

11th Asia-Pacific Eco-Business Forum in Kawasaki (Feb 4, 2015)



shaping tomorrow with you

Fujitsu's Environmental Solutions for Sustainability and Beyond

Env. Management Project in Saudi Arabia

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Technical Computing Solutions Unit
Fujitsu Ltd.

Fujitsu at a glance



Headquarters:
Tokyo, Japan

Net Sales:
US\$46.2 billion

Established:
1935

R&D Expenditure:
US\$2.2 billion
(Approx. 4.6% of Sales)

President:
Masami Yamamoto

Principal Business Areas:
Technology Solutions
Ubiquitous Solutions
Device Solutions

Employees:
162,000 worldwide

**The World's fourth,
Asia's largest
ICT service provider**

Our Products and Services



Technology Solutions

Services



Our datacenters in the world

Systems platform



FUJITSU
Supercomputer
PRIMEHPC FX10



FUJITSU Server
PRIMERGY



FUJITSU Storage
ETERNUS

Ubiquitous Product Solutions



FUJITSU PC
LIFEBOOK

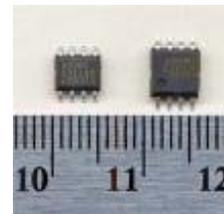


FUJITSU Smartphone
STYLISTIC

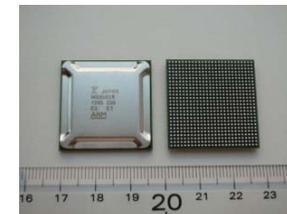


FUJITSU Tablet
STYLISTIC

Device solutions



FRAM
(Ferroelectric
Random Access
Memory)



Graphics Display
Controller

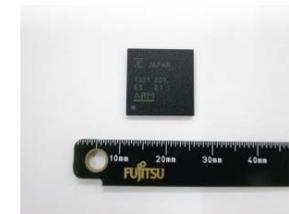
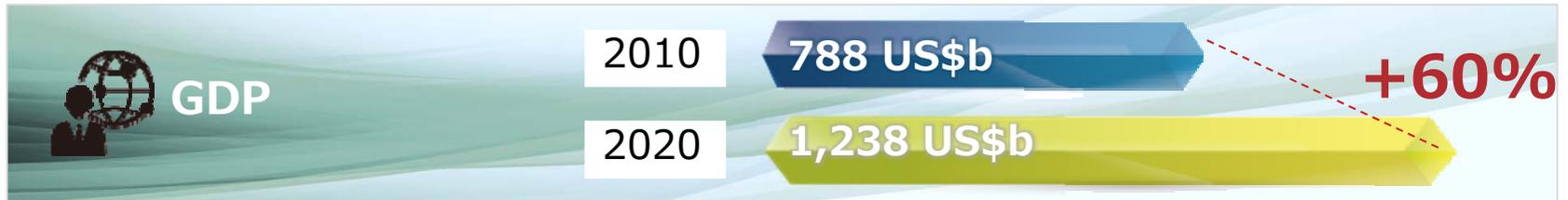
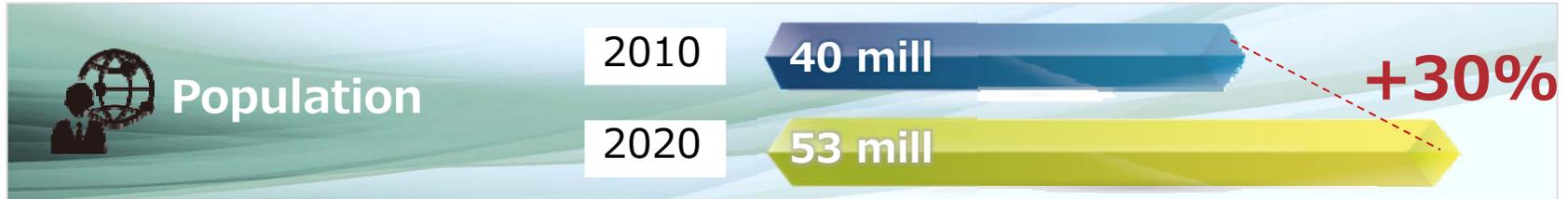


Image Processor

Why Environment Management?

