

### **2009 Corporate Social Responsibility Report**









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Preface

### **About This Report**

Looking back at year 2009, we can see that the global financial crisis is not done with its notorious damage, and is still threatening the prosperity of society and the economy. Nearly every government and enterprise has been struggling with a variety of tactics. On the other hand, corporate social responsibility (CSR) has thrived universally with the pushes from every corner of the world; awareness of environmental protection, labor rights, social harmony, and green products has been cultivated in everybody's mind. For an enterprise, how to balance profit & responsibility has become a key and difficult problem.

Quanta Computer has also inevitably suffered from the global financial crisis, but thanks to the wisdom and proper preparation of clear & farsighted executives, and the common hard work & collective intellectuality, it has survived well and successfully with remarkable progress. For social responsibility, with the efforts of companies within Quanta Computer Group in place, Quanta Computer has organized a committee with subcommittees to better support CSR with more resources, with members from the executive level.

In the past year, communities in which the company operates, local government, investors, executives, employees, suppliers, customers and the industry has paid much attention and laid many expectations on Quanta Computer, and it has also communicated its CSR strategy, action plan, implementation status and performance through multiple channels and measures all the time to the stakeholders. This report is regarded

as the first comprehensive CSR annual report.

This report can sum up most of the activities that Quanta Computer has initiated over the past year, explain our future strategy and work plan, and give those who care about Quanta Computer a channel to readily access to clearer and more comprehensive information.

As the first CSR annual report, it covers facilities of Quanta Computer Inc. (Taiwan), and companies in Quanta Shanghai Manufacturing Center, Quanta Changshu Manufacturing Center, and from Jan 1st 2009 to Dec 31st 2009, with extension of data for those mid- and long-term projects beyond 2009.

This report is originally based on <Sustainability Reporting Guidelines> version 3 (<G3>) from the Global Reporting Initiative (GRI), with reference to other annual reports in the industry. It is published in Traditional Chinese as well as English (the Chinese version is the baseline) and on the corporate website www.quantatw.com, in the "about Quanta" section.

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# Strategy and Vision

### Message from the Chairman/Vice Chairman

For Quanta, 2009 was an important year for entering into a brand new, renovate epoch of 3C products.

With the corporate spirit of "Technology based on the truth, humanity based on kindness, and feelings prioritized by esthetics" and the motto of "lofty humanity, advanced technology, and sensitive feelings," we vow to corporate civil ideals and continue to devote more efforts into low energy consumption projects. Appealing to the expectation for environmental protection and green energy from our employees, we established Corporate Social Responsibility committee. We took on the responsibility of aggressively raising the welfare for the whole humanity with many allied corporations who share the same interests of benefit with Quanta!

Under the Quanta CSR, four functional committees are established including: Corporate Governance and Business of Ethics committee, environmental protection committee, green product committee and social participation committee.

In the top 500 major global corporations ranking



announced annually by Fortune, Quanta has climbed from the 447th place in 2007 to 342nd in 2009. In addition, we also ranked on the seventh position in the 2009 info Tech 100 ranking by Business Week. It proves that our core value of persistently pushing for honesty and integrity has been implemented in the company management and has been fully acknowledged.

Regarding the management of green product, our policy has been "quality as priority, cutting edge technology, customer first, and implementing a green corporation"! The environmental protection committee is responsible for integrating the entire company's environmental safety and health management, formulating environmental safety and health performance benchmarks, and implementing various energy saving, carbon dioxide emission reduction, waste reduction and recycling projects etc. Green product

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### Strategy and Vision

### Message from the Chairman/Vice Chairman

committee is responsible for launching green product design, production management, buying, supplier management etc. It provides management strategies in accord with the trend development of the latest global environmental protection knowledge and technology.

In order to pay back to the society, we also established "Quanta Education Foundation" in October 1999 (which was renamed Quanta Culture & Education Foundation in June 2005). With the motto of "sharing knowledge, and everyone enriched by cultures," we jumpstarted the machinery of education and sharing and engage in across- the-board art enlightenment, scientific awakening and spiritual environmental protection in the community and in school campuses through a series of exhibitions.

Looking ahead, Quanta will devote itself to promoting social responsibilities with the attitude of what comes from the society goes back to the society. Apart from pursuing sustainable competitiveness for the corporation and for the society, we also hope to jumpstart a social trend in which

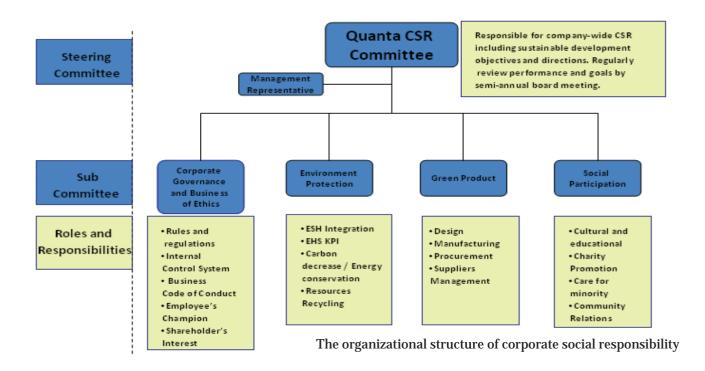
all companies will strive towards the goal of green corporations!

Bary Lan c.c. Keung 2

### Quanta CSR commitment and the organizational structure

#### CSR commitment

- 1. Create sustainable value to the company. Upgrade the stakeholders' rights and interests.
- 2. Ensure good corporate governance. Adhere to laws and regulations.
- 3. Get involved actively and encourage employees to participate in cultural, public welfare, environmental protection, and energy saving activities.
- 4. Manufacture green products to reduce impact on the environment.
- 5. Devote ourselves to green research and development. Protect the global environment.
- 6. Promote cooperation between the labor and capital, and respect employees' opinions.
- 7. Respect workers' freedom, prohibit any forms of forced labor, and do not accept suppliers or sub-contractors to use forced labor.
- 8. Prohibit the use of child labor, and do not accept suppliers or subcontractors using child labor.
- 9. Provide equal and fair working environments, and prohibit any forms of discrimination.
- 10. Provide safe and healthy working and living conditions, and ensure employees' safety and health.
- 11. Arrange a production schedule, employee work time and rest time reasonably.
- 12. Provide reasonable salaries and benefits, which can at least satisfy employees' basic needs.
- 13. Respect employees' basic human rights, and prohibit any forms of insulting behavior.
- 14. Comply with the universal enterprise ethic standards.



