

August 21, 2008

<u>FYE June 2008</u> **Financial Results**

KOZO KEIKAKU ENGINEERING Inc.

Note pertaining to this data:

Results forecasts appearing in this material are prepared based on the information available as of the date of publication. Actual results may differ from forecast figures due to factors such as uncertainties in the economic environment.



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1. Overview of Financial Results

(Million yen)

		FYE June 2008		Change from	Change from plan		
	FYE June 2007	Plan	Results	(rate of change)	(rate of change)		
Not sales	11 213	11 600	11 322	108	-277		
Inet sales	11,213	11,000	11,322	(1.0%)	(-2.4%)		
Operating	1 000	1 290	1.0.40	154	-37		
income	1,088	1,280	1,242	(14.2%)	(-2.9%)		
Ordinary	1.000	1,200	1.1.0	147	-30		
income	1,022		1,200	1,200	1,022 1,200	1,169	(14.4%)
Not in some	612	660	521	-80	-128		
Net income	012	000	551	(-13.2%)	(-19.4%)		
Dividends	@¥30 / share	@¥30 / share	@¥30 / share				





Changes in the Last Five Years







Changes in Profit Rates Since Initial Public Offering







Results for FYE June 2008

(Million yen)

	EVE Lana 2007	FYE June 2008		Change from	Change from plan
	FYE June 2007		Results	(rate of change)	(rate of change)
Net sales	11 213	11 600	11 222	108	-277
ivet sales	11,215	11,000	11,522	(1.0%)	(-2.4%)
Operating	1,088	1,280	1,242	154	-37
income				(14.2%)	(-2.9%)
Ordinary	1.022	1 200	1 160	147	-30
income	1,022	1,200	1,200 1,109	(14.4%)	(-2.5%)
Nat income	610	660	660 531	-80	-128
inet income	012	2 660		(-13.2%)	(-19.4%)

Results fell short of the plan made at the start of the year, but operating income and ordinary income grew substantially year on year.

■Major factors in the higher operating income and ordinary income

- Orders for high-profit services obtained with bolstered planning and proposal capabilities
- A sustained focus on high value-added services in differentiated technical fields, including telecommunications, earthquake resistance and disaster prevention
- Improved profitability in the package sales business
- Decrease in the number of unprofitable projects attributable to steady project management

■ Major factors in lower net income

Expenses of ¥218 million associated with earthquake resistance data falsification by a structural design subcontractor posted as an extraordinary loss





During the fiscal year under review, the Company registered as an extraordinary loss the ¥218 million required or likely to be required to respond to the issue of earthquake resistance data falsification by a structural design subcontractor, which came to light in October 2007.

Course of events

An investigation conducted by the authorities found that first-class registered architect, Koichi Endo, of Fujiken Jimusho, which had been providing structural designing work on behalf of the Company for a condominium scheduled for construction in Yokohama City, had deliberately falsified data entered in structural calculation sheets and disguised the condominium's earthquake resistance level.

→ Following the revelation of the problem, the Company cooperated in the investigation by the authorities and responded sincerely and speedily to customers, attaching the highest priority to resolving the issue.



Extraordinary Loss Associated with Earthquake Resistance Data Falsification (2)

Preventing a recurrence

- We take a serious view of the inadequate subcontracting and quality control in structural design operations. We have analyzed the causes, and are taking a comprehensive set of actions to prevent the recurrence of data falsification.
- We established a committee including outside experts to deal with the issue immediately after it emerged, and have developed a Company-wide response, including action to prevent a recurrence, sales measures and steps to restore our credibility.
- → The Company has already received from the committee recommendations on identifying the causes of the problem and on actions for improvement. Based on these recommendations, the Company is now stepping up reforms of structural design operations so that it never repeats the mistakes.



Extraordinary Loss Associated with Earthquake Resistance Data Falsification (3)

Measures to prevent a recurrence

- The Company established the Structural Problem Reform Committee, and is addressing the issues.