- Rapid Growth in the Middle East -

Resources for the future in the GCC



The GCC in 2020: Resources for the future, the Economist
[http://graphics.eiu.com/upload/eb/GCC in 2020_Resources WEB.pdf](http://graphics.eiu.com/upload/eb/GCC_in_2020_Resources_WEB.pdf)
<http://graphics.eiu.com/marketing/pdf/Gulf2020.pdf>

Typical Environmental Challenges

Air (SO_x, NO_x)

Water (COD, Turbidity)

Industrial City

Air (SO_x, VOC, CO₂)

Oil spills / Produced water

Oil Field / Refinery

Air (NO_x, SO_x, CO₂, PM)

Transport

VOC (Volatile Org. Comp.)

Ballast water

Port

Air (HC, CO, NO_x)

Noise

Airport

Environmental Solutions Summary



Fujitsu offers a “one-stop solution” and customizes it following your environmental objectives and challenges.



**Application
Solution**

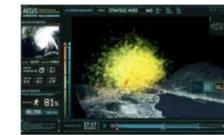
1 Environ Monitoring



2 Environ Mobile Communication



3 Environ Modeling / Simulation



4 Environ Management Dashboard



5 Environ Data Analysis / Consultation



**Platform
Solution**

6 Green Policy Products

Data Center, Servers



Environ. Management Project in Saudi Arabia (in cooperation with City of Kawasaki)



MODON

FUJITSU

- Saudi Industrial Property Authority (MODON)
- Responsible for the development of industrial cities with integrated infrastructure and services
- Currently overseeing 32+ existing and underdevelopment cities