### **Quanta Computer Overview**

### 1. Company profile

Established in 1988, Quanta Computer is now the largest notebook computer ODM company in the world. In 2008, we shipped more than 36M units of notebooks, and the consolidated revenues for Quanta group topped NT\$818.738 billion, net profits came in at NT\$20.229 billion, and basic earnings per share were NT\$5.58.

"Rooted in Taiwan with broad vision and aggressive expansion in the global market" is Quanta's strategy for long-term development. With "Quanta R&D Complex" (QRDC) as our global headquarters and the center of dynamics, we integrate worldwide technology resources to ensure that Quanta Computer Inc. has technological advantages to design, develop, and manufacture high value-added products and solutions for customers. In addition, we have established operation centers across Asia, America, and Europe to manufacture, configure, and service products, as well as to provide logistics support to deliver products and services competitively everywhere in the world.

Quanta group has over 40,000 employees worldwide of which more than 4,000 people are working in R&D and engineering development. QRDC, inaugurated in late 2005, is a symbol of Quanta's long-term deep-rooted investment in

Taiwan. As an intelligent building, QRDC has three functions: R&D, humanity and art, as well as education and leisure activities. It includes laboratories, an art performance hall and a museum. So far, the library, art gallery, gym and swimming pool have been completed and are operational. It is our goal to harmonize humanity and technology. Capable of accommodating up to 7,000 employees, QRDC is unprecedented in the information industry in Taiwan in terms of architectural designs, space planning, intelligent functions and size.

Quanta has been recognized by Fortune Magazine as one of the Global Fortune 500 Enterprises since 2006, which marked a new milestone for the Company. In the future, Quanta will transform from an OEM/ODM point products manufacturer, to a system solution provider for the emerging "new 3C" (Cloud Computing, Connectivity and Client Device) industry. With non-stop innovation in technologies, services, and business strategies, we will continuously expand our business with the most competitive solutions, and create Quanta's growth in the long run. The Company is listed on the Taiwan Stock Exchange (TWSE) under ticker symbol 2382.

### **Quanta Computer Overview**

#### 2. Market Overview

The financial crisis of 2008 has not yet completely receded, but global economics is expected to recover gradually from the trough of 2009 and resume its growth in 2010. The notebook industry is anticipated to be one of the spotlights of the recovery and will lead the whole PC market growth in the coming years. According to an IDC report, the worldwide total PC shipment for 2010 will be 316 million units, and among that, portable PC shipment is expected to be 186 million units with around the annual growth rate of 16.5%, while the shipment of desktop PCs is 124 million units and a decline of the annual growth rate of 0.4%. The global notebook PC shipments surpassed the desktop PCs the first time in 2009, and the trend of mobile computing are still accelerating. Notebooks are anticipated to accelerate its penetration in the PC industry, and the trend of mobile computing ensures that notebooks will continue to outgrow desktop PCs and provide the mid- to long-term growth momentum for the notebook industry.

In regards to our core business of notebook PCs, we will set a target of more than 50 million shipments in 2010, which represents more than 40% annual growth and far surpasses the industry average growth rate. As for our non-notebook PC business, along with the global overall economic

recovery, we expect that products including smart phones, servers, multimedia and consumer electronics, etc. will also have steady growth in 2010.

#### 3. Business Outlook

Quanta is a professional provider of Original Design Manufacturing (ODM), Original Equipment Manufacturing (OEM) and associated services. The Company has built its reputation and leadership in the technology industry through its outstanding R&D capabilities and sophisticated manufacturing services. We provide the best overall value to customers by offering the most competitive total solutions in design, manufacturing and logistic services in the market. Quanta has worked closely with the top computer and electronic brands worldwide for decades, and has established long-term and trust-based business relationships with our customers.

Apart from its distinguished leading position and high growth in notebook PCs, Quanta even extends its tentacles to markets including the corporate network system, home entertainment products, mobile communications products, automobile electronics and digital home products, etc., and actively expands the overall layout of non-notebook computer business.

### Stakeholders identification communication and responsibility

#### 4. Financial Performance

Quanta marked new records in revenues, net profits and notebook shipment units in 2009. The Company's consolidated revenues for 2009 were NT\$ 839.79 billion, which grew from NT\$818.74 billion in 2008, and represented a 2.6% annual growth rate. The gross margin for the year was 5.37%, and the net profits came in at NT\$22.3 billion. It has a 10.3% annual growth rate compared with the NT\$ 20.2 billion in 2008. Basic earnings per share were NT\$6.09. Notebook shipments were over 35.9 million units in 2009. Meanwhile, Quanta paid dividends of NT\$3.7 in cash in 2009.

#### 5. Corporate Developments

To match the Company's resources with its business growth needs, Quanta's 2009 capital expenditure plan and anticipated investment projects including:

5.1 Critical material manufacturing company: Anticipated to invest NT\$ 3 billion to enhance the control capacity of key components/ materials, vertical integration of synergy, and competitiveness.

5.2 Meet the replenishment and expansion demands of the company and its oversea subsidiaries: Anticipated to invest NT\$4 billion to facilitate in serving the customer and lowering the

5.3 Others—Supporting research and development projects of new products, and investing in venture capital companies which engage in leading-edge technologies or emerging indus-

Quanta insists on operational transparency, and respect for shareholders' rights and corporate social responsibility. Quanta has established a Corporate Governance framework and assignment of implementation according to Corporation Law, Securities and Exchange Law, and related regulations. To achieve its corporate vision, Quanta has efficiently executed an internal control system to reduce managerial risks and increase business efficiency.

### 1. Corporate Governance organizational structure



#### 2. Board of Directors

Quanta's Board of Directors, consisting of directors elected by the shareholder meeting, is one of the two major units of the Corporate Governance organizational structure.

Quanta's Board of Directors consists of five directors, distinguished with a great breadth of experience as business leaders or scholars. Two of the five members are independent directors; one is the director and finance/administration president of Pou Chen Corporation, Sir. Chan Lu-Ming, and the other is the chairman of the Department of Law at Soochow University, School of Law, Dr. Wei-Ta Pan.

Quanta's Board of Directors is responsible for carrying out assignments in accordance with laws and ordinances, the Articles of Incorporation, and the resolutions adopted at the meetings of shareholders. Meanwhile, the Board both monitors the corporate management team and is responsible for the entire business operation of the company.