(i) Quality control:	clarification of quality reviews and the checking processes,
	and changes to the awareness of persons involved
(ii) Labor control:	adequate human resource management by improving the
	accuracy of the labor estimate
(iii) Selective order receipts:	develop and execute order judgment criteria
	(that take into consideration factors such as technical details,
	human resources and profitability)

- Appoint a special mission manager to manage the Structural Design Division on a full-time basis
- * Immediately after the falsification was revealed, the Company decided to discontinue package subcontracting, which led to this problem.



Changes in Orders, Net Sales and the Order Backlog





Year-end order backlog





Changes in GIV and GIV Earnings

The Company discloses information on a percentage of completion basis, an internal index for managing, forecasting and reviewing results obtained by converting the degree of progress into money. This reflects the fact that the Company has projects that involve a long time from order receipt to sales, including those for developing software.





Profit and Loss Statement

			(Million yen)
	FYE June 2007	FYE June 2008	Change from pervious FY
Net sales	11,213	11,322	108
Cost of sales	7,519	7,172	-347
Gross profit rate	3,693	4,149	456
SGA expenses	2,605	2,907	301
Operating income	1,088	1,242	154
Non-operating profit	34	30	-4
Non-operating expenses	100	102	2
Ordinary income	1,022	1,169	147
Extraordinary profit	124	2	-122
Extraordinary loss	47	223	176
Net income before taxes	1,099	948	-151
Corporation tax, corporate inhabitant tax and enterprise tax	570	431	-138
Adjustment for corporation and other taxes	- 82	- 15	67
Net income	612	531	-80



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Gross Profit, Operating Income and Ordinary Income Increase, But Net Income Falls







Balance Sheet

(Million	von)
(winnon	yen)

	FYE June 2007	FYE June 2008	Change from pervious FY
Current assets	3,611	3,194	-417
Cash and deposits	207	133	- 73
Trade notes and accounts receivable	1,776	1,561	-215
Goods in process	1,022	911	-110
Fixed assets	6,923	6,976	53
Total assets	10,535	10,170	-364
Current liabilities	4,271	3,957	-314
Short-term borrowings*	1,565	1,937	372
Long-term liabilities	2,448	2,061	-386
Long-term borrowings	1,422	1,035	-387
Total liabilities	6,720	6,019	-701
Total net assets	3,814	4,151	336
Total liabilities and net assets	10,535	10,170	-364

* "Long-term borrowings scheduled for repayment within one year" are included in short-term borrowings.





Reduction in Total Assets and Improvement in Capital Adequacy Ratio





Changes in Interest-Bearing Liabilities and Capital Adequacy Ratio



Capital adequacy ratio

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Cash Flow Statement

(Million yen)

	FYE June 2007	FYE June 2008
Balance at the beginning of FY	386	207
CF from operations	1,168	521
CF from investments	- 191	- 356
Free CF	976	165
CF from financing	- 1,155	- 238
Balance at the end of FY	207	133



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CF from Operations and **CF** from Investments Decline, But **CF** from Financing Grows



	49th Term	50th Term	Change
(Net income before taxes)	1,099	948	-151
(Corporation and other taxes paid)	-448	-652	-203
(Increase in accounts payable)	76	-176	-253
(Others)	440	402	-37
CF from operations	1,168	521	-646
	49th Term	50th Term	Change
(Expenditures on tangible and intangible fixed assets)	-161	-235	-74
(Income from cancellation of insurance reserve fund)	89	_	-89
(Gains on sale of investment securities)	97	_	-97
(Others)	-217	-121	96
CF from investments	-191	-356	-164
	49th Term	50th Term	Change
(Net change in short-term borrowings)	-280	530	810
(Net change in long-term borrowings)	-698	-545	153
(Dividends paid)	-106	-177	-71
(Others)	-70	-45	24
CF from financing	-1,155	-238	916



2. Financial Results by Segment

State of Businesses

(Million yen)