Environmental Challenges



Air and water pollution from factories

Only regulations exist; no factory inspection/guidance



Over capacity; no env. master planning



Limited human resource

Unhealthy working conditions



Customer Needs & Our Offerings



Eco Industrial City

To support and control sustainable growth for existing and new industries

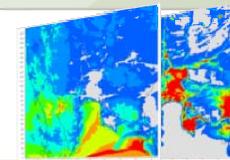
1 **Environ. Monitoring System**



2 **Environ. Mobile Communication**



3 **Environ. Modeling / Simulation**



4 **Environ. Data Analysis / Reporting**



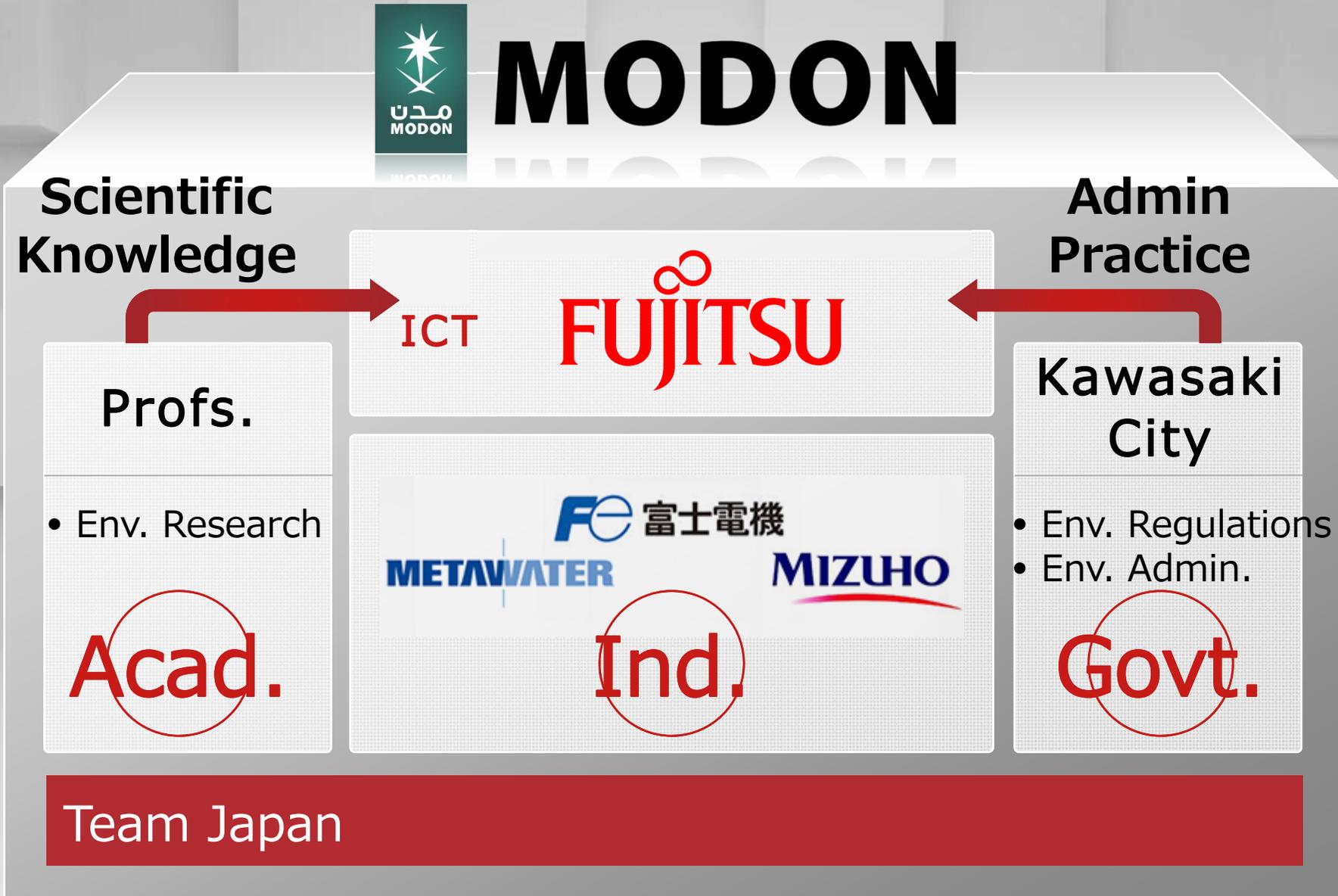
5 **Environ. Consultation**



6 **Knowledge Transfer**



Partnership – Team Japan



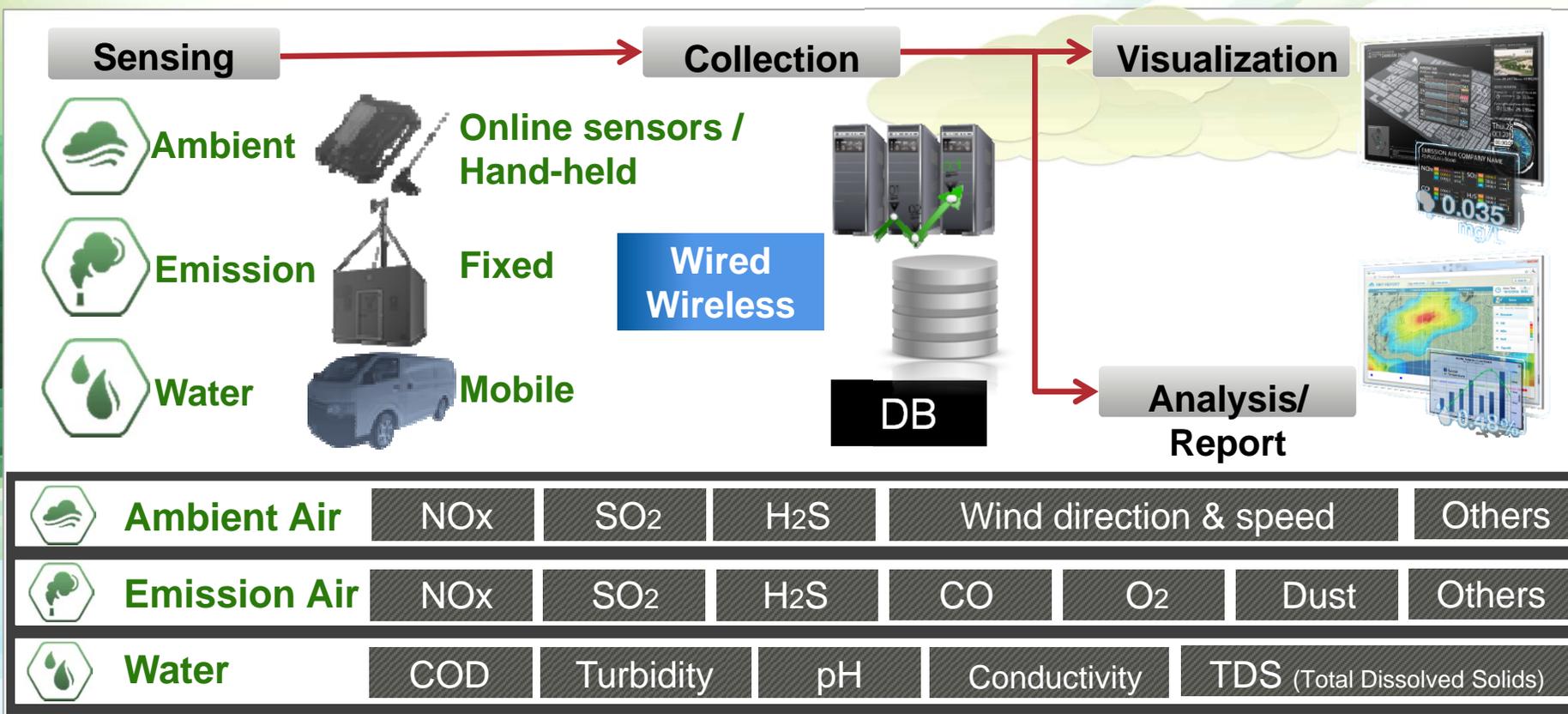
Environ Monitoring : GREENAGES



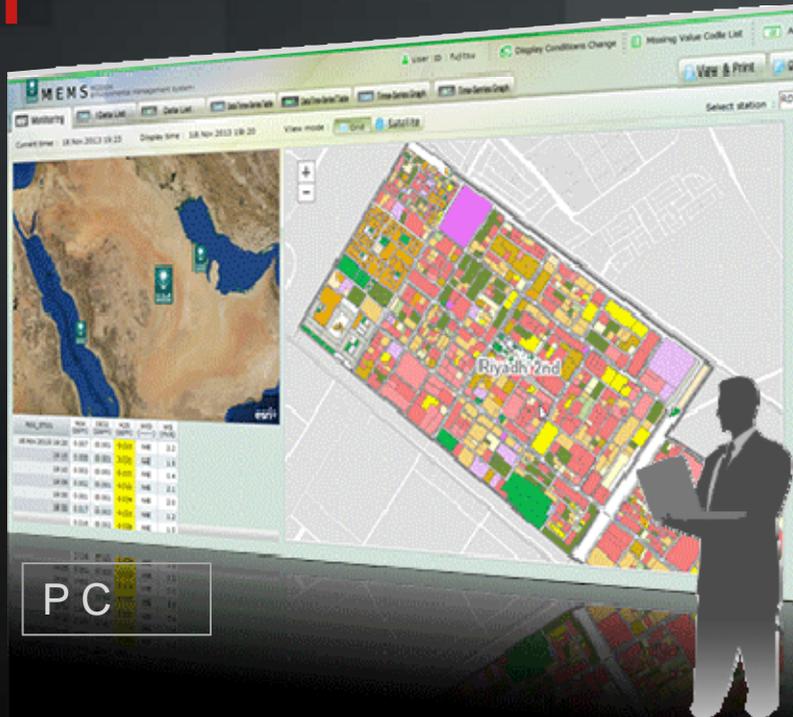
A flexible system according to the customer needs or goals

Customer benefits

- Real-time data sensing & collection
- Various kinds of properties can be measured and collected
- Integrated data management : All collected data can be stored in the centralized DB.