To practice Corporate Governance, make the monitoring function sound, and strengthen the managerial function, Quanta creates the regulations of the meeting agenda of the Board in accordance with Regulations Governing the Board of Directors' Meeting Agenda of Public Companies. As the meetings involve the relationship of directors' interests and damage the interest of the company, the related directors must also follow the principle of conflict of interest, to ensure the interests of the company and shareholders.

Meetings of Quanta's Board of Directors are convened by the chairman and meet at least once every quarter. There were a total of 7 regular and special meetings of Quanta's Board of Directors in 2009.

#### 3. Supervisors

Quanta's supervisors, elected by the meeting of shareholders, are the other major unit of the Corporate Governance organizational structure. There are three supervisors at Quanta; among them, two are independent Supervisors, Sir. Eddie Lee and Chang Ching-Yi.

The responsibility of supervisors is to supervise the execution of business operations of the company, and deal with the execution of internal control to detect corporate business risk. The function is like the Audit Commitment under USA Laws.

Supervisors of the company may be invited to attend the meeting of the Board to control company's business operation at any time, monitor the situation of the Board, and describe their opinions in a timely manner.

Supervisors attended every conference of the Board in 2009, but did not set forth any special opinions for the meeting agenda of the Board.

#### 4. Internal control

Quanta evaluates all aspects of the company's operational activities according to Regulations Governing the Establishment of Internal Control

Systems by public companies, designs and establishes internal control systems, reviewed by the Board, to advocate sound corporate operation, as well as to reasonably ensure the effectiveness and efficiency of operation, the reliability of financial reports and the compliance of related Laws.

The auditing office, established by law, is responsible for ensuring the examination of the corporate internal control system for efficiency and completeness, and execute monitoring audit continuously and by projects. The audit office proposes an annual audit plan yearly, and then implements it after the plan is reviewed for approval by the Board. The audit reports are all reviewed by the supervisors. The auditing director should participate in the meeting of the Board to report the execution of the internal audit and set forth an auditing report for reference.

The actual implementation of this internal control system resulted in no serious deficiencies being reported for Quanta in 2009. The audit plan and audit result are put up onto a public information network, thus achieving transparency of company's information.

### 5. Employee's business ethics standard

High business ethics standards are the top guidance that Quanta always insists on following. Quanta's employees should strive to ensure that they keep their personal manner and business ethics in high standard. As dealing with their daily job and business, employees should strictly comply with the business ethics standards, maintain the company's reputation, and obtain respect and confidence from customers, suppliers and people in every business.

#### 5.1 Abide by business ethics standards

Quanta supports and asks all employees to conduct business in the spirit of honesty, strictness and respect, but should not involve themselves in any illegal and improper activities, and not participate in or put up to others to do any activity or relationship against their honest business ethics or professional judgments. The information with regard to the company or customers should be kept secret. The business ethics standards, not limited by laws and regulations, are in compliance with employees' self awareness and personal judgment regarding whether common sense is for the action or not.

#### 5.2 Avoid Conflict of interests

Employees should avoid any conflict and pos-

personnel and the company. For example, employees or their family members and close relatives are employed, or have a direct or indirect relationship on the financial interest with suppliers, customers or competitors, or have activities outside the company that directly compete with Quanta's business, or any jobs that could possibly conflict with responsibility in employees' duties, or take advantage of the company's recourses to run their own business outside the company without the company's approval. Therefore, when the above situation is observed, employees must immediately and fully report to provide an explanation.

#### 5.3 Give gifts and Business hospitality

Quanta's employees must not give or accept any gifts, money, or entertainment to or from any Quanta's suppliers, subcontractors, customers, and other relevant parties, resulting in effecting normal business relationship and judgments. Any form of bribery is strictly prohibited.

When it is a required courtesy to accept or give gifts in any form, employees should comply with business ethics standards.

### 5.4 The implementation of business ethics standards

All employees should be responsible for complying with the policy and relevant procedure, all-levels of directors should practice and ensure their employees understand, accept, and scrupulously abide by. We expect our customers, suppliers, business partners, and people in every industry to understand and support us. All employees should be constantly on alert in regards to the manners against the business ethics standards. The company will take disciplinary action, against employees who violate the standards.

## 6. Compliance to the regulation of the company

Quanta has established the business ethics standards that has guided employees and directors. Quanta's business ethics standards are designed to advocate honest and ethical conduct, as well as support compliance with laws and regulations. The principles embodied in the standard express Quanta's policies regarding the company's reputation, safety of the company, conflict of interest, discrimination, health and safety, and environment to support the compliance of laws.

Quanta always complies with both domestic and foreign laws and regulations, and keeps an eye on the regulatory developments added and modified that could have a material impact on Quanta's business. So far, Quanta has never been subject to any significant monetary fines or non-monetary sanctions for noncompliance with any statutory laws and regulations.

### Honor

#### 2009

- Received an award as the 2009 Benchmark Enterprise for best reputation in the category of Benchmark Enterprise in Taiwan Computer Industry from Taiwan Commonwealth Magazine.
- (Mr. Barry Lam, chairman of the company, was honored at the same time with a Benchmark Entrepreneur Award the most admired entrepreneur recognized by entrepreneurs)
- Received from Asia Week "The Top 1000 Best Global Chinese Enterprises Award" as the number one Taiwanese enterprise in 2009.
- Ranked as the 7th best among the world's top 100 high-tech companies in 2009 by the U.S. Business Week.
- Ranked as the 3rd place among the Top 100 High-tech companies in Taiwan by the Digital Age.
- Awarded by the Shanghai Civil Affairs Bureau.
- Received a special prize for disaster relief donation from the Shanghai Bureau of Civil Affairs. (QSMC)
- Received an honor certificate for Humanitarian Relief Fund from the Shanghai Red Cross.(QSMC)
- Received an award as the taxpaying benchmark company in Songjiang District from People's Government of Songjiang District, Shanghai. (QSMC)
- Received an award as a pacesetter enterprise (foreign) in Songjiang District from the People's Government of Songjiang District, Shanghai. (QSMC)
- Received a Foreign-invested Export Enterprise award from the Commerce Council of Shanghai. (QSMC)
- Received a Foreign-invested Advanced Technology Enterprise award from the Commerce Council of Shanghai. (QSMC)
- Received the second and third place awards for paying tax. (QSMC)
- Received Advanced Business Unit for Public Welfare Devotion Award. (QSMC)

#### 2008

- Received 2008 Corporate Citizenship Award from Taiwan Commonwealth Magazine.
- Ranked as the 57th best among the world's top 100 high-tech companies in 2008 by the U.S. Business Week.
- Ranked as the 7th best among Taiwan's top 100 high-tech companies in 2008 by the Digital Age.
- Awarded as a large foreign-invested export enterprise in Suzhou City. (CSMC)
- Awarded as one of the Top Ten Best Open Enterprises in Changshu City. (CSMC)
- Awarded as a "Green Enterprise" in Changshu City. (CSMC)

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### Stakeholders Overview

### Stakeholders identification communication and responsibility

#### 1. Stakeholders identification and communication

Various Quanta communication services are mainly promoted by the Corporate Governance and Ethics Committee, according to the stakeholders' concerning items, the service will be included in the unit program and work plan; as for the environmental trend evolution, etc. temporary task, it will also be dealt with through unit collaboration.