~		Net sales and breakdown		
Segment	Business descriptions	FYE June 2007	FYE June 2008	
Engineering Consulting	 Structural design of building Software development requirement definition and basic design Disaster prevention, earthquake resistance and numeric analysis Marketing and decision making support consulting 	3,662	3,878	
	 Simulation for wireless communications businesses 	(32.7%)	(34.3%)	
System Solutions	 Mobile communications and mobile network communications Sales and design support systems for manufacturers Multimedia solutions 	5,117	5,037	
	Structural designing support systems	(45.6%)	(44.5%)	
Products	 CAE software for designers Package software for structural analysis and earthquake resistance studies 	2,433	2,406	
Service	 Software for supporting marketing and decision-making Simulation software for telecommunications companies 	(21.7%)	(21.2%)	
Total		11,213	11,322	
		(100.0%)	(100.0%)	





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Changes in Net Sales and Orders by Segment





Segment (1) Engineering Consulting

				(Willion yell)
	FYE June 2006	FYE June 2007	FYE June 2008	Rate of change
Orders	3,323	3,513	3,974	13.1%
Net sales	3,238	3,662	3,878	5.9%
Cost of sales	2,128	2,412	2,550	5.7%
Gross profit (margin)	1,110 (34.3%)	1,250 (34.1%)	1,327 (34.2%)	6.2%

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- Structural design of building
- Disaster prevention, earthquake resistance and numeric analysis
- Software development requirement definition and basic design
- Marketing and decision making support consulting
- Simulation for wireless communications businesses

Analysis of results

- Orders, net sales and gross profit rate increased.
- Consulting services for analysis related to disaster prevention and earthquake resistance did well, thanks to rising demands for workpieces other than buildings and energy-related facilities.
- Basic reviews and research and development in the upstream process of software development performed well.
- The reduction in operating labor hours for structural design operations in the wake of revelations of earthquake resistance data falsification by a subcontractor, and order control through a more selective approach to accepting orders to increase quality and precision produced an impact.



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Segment (2) System Solutions

				(Million yen)
	FYE June 2006	FYE June 2007	FYE June 2008	Rate of change
Orders	5,365	5,336	5,002	-6.3%
Net sales	4,579	5,117	5,037	-1.6%
Cost of sales	3,042	3,532	3,271	-7.4%
Gross profit	1,537	1,585	1,766	11.4%
(margin)	(33.6%)	(31.0%)	(35.1%)	



- ✤ Mobile communications and mobile network
- ✤ Sales and design support systems for manufacturers
- ✤ Multimedia solutions

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Structural designing support systems **

Analysis of results

- Orders decreased, net sales remained unchanged, and gross profit rate rose.
- Projects for customers in the telecommunications business (telecommunications carriers) continued to perform strongly.
- Large, high-profit projects were executed steadily.
- The number of unprofitable projects decreased.





Segment (3) Products Service

				(Million yen)
	FYE June 2006	FYE June 2007	FYE June 2008	Rate of change
Orders	2,605	2,357	2,465	4.6%
Net sales	2,505	2,433	2,406	-1.1%
Cost of sales	2,011	1,857	1,651	-11.1%
Gross profit (margin)	493	575	754	31.2%
	(19.7%)	(23.6%)	(31.4%)	

* Cost of sales for the segment includes selling expenses for the Sales Division.



♦ CAE software for designers

(Millian man)

- Package software for structural analysis and earthquake resistance studies
- Software for supporting marketing and decision-making
- Simulation software for telecommunications companies
- Analysis of results
 - Orders grew, net sales stayed unchanged, and gross profit rate improved.
 - Net sales remained unchanged, but the gross profit rate improved sharply, as a result of the withdrawal from less profitable businesses in the previous FY.
 - CAE software for designers in manufacturing businesses did well.
 - Net sales were strong for structural analysis software for designers and fulltime analysts.





3. Plan for FYE June 2009

(Million yen)

		FYE June 2008	FYE June 2009 plan	Change from pervious FY	Rate of change from pervious FY
Net sales		11,322	11,700	377	3.3%
	Engineering Consulting	3,878	4,000	121	3.1%
	System Solutions	5,037	5,250	212	4.2%
	Products Service	2,406	2,450	43	1.8%
Operating income		1,242	1,400	157	12.7%
Ordinary income		1,169	1,320	150	12.8%
Net income		531	630	98	18.4%
	Dividends @¥30 / share		@¥30 / share	Dividend payout ratio at 30%	

(Note) Results forecasts are prepared on the basis of information available as of the date of publication. As such, they contain uncertainties and the like.