GREENAGES Administrator



Monitoring application
for the system administrators

GREENAGES 3D Visualizer



Integrated viewer
for publication purposes

Visualization for better understanding

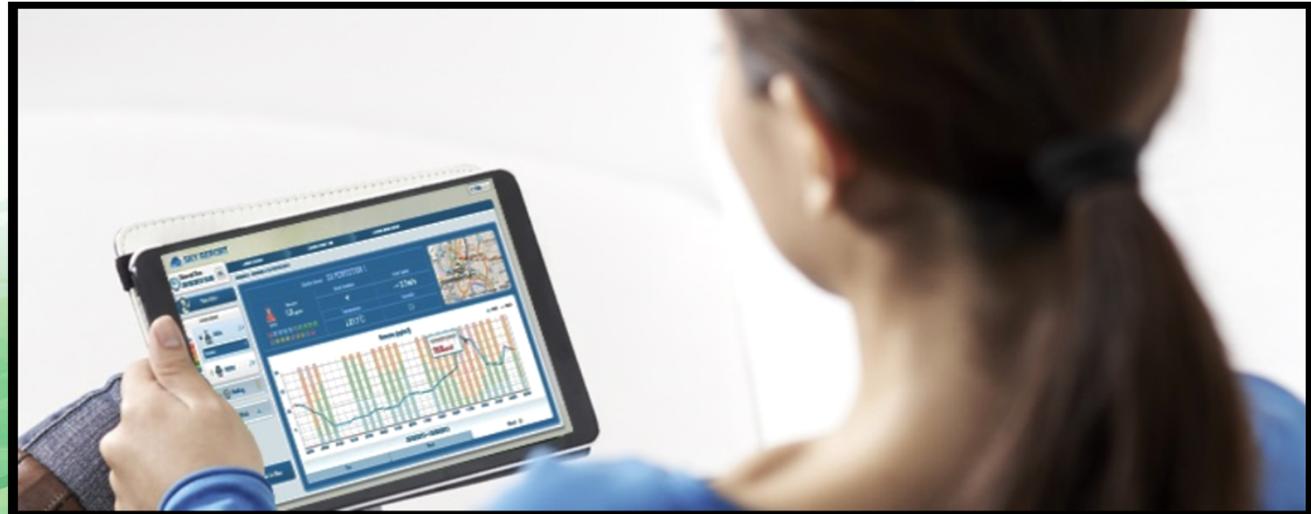
Environ Mobile Communication



Environmental data publishing with smartphones / tablets

Customer benefits

Interactive communication enables the users to both check environmental data in real-time and to upload situation updates at the measurement locations.



Users Residents, investors, patrol staffs, ...



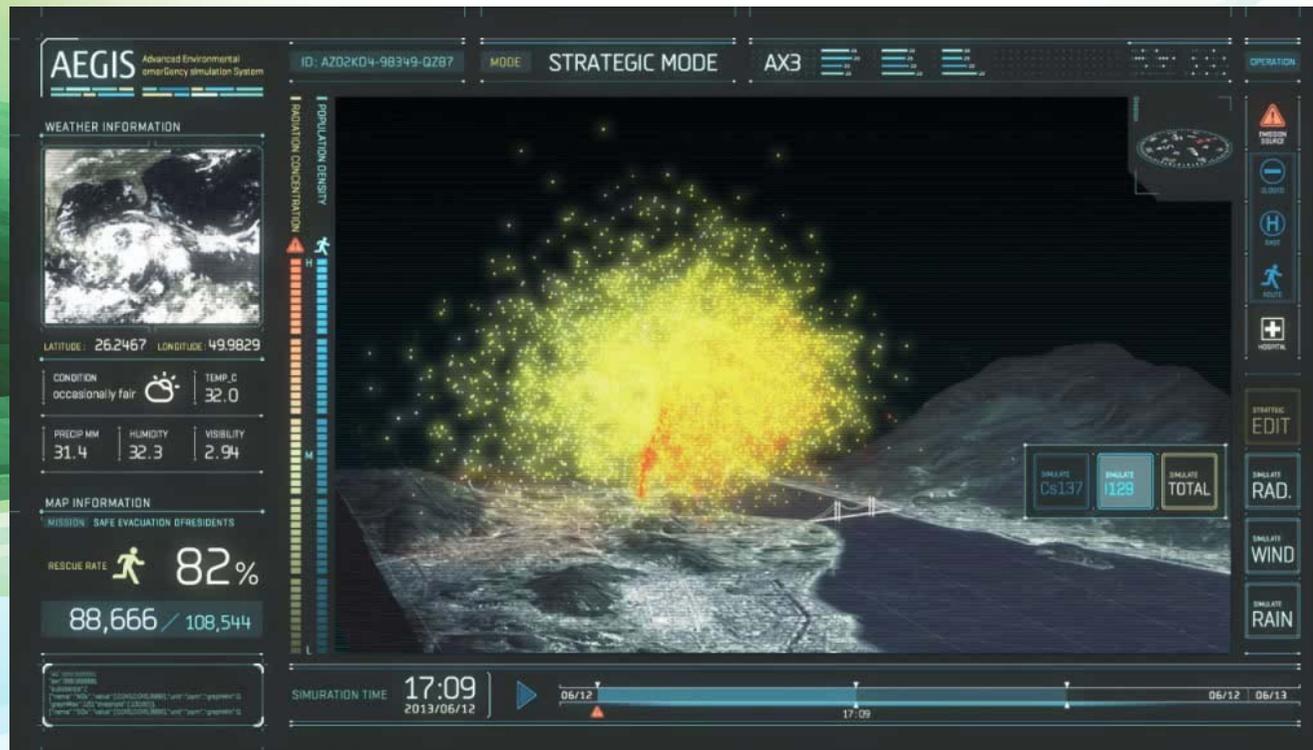
Environ Modeling & Simulation



Decision-making tool to prevent environmental risks and disasters with precautionary-based simulations