To be able to reach all stakeholders' expectations, Quanta also goes through various communication methods and channels to ensure that responsibility is achieved, and at the same time, maintain communication at all times as the reference for prevention and the improvement plan!

Stakeholders	Primary responsibility of Quanta Computer	Communication method and channel
Shareholders	■ Provide investment information in a timely	■ Irregular communication meeting
and investors	manner	<ul> <li>Annual General Meeting</li> </ul>
	<ul> <li>Long-term and stable dividend policy provides</li> </ul>	<ul> <li>Regularly holds corporate call meetings and</li> </ul>
	adequate investment returns	press conferences
	<ul> <li>Sound financial strategy maintains good</li> </ul>	■ Synchronize the announcement of the latest
	corporate credit and operating performance	news on the Stock Exchange MOPS and the
		company's website
Customer	■ Provide the most competitive and highest	■ QBR
	quality products and services	<ul> <li>Customer satisfaction survey</li> </ul>
	■ Provide overall solution plans, including design,	■ Technology forum, seminar
	manufacture, and logistics support, etc.	<ul> <li>Meet the requirements and scrutiny for</li> </ul>
	services to enhance customer satisfaction	customer products, environment, and
	■ Establish a long-term, close, and mutual trust	responsibility, and coordinate prevention and
	business partnership with the customer	continuous improvement
Supplier	<ul> <li>Legitimate and fair trade</li> </ul>	■ Sign environmental undertaking contracts
	■ Learn ESH notification items and specification	■ Products provided must pass the inspection of
	details	an authorized third-party laboratory
	■ Learn and provide Quanta relevant assistance	<ul> <li>Send feeding test samples to Quanta GP</li> </ul>
	to implement social responsibility	laboratory for monitoring
		<ul> <li>Quanta environmental protection website</li> </ul>
		(green.quantacn.com)
		<ul> <li>Quanta DPM environmental protection websit</li> </ul>
		(sub.quantatw.com)
		<ul> <li>Green supply chain conference seminar</li> </ul>
		<ul><li>Suppliers and contractors' annual audit</li></ul>
Employee	<ul><li>Ensure and respect human rights</li></ul>	<ul> <li>Irregular communication meeting between</li> </ul>
	■ Employee development	supervisors and employees
	<ul> <li>Lawful and fair assessment and treatment</li> </ul>	■ "70885, please help me" employee service
	<ul> <li>Safe and healthy environment</li> </ul>	hotline and employee message board, sexual
	<ul> <li>Self-selected welfare and health promotion</li> </ul>	harassment complaint mailbox
		<ul> <li>Occupational based individual training</li> </ul>
		development, Quanta TMC School
		■ Employee satisfaction survey
		<ul><li>Quanta Group seasonal journal,bimonthly</li></ul>
		journal
Community	■ Effective prevention and support for disasters	<ul><li>Quanta Foundation</li></ul>
and others	and accidents	<ul> <li>Regional opinion communication unit</li> </ul>
	<ul> <li>Continuous promotion of knowledge sharing</li> </ul>	<ul> <li>Maintain good interaction with competent</li> </ul>

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### Stakeholders Overview

### Stakeholders identification communication and responsibility

### 2. Investor Engagement

Quanta aims its long-term business strategies and financial policies at upholding and enhancing the value of our long-term shareholders. By aligning ourselves with international standards, Quanta demonstrates our position and reputation as a sustainability leader to pursue premier investment and sustainability in the PC industry. Quanta has consistently delivered value to our long term shareholders through payment of cash dividends, maintaining a strong balance sheet, and keeping one of the highest credit ratings among technology companies, since it went public in 1999, and continuing to better serve investors and the investment community.

The Company has established a highly effective communication system to disseminate information. Quanta's management holds an investor conference call and press conference periodically, to report and discuss the Company's performance and business progress in a timely manner with investors worldwide. From time to time, the top management also directly communicates with institutional investors in large-scale investment forums and stump speeches. On a daily basis, our Investor Relations team talks to investors and analysts worldwide through calls, meetings and conferences. Hundreds of meetings were held either at the headquarters of Quanta or at financial conferences and institutional investors' offices in 2009.

Our efforts are focused on serving investors with timely, accurate, and transparent information regarding Quanta's business, operations and financial performance. Information regarding Quanta's business fundamentals and significant filings with regulatory authorities is posted on the M.O.P.S. website and updated to Quanta's corporate website in a timely manner. In the mean time, e-mail updates, as a communication tool covering important business activities and key events, are sent out to members of the investment community.

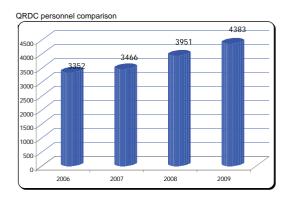
As a result, investors surveyed annually by IR Magazine have recognized the transparency of Quanta and our efforts on corporate governance, disclosure policies and quality investor communications for the year. Quanta was nominated by IR Magazine as the "Best investor relations by a CFO (Taiwan)" in 2009.

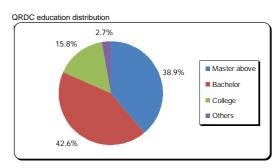
### **Employee Profile**

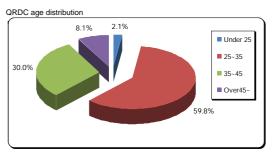
### 1. Personnel profile

#### [QRDC]

By the end of 2009, the number of personnel in the Taiwan R&D center headquarter grew to over 4,300 people, 81.5% of them possess a university degree or higher, the age distribution ranges mostly between 25~35 year-old, which accounted for 59.8%.



