Enso Fine Paper
- Sunoco
- Texaco
- United Technologies
- Xcel Energy
- Weyerhaeuser

## Innovest investment research has been used by:

### **Advisory Firms**

- Arthur D. Little
- Booz-Allen & Hamilton
- Cambridge Associates
- Data Systems & Solutions
- Deloitte & Touche
- KPMG
- Marsh Risk Consulting
- NTT Data Institute - Japan
- PricewaterhouseCoopers

### **Not-For-Profit Organizations and Government**

- Central Finance Board, Methodist Church
- CERES
- Heinz Endowments
- NWF – National Wildlife Federation
- United Nations Environment Program
- UK Environment Agency
- US Department of Energy
- US Environmental Protection Agency
- WWF – World Wide Fund for Nature