Grounds for profit increase

(External conditions)

- Japan invests the largest amount in science and technology in the world (measured against GNP).
- Demand for engineering is increasing.
- Conditions in customer industries:

Telecommunications: strong results for investment projects on next-generation platform and other research and development

Construction:

growing demand for the safety of buildings, workpieces other than buildings and energy-related facilities

Manufacturing:

strong willingness for informatization investment aimed at operational reforms

(Internal conditions)

- Beginning-of-year order backlog increased slightly year on year, but the GIV earnings ratio improved substantially for projects carried over.
- No unprofitable project exists.
- The number of high-margin projects rose, thanks to planning and proposal-based sales.
- Excellent workers have joined the company following aggressive recruiting activities.



Changes in GIV and GIV Earnings Brought Forward





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Changes in added value and labor distribution rate (46th-FYE June 2004 to 50th-FYE June 2008)



Added value (simplified) = operating income + personnel expenses (excluding compensation for directors) + fringe benefits



Results for Added Value Growth in the Last Five Years

- Year-on-year added value growth rate at 5.0% in FYE June 2008
- Year-on-year added value growth rate of 7.7% planned for FYE June 2009
- Plan to increase total added value by approximately 40% in five years from FYE June 2004 to FYE June 2009
- Average annual growth rates in the last five years
 - Added value: 7.1%
 - Operating income: 20.5% * Equivalent to 52% of added value growth
 - Personnel expenses: 4.2% * Equivalent to 48% of added value growth



Adequate Distribution of Added Value to Each Stakeholder







Factors Necessary for Added Value Growth



Increase in per-capita added value



Scale expansion through staff increase

Added value growth attributable to new businesses and investments

We aim to increase our total added value at a year-on-year rate of 10%.





4. Future Management Policies

Good to Great Initiatives as a Professional Engineering Solution Firm (PESF)





Professional Engineering Solution Firm (PESF)

A company that realizes high added value by

Proposing technologies and scientific knowledge that fit actual customer conditions, based on its own experiences.




Professional	Improving oneself,
Engineering	Marrying academic knowledge to heuristic knowledge,
Solution	Providing knowledge while communicating with the other party,
Firm	A "place" where such people gather.

Organizational management for sustainable growth





KKE's Characteristics (1): Knowledge Circulation







KKE's Characteristics (2): Knowledge Circulation

Collaboration by a number of specialists coming together

- Equipped with a variety of personnel for addressing various issues in the society
- An independent organization that flexibly cooperates with any party
- Promoting university cooperation with interdisciplinary moves

etc.

The Five "I"s



IntelligentBusiness based on compensation for knowledge and social contributionIndependentEstablishment of a space for totally unrestricted, free thinkingInterdisciplinaryIntegration and fusion of diverse academic fieldsInnovativeBackbone, culture and DNA for always challenging things that are newInternationalAlliance with overseas partners possessing different knowledge



Field Where KKE Operates Successfully

The current conditions in Japan are as follows:





Japan is the world's heaviest investor in science and technology (measured against GNP).

Private-sector investments account for particularly large percentages of these investments.

(3.55% of GNP) (Government investment at 0.68%)

Value of engineering is increasing.





Basic policy: added value growth and its adequate distribution to respective stakeholders

- Professional Engineering Solution Firm (PESF)

A company that offers high added value by proposing technologies that fit actual customer conditions based on its experiences.

- Self-reliant, autonomous-decentralized, and cooperating network company

Self-disciplined individuals offering high value to customers by making effective use of an organization

- Achievement and valuation orientation

Medium-term valuation based on single FY results and investments by individual, team and department

Examples) companies like ARUP in Britain and IDEO in the United States





(Reference) Benchmarking Companies



www.ideo.com

IDEO is a world-famous design firm headquartered in California, the United States. At IDEO, employees, who are experts in diverse fields themselves, comprise project teams, and conceive original and innovative product designs by sharing their heuristic knowledge and wisdoms.