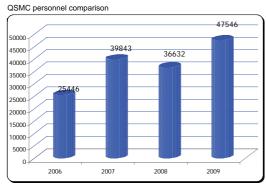




#### [QSMC]

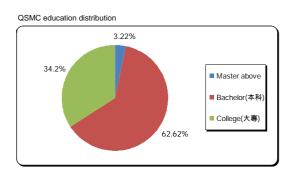
QSMC based Songjiang, actively continues to tape the potential and explore a development space. As a result, with the expansion of company size, staff continued to increase. QSMC, as an East China manufacturing base of Quanta Group, has built six factories, four supporting plants, a logistics center, and a research and development laboratory building since it was established in the Shanghai Songjiang Export Processing Zone in 2000. With leading-edge technology, excellent R & D capability, and competitive cost and by creating a number of very high value-added products, QSMC has now become a manufacturing city for the world's notebook PCs.

QSMC only had a work team of no more than 30 employees in 2000. At the end of 2009, QSMC had 47,546 employees.

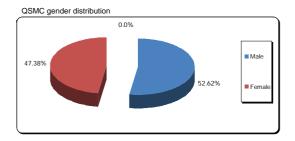


QSMC has a reasonable combination of staff quality. Information from the education, tertiary (inclusive) or more accounted for 15%, of which 230 were graduate students, 447 were undergraduates, 2439 were college graduates, and all company DL have graduated from secondary school.

### **Employee Profile**

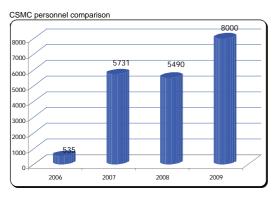


QSMC has a balanced sex ratio of employees, in which females accounted for 47.38%, and males accounted for 52.62%, with slightly more male employees than female employees (5.24%).

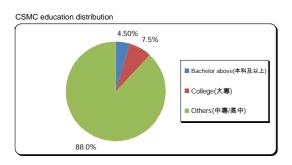


### [CSMC]

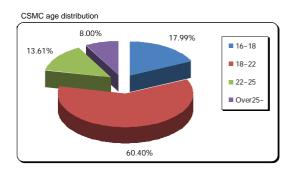
With the rapid growth of CSMC since Oct. 2006, the number of employees has increased continuously. Figure 1 shows that by the end of 2009, the headcount had reached over 10 thousand. Headcount in 2008 increased by 33.3% (6,000 people) and in 2009 by 66.7%.



All CSMC employees possess a technical secondary school/senior high school degree or higher. 12% of employees have a junior college degree or higher, including 7.5% junior college and 4.5% university and above.



In addition, our recruiting covers different age ranges, the majority are 18-22 years old and 22-25 years old. Many of them received improvement on work and enriching in life experience.



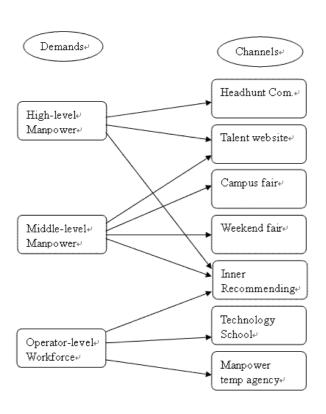
### **Employee Profile**

### 2. Employee recruitment

Talent is the root for company growth, Quanta attaches great importance to recruiting and nurturing talent. We have implemented effective methods, including scholarship programs, outstanding scientific and technological personnel training programs, excellent engineers pursuing higher education, and industrial and academic cooperation, etc. The purpose is to actively develop excellent talents for society and the Company to satisfy the future manpower needs of the Company, enhance the Company's competiveness, and make a contribution for social and technological industry development.

Quanta upholds the principle of equal opportunity. The recruitment process is conducted in an open and fair method, and the most suitable talents are recruited. To comply with all the Labor Laws of local government, Quanta hires all employees based on his or her morality and job qualifications, and never hires child laborers. Regardless of difference of race, class, language, ideology, religion, political affiliation, place of birth, gender, sexual orientation, age, marital status, appearance, facial features, physical or mental impairment or past union membership, all job-seekers are treated fairly.

As the company scale continues to grow and expand, there is a formidable demand for both middle and senior professionals and basic manpower. For this reason, the human resource unit continues to explore and establish a multichannel, multi-level, and standardized manpower recruitment system to satisfy the Company's development needs.



### [QRDC]

### 1. About Quanta TMC School

Quanta Computer was established in 1988. We experienced profound organizational success, in particular in high tech enterprise, with outstanding human resources taking an extremely important role. In addition to attracting talented people from the world, continually developing employees is unceasing and important. Therefore, we established "Quanta TMC School" to develop and enhance the quality of the people of Quanta.

The mission of Quanta TMC School is to become the cradle of talent development. In the technical domain, it shoulders the cultivation of innovation and high tech integration ability of the talent of Quanta. In the management and operation aspect, it trains the leaders to focus on technical research and development, and make production more effective. In the humanities aspect, we hope to promote it continually by nourishing life and literary arts, and aligning with the company spirit of truth, goodwill and beauty, and also, allowing the esthetics of work and life be deeply planted in the hearts of people, and enriching our lives.

The ultimate objective of Quanta TMC School is

**People Development** 



to allow Quanta's products and services to continue to make a bigger contribution to humanity's civilization through the unceasing accumulation and development of knowledge. Therefore, we persist in strengthening the Company's talents, enhancing the organizational performance and meeting the corporate growth needs. We took the company strategy as the goal, took the competencies as the core, provided a series of training development programs, and established the e-system platform for developing talents for many years. In 2009, we planned to actively establish a Quanta Elite School to devote to establishing the leadership pipeline.

#### 國人發展計畫

Areas for Nature Development	Facility on 1	please trik) (in eat)	Minajer kosts 2 5 8 8	***	Completion Time * A R M (ryrythm/08)	
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### 2. Complete learning framework and curriculum

In order to enable learning in Quanta to be more goal-directed, systematical, and effective, we have established core competency and the management competency models, and provided series training programs based on the competency models. People in Quanta may refer to their competency standard at present and discuss with their managers how to plan their own long-term individual development plan. By aligning with the dual ladder career development system and performance appraisal system, employees can choose the related training programs based on their development needs.