Customer benefits

- Estimate the impact on the surrounding areas
- Trace back particulate diffusion to a likely source
- Prepare an evacuation plan
- Predict photochemical warnings



Threat substances

Chemical Biological Nuclear

Environmental risks

PM2.5 NOx Yellow sand

Disasters

Volcanic ash Agricultural pest

Environ Data Analysis / Reporting



Big data analysis, evaluating and optimizing the balance of environ & economic activities with the expert

Customer benefits

Evaluate the efficiency of the environmental protection activities by comparing the expenditure and economic benefits

Evaluate the predicted environ impact when starting a new project

The screenshot displays the GE²FT software interface. At the top, there is a navigation bar with four main sections: Data Integration, Data Analysis, Data Visualization, and Visual Sharing. Below this, the main content area is titled "Project_0001 View". It features a header with a gear icon, a user profile icon, and the text "Project_0001 View". Below the header, there is an "Alert" section with a table of messages. The main content is divided into three sections: "Scenario (7)", "Report (2)", and "Result (10)". Each section contains a table of data with various status indicators and action buttons.

Alert			
Date	Message		
2014/01/01 09:00	This is a message for System information 1. (by First Middle1 Last1)		
Result 2014/01/02 09:00	This is a message for Project information 4 (Result). (by First4 Middle4 Last4)		

Scenario (7)						
All	Not Solved	Solving	Completed	Not Published	A-Z	Latest
Completed	Scenario_0001	This Scenario is base.				
Completed	Scenario_0002	This Scenario is sub.				
Not Solved	Scenario_0003	This Scenario is dummy (Not Solved).				
Solving	Scenario_0004	This Scenario is dummy (Solving).				
Completed	Scenario_0005	This Scenario is dummy (Completed).				
Error	Scenario_0006	This Scenario is dummy (Error).				
Not Re-Solved	Scenario_0007	This Scenario is dummy (Not Re-Solved).				

Report (2)						
All	Published	Unpublished	A-Z	Latest		
	Report_0001					
	Report_0002					

Result (10)						
All	Single Scenario	Multi Scenario	Customized Scenario	A-Z	Latest	
Customized	Result_0001	Bar Chart				
Customized	Result_0002	Pie Multi Chart				

1 Environmental Enhancement

2 Factory Inspection Program

3 Factory Permitting Procedures

4 Green MODON Master Planning



Consultation

for improvement and better management





1 Env. Symposium / Workshop

2 A tour of inspection of Japanese Best Practice

3 Hands-on Training / Manuals

4 Standard Operating Procedure

Knowledge Transfer

We closely work with you.



Smart City Solutions for Sustainability and Beyond



Environment Management



Safety & Security



Disaster Management



Energy Management



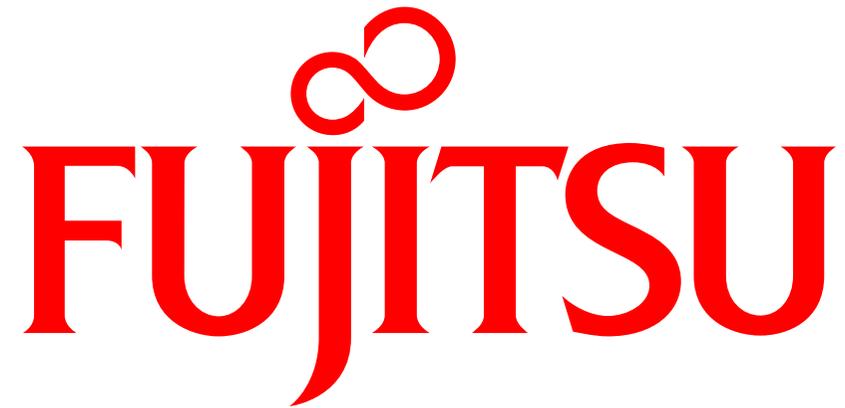
Transport



GIS



Agriculture



shaping tomorrow with you