Excellent companies worldwide are asking IDEO to offer not only product designs but also innovative solutions to their own problems. IDEO is also offering process consulting service that brings corporate reforms and innovations.



ARUP is a comprehensive engineering consulting company headquartered in London, Britain, that maintains offices in 85 locations around the globe.

With 9,000 employees specializing in different fields, ARUP is offering multi-disciplinary (multi-field) technology services. In other words, the company has established a comprehensive engineering system covering structural designs, facility designs and PM for the smooth provision of architectural engineering, design, planning, project management and consulting services of the world's highest standards. Recently, ARUP acted as a general producer for many sections of the Olympic Stadium in Beijing.

- 構造計画研究所

- (1) **Proposal-based sales system for increasing added value**
- (2) Technologies and experiences honed through practice
- (3) **Openness of technologies**
- (4) **Persistent pursuit of high quality**
- (5) Free and vigorous corporate culture
- (6) Investment activities for sustained growth



Map for Analyzing KKE's Strengths and Priority Fields





(1) **Proposal-Based Sales System to Add More Value**

- Sales man-hours cover 20% of Total man-hours (6/'08 Term results)
- Sales system consisting of corporate planning, manufacturing and MOT sales, overseas marketing and business planning sections
- Importance attached to good customers and projects
- Integrating technologies across diverse fields
- Proposing solutions after identifying customers' problems







(2) Technologies and Experiences Honed Through Practice

- "Academic knowledge" + "heuristic knowledge" = "organizational knowledge"
- Synergies from vertical technologies (customers) and horizontal technologies (KKE)
- The ability to make proposals suited to customers (in budget and technology) based on accumulated experience
- The number of customers with sales totaling ¥20 million or more a year (largeand medium-scale companies) grew by seven from the previous year.

As percentages of total sales, these customers represented:

68.4% (82 companies) in FYE June 2006, 72.1% (102 companies) in FYE June 2007 and 72.9% (109 companies) in FYE June 2008



(Reference) Changes in the Ratio of High-Ranking Customers







(3) **Openness of Technologies**

- Blue-chip customers who facilitate wide, interdisciplinary use, instead of keeping technologies to themselves
- Free use of project achievements in other projects (Example: maintenance of software module rights)
- Sharing of copyrights on deliverables in joint research with universities
- Presentations at academic conferences in Japan and abroad
- Introducing technologies from overseas partners and offering added value tailored to the Japanese market
- Convening of seminars (example: KKEVISION)



Organizational initiatives on quality assurance

- Position company-wide quality control as part of the internal control system scheduled to be introduced during this fiscal year, and have the control function as KKE's original internal check system.
- In structural design operations, take resolute steps for changing operational flows and staff awareness by strengthening the lineup at the Structural Quality Center, and manage subcontractors properly.
- In software development, continue and sustain quality control by the Quality Assurance Center.

Example: Establish shipping criteria for software and perform self management (latent fault density per functional volume at less than 0.01).



(5) Free and Vigorous Corporate Culture

- Work in ways that satisfy both customers and project executors.
- Maintain long-term relationships with customers.
- Jobs that give satisfaction to staff members
- Avoid using technologies in ways potentially contrary to community values.
- Autonomous time use
 - * Culture that encourages employees to devote 20% of their working hours to additional activities
 - * Promotion of three long, consecutive holidays a year
- Ways of working unrestricted by age, nationality and gender



(6) Investment Activities for Sustained Growth

1. Investment in human resources

- 2. Investment in sales
- 3. Investment in new businesses
- 4. Investment in technical development





1-1) Recruitment Results

Investment in human resources





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1-2) Top Schools in the Number of New Graduates Who Decided to Join KKE Informally Investment in human resources

Number of new graduates who joined (or are scheduled to join) KKE in FYE June 2001 to FYE June 2009

* Figures in () denote numbers of persons.