From new employee orientation to senior manager development, we designed completed training roadmaps and programs. Our programs are divided into five categories: management development, technical training, personal effectiveness, functional training as well as new employee orientation; over 350 training programs are provided in 2009. We also have multiple learning methods, like e-Learning, classroom training, on-job training, lectures, external training programs, etc. to assist employees to improve specialized skills.

### 3. e-learning platform

In order to enhance the program management efficiency, we have specially established the e learning platform. In addition to the self-made eLearning ability, we also provide all the employees with an ineraction learning platform.









### 4. Integrated culture and system planning

In addition to providing the training programs, Quanta also emphasizes the cultivation of learning culture. We train internal instructors actively, and conduct the Outstanding Trainer Ceremony to reward outstanding internal instructors and learners. We also draw up training policies to support the learning culture including the training administration policy, internal instructor management policy, the talent development policy, the customized training policy, the staff training expense subsidy policy, etc. We also stipulated an English degree standard for sales person promotion.

#### 5. Performance and prospects

From training effectiveness aspect, we have the comprehensive training evaluation mechanism to understand learning quality and effectiveness. Moreover, we also provide post-training certificates, such as PM e-paper, and follow-up programs, such as PM Club, to extend learning results.

To face a more and more competitive environment, Quanta will invest more resources in the

talent development to enhance the manpower quality and the company competitiveness.



#### [QSMC]

In 2009, the HR training for all employees is mainly newcomer training, in-house training, and corporate social responsibility related training courses, psychological construction courses that help relieving the employees' life and work stress, and negative emotions, and elite program, etc. These courses are to strengthen the employees' cognition of the Company, the understanding of rules and regulations, as well as the growth of their self-protection awareness.

#### 1. New induction training

1.1 New staff training is mainly used to enable them to adapt to the Company's work and life, to introduce them to the plant and the living quarters of the overall profile regarding the Company's rules and regulations. The QSMC Chairman of the training will be for each new person arriving at the scene, with all colleagues sharing corporate culture, and concerning themselves with their living conditions. The entire new training lasts 6 hours, which is scheduled for newcomers on the second day of the job. 228,138 new employees were trained in 2009, the training was held in a total of 76 batches.

1.2 For direct workers or above, in addition to participating in all the indirect workers' training courses, the additional vocational psychology course is also set up. The number of training days increased to 2.5 days, the total training time is 15 hours.

1.3 Training the Head, HR pairs of would-be first-line staff in charge of more comprehensive training. In addition to the regular eight new

staff trainings, we also opened the Magnolia Plan (manufacturing unit of the fresh university graduates), technical development classes, head of the ad hoc and other special classes. The curriculum set up, in addition to having regular new training courses, also increased the communication, team building and corporate social responsibility programs. The number of training days is 5 days (30 hours). In 2009, a total of one batch of Magnolia plans and three head projects were opened; a total of 170 people were trained.

New staff	Training Course	Time	Trips	
	Company Introduction/			
	Company Culture/ Personnel			
	System/ Living quarters			
Operator	Introduction/ Legislation 6hrs			
Operator	Introduction/ Safety	01113	38023	
	manufacture/SA 8000/ Green			
	Products Management			
	requirements/ H1N1 Publicity			
	In addition to Operator			
	required to attend all the			
	training courses have to attend:			
	Occupational Psychology/Quanta 15hrs			
Staff				
	Environmental Material			
	Introduction/ science			
	Electricity/IE Production			
	methods/ Quality Concept			
	In addition to staff required to		170	
	attend all the training courses			
	have to attend: SER Overview/			
Line-master	Labor Contract Law/	30hrs		
Training	Occupational Health & safety/	301113		
	create a good working			
	environment/ Communication			
	Skills			

### 2. Corporate social responsibility related training

Based on customer requirements, HR opened 9 courses to the direct operators of the manufacturing center, and 11 courses (two more courses apart from the 9 courses) to the team leader and instructor. Qualified lecturers or instructors were selected from the various departments for intensive training to enable them to become the seeds of lecturers; the lecturers will arrange the lesson plans, and teach these 11 courses to the department colleagues.

As of January 6, 223, 530 people had been trained. The training time of each course is 0.5 hours, with a total of 111,765 hours. At the same time, the propaganda poster made to meet the training, is posted at the plant and production line for peer education.

In addition to the operators and heads who are directly related to the production line have taken this training, HR has also condensed these 11 courses into 5 online courses to specially focus on all the non-manufacturing related employees and managers. The detailed information of the 11 courses is listed below:

Topic	Course	Workers	Supervisors	IDL	Course Outlines
	Overview of Social Compliance & Management Systems	Y	Y		<ul><li>History and Trend of CSR.</li><li>Brief Introduction on Quanta Code of Conduct.</li></ul>
SER Overview	Fair Treatment and Cooperative Workplace	Υ	Υ		<ul><li>Equality, non-discrimination &amp; Sexual Harassment.</li><li>Disciplinary Procedures and Grievance Procedures.</li></ul>
Overview	SER Introduction			Y	<ul> <li>Brief introduction on EICC/CSR and Quanta Code of Conduct.</li> <li>Equality, non-discrimination &amp; Sexual Harassment.</li> <li>Disciplinary Procedures and Grievance Procedures.</li> </ul>
	Occupational health and safety-Fire	Y	Y		<ul> <li>Introduce the classification of extinguishers and its scope to be suitable.</li> <li>How to use extingushiers.</li> <li>Introduce the methods of making alarm.</li> <li>Distinguish normal fire control facilities.</li> <li>How to evacuate from the fire site.</li> </ul>
	Occupational health and safetyElectrical.	Υ	Υ		<ul> <li>Electrical safety factor and the reason for general electric accidents.</li> <li>The prevention and treatment for electrical accident.</li> </ul>
Workplace Health and Safety,	Occupational health and safetyEquipment	Y	Υ		<ul> <li>Dangerous positions of facilities and protective measures.</li> <li>Key control points about machinery safety.</li> <li>Safety SOP of operate facility.</li> <li>Facilities maintence.</li> <li>Analyze safe accident cases.</li> </ul>
Environment Protection	Occupational health and safetyChemical	Υ	Υ		<ul><li>Chemical harmful and control, protection.</li><li>Using and storaging request of chemical.</li></ul>
	Work-related Injury and Occupational Disease Prevention	Υ	Υ		<ul> <li>The occupational disease prevention requirement according to law.</li> <li>In our factory, the potential work-related injury and how to prevent.</li> </ul>
	First Aid Knowledge		Y		<ul> <li>The definition of the first aid on the spot.</li> <li>The steps and methods of operation for the CPR.</li> <li>4 techniques for the trauma care.</li> </ul>
	Occupational health and safety			Y	<ul> <li>Common EHS issues in work place.</li> <li>Work-related Injury Prevention.</li> <li>Daily First Aid Common Sense.</li> </ul>
	Labor Contract Law Introduction	Υ	Υ		<ul><li>Notices when signing a contract.</li><li>Notices when terminating a contract.</li></ul>
Labor Rights and	Work Time and Compansation System.	Y	Υ		<ul> <li>Arrangement of labor hour and operation instruction of shift adjustment.</li> <li>The computing formula of compensation and SER requirements.</li> </ul>
Cooperative Workplace	Disciplinary Interview Skill		Y		<ul><li>Common Anti-Discipline Behaviors.</li><li>Disciplinary Interview Steps.</li></ul>
	Labor Rights in Daily HR			Y	<ul><li>Notices when terminating a contract.</li><li>Labor hours and compensation.</li></ul>



#### 3. Psychological care Courses

The scope of the lectures that opened from enriching the employees' life status involves psychological and health aspects. Well-known psychologists are hired to relieve the employees' psychological stress. The courses are: Falling in love and making friends, Personal finance tips, Emotion management, How to get along with family members, Youth psychological and physical development, Fashion is not the mainstream, I love dressing up, Psychological health and interpersonal relationships, I love crossstitching, Dress up my life, Autumn and winter skin care tips, Nutrition and health, How to become popular, Visiting old towns, I love health, Eat more and be slender, Emotion and stress management, and Happy life.

### 4. Elite Program

Elites refer to the talents of QSMC. They support the company's business development, and are essential to the company human resources. Developing elites with technical and business expertise into outstanding managers is the objective of the elite program. To meet the "25 Plan", starting from 2006, the elite manager training program continued to be implemented. There have been 32 elementary classes, 12 intermediate classes, and 2 advanced classes opened.



### 5. Quanta TMC School

QSMC opened a total of 160 classes, with a total of 9,563 people having participated in the course, and 6,802 people having completed and passed the programs.



### 6. External training and skill training

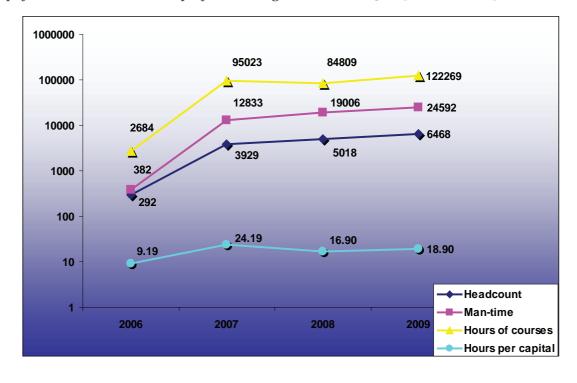
This includes 113 courses, and a total of 307 people participated in external training courses. Training to specific types of work permits training on induction courses with high and low voltage electrical training / training of hazardous chemicals / X-RAY RADIATION hands-on training / safety management training / forklift training, etc., there are companies regularly organizing employees of related units to participate in this class training.

[CSMC]

### 1. Continuously improved training system CSMC pays much attention to employee training

and provides courses to reinforce their abilities, forming a training system ranked from individual technical improvement to manager leadership skill cultivation in order to assist their function transformation and improve their performances.

By the end of 2009, CSMC had offered 4 types of courses (Technical/ Managerial/ General/ Orientation), and a total of 28. They main are ISO9001: 2008 Internal Auditor Training, HR System Instruction, Administrative Assistant Training, Fire Safety Lecture, Simple and Effective Management, Promotion and Training for successful group leaders, Corporate Culture



Training, Elite Plan related Training, Six Sigma Course, SER Special Course, Mentally Caring Course, Social Insurance Knowledge Propaganda, etc.

What's more, the SER special course, which contains 11 courses for employees to learn more about corporate social responsibility and their rights & obligations, has received very good feedback.

The number of employees that were trained and the hours of courses have increased rapidly since 2006 due to the enriched courses and the increased total number of employees. The average number of training hours in 2009 for indirect workers reached 9.44 and for direct workers reached 19.11. As figure 5 shows, till 2009, the number of hours of courses increased by 44% and reached 122,269 hours in total.

#### 2. CSMC offers various learning channels:

- 2.1 The advanced technological educating & training system-Quanta College, which assists supervisors to improve their organizational skills and performance. In addition, employees can refer to course information by themselves when logging in so that they can arrange their schedule flexibly.
- 2.2 Free reading association- 5 employees or above can set up their own reading association, and then CSMC will provide all of the book fees as well as a certain amount of activity expenses.
- 2.3 With the live ABC English learning site- employees can buy accounts with quite a favorable price to learn English anytime & anywhere.
- 2.4 The well-stocked library, with over 10,000 books, is also updated regularly for employees to broaden their vision and enrich their knowledge.

### **Employee Relation**

Employees are an important asset for Quanta, in order to have healthy, stable, and sustainable development, a company needs to have a healthy communication between colleagues, selfless exchange and sharing of intelligence to gather more human capital and form a virtuous development circle. In addition to providing a safe and comfortable working environment and excellent payment and benefits, Quanta also goes through the following measures to promote harmonious labor relations and achieve a win-win situation:

#### 1. Construction of a communication channel:

- 1.1 Have direct communication with the employees in a regular or irregular meeting through the division executives.
- 1.2 Advocate company policy and important messages through the internal electronic bulletin board.
- 1.3 Seasonal Quanta Group electronic journals are issued to inform the employees about Group moves, latest industry information, community activity results and peer sharing, etc. information. There are also internal journals such as "The Sound of Music", and "Zone-Zhi e-Weekly", etc. issued in Mainland China.

- 1.4 Employee suggestion box, 24-hour employee 70885- service hotline and message board. Employees can respond to the managing unit through the suggestion box when they encounter any problems at work such as: food, and security guard attitude, etc.
- 1.5 Bulletin boards are set in each factory to ensure all production staffs get latest information.
- 1.6 Former employee interviews. Explore the main cause of employees leaving the service as a reference for the company to develop its policy.