- Tokyo Institute of Technology (20)
- Waseda University (14)
- Kyusyu University (12)
- Kyoto University (9)
- Tokyo University of Science (7)
- Keio University (1)
- Kobe University (5)
- Tsukuba University (5)
- Tokyo University (7)
- Ritsumeikan University (5)
- Yokohama National University (4)
- Saitama University (4)
- Chuo University (4)
- Japan Advanced Institute of Science and Technology (4)







The majors of 185 new school graduates employed (from FYE June 2001 to FYE June 2008)





Progress is being made in the recruitment of individuals with very specialized skills and who agree with KKE's philosophy and culture of bridging universities and research institutes with the business community.

- Manufacturers
- Telecommunications companies
- General contractors and developers
- Structural design offices
- Consulting firms and research institutes





1-5) Turnover Rate

- People say the turnover rate for young employees is 30% in the first three years of employment.
- The single-year turnover rate is 4.8% for new graduates who joined KKE in FYE June 2001 and thereafter.
- Numbering 185 (and accounting for 34.5% of all staff), new graduates who joined KKE in FYE June 2001 and thereafter are leading the Company's growth.





2. Investment in Sales

- 2-1) Strategy Marketing & Sales Dept.
 - Restructure the company-wide sales management system, and promote sales operations with high added value.
- **2-2)** Corporate Development Dept.
 - Develop new businesses with high added value through planning and proposal-based sales.
- 2-3) Marketing & Sales Dept. –Management of Technology
 - Bolster sales in the manufacturing field, and work to expand scale with new customers and new themes.
- 2-4) Overseas Marketing Dept. (including Shanghai Representative Office)
 - Step up alliances with overseas business partners, seek to expand business opportunities, and conduct research for advancing into overseas markets.
- **2-5)** Business Planning Dept.
 - Horizontally and vertically connect technical departments established by basic technology and sales departments set up by the client industry, and look for opportunities to develop complex solutions that meet the needs of customers.
- * Many competitors in growing markets friendly competition with other companies in the same businesses



3. Investment in New Businesses

- **3-1)** Management & Human Resource Consulting Div.
 - Solve corporate management and personnel affairs issues by employing a range of engineering approaches.

Consulting services for provision

- Results forecast and risk control
- System of distribution to respective stakeholders based on the management vision
- Appraisal and wage systems based on achievement evaluation that reflect employee awareness
- Sustainability verification for management and personnel affairs systems based on long-term forecasts



3-2) Sustainable Solutions Div.

- Bolster as a business the housing history project undertaken to realize a sustainable society as a member of a limited liability partnership (Japanese version).





Overhead

view

Continuation

Joint creation

4. Investment in Technical Development

- 4-1) Joint research with universities and research institutes in Japan
 - Participation in the COE project
 - Personnel exchanges with ATR, NiCT and IPA
- **4-2**) Joint development with customers
 - Participation in research and development projects, measures and the like undertaken by the central government, public organizations and private research institutes
- **4-3)** Investments in overseas partners
 - Investments in Vitracom in Germany (¥150 million): visualization technology
 - Investments in Flomerics in Britain (¥250 million): analytical software for designers
 - Rocky Mountain in the United States: sales of Vitracom products
- 4-4) Staff dispatches to universities and research institutes overseas for training
 - MIT Media Laboratory, Pennsylvania State University and Universität Karlsruhe



5. New Business Initiatives

- A) Pioneering Ultra Long-Term Housing Model Project: Asagaya Project ~ KKE's Commitment to a Sustainable Society ~
- **B)** Fire Evacuation Simulation System for Ultra High-Rise Buildings
- C) Company-Wide Marketing Event KKEVISION2008

A) Pioneering Ultra Long-Term Housing Model Project: Asagaya Project ~ KKE's Commitment to a Sustainable Society ~



Background for Project Launch

Establishment of a subsidies system for pioneering ultra long-term housing model projects at the initiative of the Ministry of Land, Infrastructure, Transport and Tourism

(¥13 billion appropriated in the current FY)

200-year housing concept

"Build quality houses, take good care of them, and use them carefully for long periods."

Requirements for ultra long-term housing:

Durability and earthquake resistance of structural frames

E Easy maintenance and management of interior decorations and facilities

Energy saving measures

Consideration for the elderly

Popularization and enlightenment through publication



KKE's initiative was one of the 40 proposals adopted from among 603 applications made for the subsidies system.

In-house technologies for realizing ultra long-term housing were presented.

Realization of the world's first practical application of a 3D seismic isolation system
 Introduction of the SMILE system as a response to energy saving and information management



Building Overview



Apartment complex adopting next-generation seismic isolation systems (construction cost at approximately ¥500 million)

- Underground pit installed with the world's first practical application of a 3D seismic isolation system
- Building safety in an extremely large earthquake comparable to the Great Hanshin-Awaji Earthquake in size
- System for receiving and announcing complex-wide emergency flash reports at the time of earthquake occurrence

Interior decorations compatible with ultra high-function frames

- Easy maintenance and management, high-quality residential space able to accommodate changes, functions that satisfy next-generation energy saving standards, and responses to the need to make the buildings barrier-free

Apartment complex in response to energy saving and information management

- Management of construction records and the management and maintenance history, and energy monitoring
- Expected to reduce the environmental burden and enable a sustainable society from the perspective of building use





Technical Summary (1) (The World's First Practical Application of a 3D Seismic Isolation System)

- **Responses to vertical movements, in addition to horizontal vibrations**
 - (Horizontal earthquake resistance equal in effect to conventional seismic isolation systems)
- Building safety in an extremely big earthquake comparable to the Great Hanshin-Awaji Earthquake in size
- Greater capability to prevent furniture overturning, fixture scattering and damages other than conventional horizontal seismic isolation systems



3D Seismic Isolation System consisting of eight units installed underground allow the complex to reduce horizontal vibrations to approximately one-eighth and vertical vibrations to approximately two-fifths.



Technical Summary (2) SMILE System

Support system for Management of Information, Living and Environment

サステナブル社会に向けての家歴書プロジェクト

Response to energy saving and informatization demands

- Information infrastructure that permits residents to manage housing design and construction information, inspection and repair history, and information about housing facilities and consumer durable goods, gain information from business operators, and exchange information with each other
- Capability for residents to consolidate housing design and construction information, inspection and repair history, and information about housing facilities and consumer durable goods on the Internet
- Capability to respond speedily when houses are reformed or when home electronics are recalled
- Capability to manage information about energy use, such as electric and gas bills, and financial information, including housing loans



United Industry-Government-Academia Initiatives



Since its establishment, KKE has improved technologies through leading-edge projects in each era, and has developed the latest academic knowledge through alliances with universities and research institutes, and joint research with corporate customers. This project is a good example of such cycle in operation.



Improvement of the 3D Seismic Isolation System

- Application expansion to high-rise buildings
- Reduction in device cost
- Installation of sensors, including accelerographs, in buildings, sustained data collection, exploration of new proposals using that data, and the verification of seismic isolation effects
- ⇒ Aim to increase orders by offering safer and more secure buildings to consumers, accumulating design know-how, storing actual building measurement data, and appealing technologies to customers.



B) Fire Evacuation Simulation System for Ultra High-Rise Buildings



Social Backgrounds

The growing importance of evacuation planning in the society

- Collective evacuation during disasters, including flooding, tsunami, earthquakes and fire
- Prevention of stampedes in crowded conditions
- Increase in the number of ultra high-rise buildings and large facilities
- Increase in the number of persons requiring relief because of the aging of society

Doubts about the practicality and effectiveness of uniform evacuation plans with no consideration for individuals

Variation in individual characteristics, including age, disability and walking speed
 Different individual actions attributable to factors such as the presence or absence of advance information



Rising demand for evacuation plans based on simulation studies that reflect individual characteristics and conditions





Overview of the Project

Fire evacuation simulation system for ultra highrise buildings

- A simulation system that permits the examination of a more effective evacuation plan, which takes into consideration the characteristics of individual evacuees
- "Artisoc," a multi-agent simulator for general use developed by KK, is used.
- Able to identify a more effective evacuation plan by taking human behavioral characteristics into consideration and assuming a range of different scenarios

Joint development with Mori Building

Joint patent application



[Simulation screen] State of external evacuation on the affected floor





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Precise modeling of the behavioral characteristics of individual evacuees

- Able to make evacuation plans that take into consideration individual characteristics (example: disadvantaged evacuees, including people with disabilities and elderly people, walking speeds)
- Able to predict the effects produced by levels of familiarity with evacuation guiding methods and evacuation rules
- Able to specify causes of assessment results, and study measures for improvement

Solutions that give consideration to people

Assume, in particular, safe evacuation of elderly people and people with physical disabilities.



For realizing and maintaining a safer and more secure society

- **Evacuation from fire using elevators, not permitted at present (*)**
 - * Assuming elevators with guaranteed protection from fire and smoke (including pressure smoke ventilation) installation.
- Effective evacuation guidance that prevents congestion and confusion



Drafting a more effective evacuation plan

KKE is resolved to contribute to a safer society by providing solutions that consider all those who live in and use buildings.





"Giving greater engineering power to society"



Venue: ANA Intercontinental Tokyo Date: September 26

✓ 34 seminars and lectures by experts, customers, business partners, etc.

Keynote speech Future of public education Free children with "connecting power." Kazuhiro Fujihara, former principal of Wada Municipal Junior High School in Suginami-ku, Tokyo





Diverse Lectures

- Keynote speech in the morning and 34 sessions in the afternoon
- Lecturers
 - * Lecturers from universities and research institutes: 19
 - * Lecturers from companies and business partners:13
 - * Staff members who act as lecturers:5
 - * Lecturers invited from abroad:7
- Lectures in multiple fields
 - Verification of large earthquakes from a structural viewpoint and future outlook for structures
 - Long-period ground motions and disaster prevention in urban areas
 - Information use for urban development and maintenance
 - Indoor wireless communications sought today
 - New IT strategies in manufacturing
 - Simulation technologies that shine in society
 - Management under uncertain conditions
 - Quality improvement
 - Engineering knowledge for reading and understanding the complex and uncertain world, etc.



News Releases at a Glance (Second Half)

January 21, 2008
KKE holds the 8th MAS Competition, a complex research competition.
Highest excellence award of 300,000 yen and excellence award of 100,000 yen were presented as research subsidies.
March 10, 2008
KKE renews its project management ASP service to enable a shift from "information sharing" to "information use." Announcement meetings and introduction seminars for kkeonsite2.0 were held in Tokyo and Osaka.
March 14, 2008
KKE offers new personnel flow measurement solutions employing Vitracom Site View. A service with greater added value was enabled with the release of the Windows edition and upgraded analytic service.
March 17, 2008
KKE renews the OEM resale agreement for configurator solutions with Firepond.
The agreement was extended, and configurator solutions based on the SaaS concept were launched in Japan.
March 18, 2008
KKE publishes Client Viewing Guidelines (system action and data model editions).
Examinations will continue at IPA SEC from April, and attempts will be made to further the use of the guidelines in the industry.
April 14, 2008
KKE forms a business alliance with Prometech Software.
An analytic consulting service using the particle method and the CAE conceptual design service were launched.
May 12, 2008
KKE starts simplified earthquake risk assessment reporting service for business continuation plans. Initial examination materials for planning are offered at low prices (105,000 yen and above).
June 17, 2008
KKE markets artisoc 2.0, a complex simulator.
A new edition of the social simulator was released, to aid conceptualization and forming agreements, and the edition proves effective in areas such as evacuation from disasters, personnel flows within stores and traffic jam simulation.



Kozo Keikaku Engineering Section in Charge of IR Inquiries

Thank you very much for taking the time to attend today's briefing.

We look forward to your continued support and guidance.

【 Inquiries 】 Kozo Keikaku Engineering Inc. Compliance Department IR Desk

Emailir@kke.co.jpWebsitehttp://www.kke.co.jp