#### 2. Employee award:

- 2.1 Seasonally, give different awards for outstanding contribution or outstanding performance to show recognition, according to the contribution of the employee with outstanding performance.
- 2.2 Give a high amount of invention awards and trophies annually to employees who succeed in patenting R&D.
- 2.3 Hold an annual award ceremony for employees who have served the company for 5, 10, 15 and 20 years respectively, and thank them for

### **Employee Relation**

their long-term contribution to the Company and encourage employees to serve the Company for a long time.

#### 3. Employee satisfaction survey:

Based on impartiality and confidentiality, objective and professional academic institution is commissioned to hold an employee satisfaction survey once every two years to understand employees' thoughts and feelings regarding work content and environment, management method, learning development, and remuneration and welfare, etc. as the reference for the management level to enhance the management performance.

#### 4. New employee training and advocacy

- 4.1 Company policies, including work ethics and practitioners, etc.
- 4.2 Software usage regulation
- 4.3 Sexual harassment prevention and control regulations
- 4.4 Requirement for employees to declare avoiding conflicts of interest
- 4.5 Employee complaint hotline and mailbox

### 5. Employee assistance program

Quanta provides employees with psychological and legal consultation. In order to alleviate employee psychological stress and life factors, the **Employee Assistance Service Center is commis**sioned to assist the service in Taiwan. As for Mainland China, a psychological counseling room is set up, and a national level-two psychologist is hired to conduct face to face and individualized counseling. The consultation covers teenager adaption and development problems, marital problems, personality adjustment, and occupational stress, etc. psychological problems.

It is expected that this can achieve harmonious labor relations through the above-mentioned activity operation and efforts.

### **Employee Benefits**

### 1. Overall Salary

The most important asset of Quanta is our human talents. The goal our company strives for is to allow every employee to work with peace of mind and to put his/her talent to effective use. Therefore, to effectively update the employees of the latest market trends, we provide appropriate salary policies each year in order to attract more outstanding talents through market competition and mechanisms.

Employee salaries are based on education background, experience, performance and market situation, and won't be swayed by reasons such as gender, ethnicity, religion, political inclination or marital status. In addition to complying with all applicable wage regulations, our salary and benefits also include bonuses, allowances, salary adjustment, dividends, rewards etc. in order to motivate the employees and consequently achieve the goal of keeping talents.

### 2. Performance Management and development

Through the e-PMS system, Quanta engages in a performance assessment of all employees regularly in the middle of and at the end of the year each year. It realistically assesses employees'

performance as the basis for promotions, yearend bonuses, training development and wage distribution. The goal of this assessment is to review and improve past performance and to develop future goals. For employees who have performed poorly, they will be given opportunities for improvement so as to enhance their work efficiency.

## 3. Insurance benefits, Vacation system and Retirement pension

Quanta's employees enjoy comprehensive benefit programs in addition to various insurance benefits, a vacation system and retirement pension as specified by laws. Insurance benefits include labor insurance, National Health Insurance, and group insurance. Within the vacation system, employees are covered by comprehensive annual paid leave, sick leave and maternity leave etc. According to Labor Contract Law, Quanta provides a sound welfare security system, such as pension insurance, medical insurance, industrial injury insurance, accidental injury insurance, and unemployment insurance, etc. in Mainland China. Complying with the "Labor Standards Law", Quanta appropriates retirement pension for employees to protect their work and life in Taiwan.

### **Employee Benefits**

3.1 "Labor Standards Law" Retirement Program This measure adopts Defined Benefit Plan of Retirement. The company sets aside a labor retirement fund in installments and deposits them in a special account in the Central Trust of China as the source for pension payments. The pension payment calculation method is enumerated in accordance with regulations of the Labor Standards Law.

### 3.2 "Labor Retirement Pension" Retirement Program

This measure adopts Defined Contribution Plan of Retirement. According to regulations, starting on July 1, 2005, companies have to dispense retirement pensions monthly as specified by laws and deposit them into individual labor retirement pension accounts at the Bureau of Labor Insurance. To ensure that employee rights and interests are met, the monthly payment records will be double-checked by an e-HR information system.

### 4. Welfare System

4.1 Idea of the Chairman/Committee Chairman To take good care of employees, and to further care for society, Quanta will give back to society and the community. Literature and art activities could lift up the spirit and make life cheerful. It can also let Quanta's employees and their families live with the wellness.

4.2 Objective of Employee Welfare Committee To enhance the relationship between the employer and employees, and productivity, Quanta provides welfare through a "Healthy, Happy, and Hopeful" living style.

### 4.3 Employees Welfare in Quanta:

4.3.1 3H Events

4.3.1.1 Sports- Enjoy a healthy and happy life

- Health Event: Prevention plans for potential diseases, promotion of physical fitness, fitness walking and weight control.
- Sports: Contests of ball games, swimming, and promotion of aerobic exercise.
- Club activities: Allow the employees to participate in club activities with their friends according to their interests. The club types include static studio, art, and music, and dynamic dance, yoga, and martial arts.
- Awarded the R.O.C "Health Navigation Award" by the Bureau of Health Promotion, Department of Health.



### **Employee Benefits**

- 4.3.1.2 Happiness: Enjoy happiness and appreciate life
- Culture events: Quanta exclusive dramas, concerts, lectures in literature and art
- Sharing joyful-moments events: Year-end party, Quanta anniversary celebration, Karaoke contest, Memorial photo contest



4.3.1.3 Hope: To dream and to fulfill

- Study clubs
- Summer camps for employees' children
- Blind Dating events for single employees



4.3.2 Welfare Compensation 4.3.2.1 Employee Welfare Cafeteria, occasional reimbursements

4.3.2.2 Travel reimbursements



4.3.3 Life in Quanta

4.3.3.1 Employee canteen: Food courts, convenient stores.

4.3.3.2 Recreation center – Gym, Basketball court, badminton court, table tennis, Karaoke rooms, massage area, employee dormitories.

4.3.3.3 Companies in Mainland China provide dormitories with air-conditioners and hot water, and good food.



### **Concepts and Policy Concerning the Environment**

In order to better protect the Earth, where life survives on, enable contemporary and future human beings to enjoy a healthier and more blessed life and create a society in which all the beautiful dreams of humankind come true, Quanta will, as usual, strive to refine our skills and capabilities and protect our surroundings. In addition, we will keep striving for prolonged prosperity and continued development.

#### 1. Concepts on the Environment

Based on a common belief in living with nature, Quanta and staff are committed to the company's environmental policies. Taking the Earth as the main body, we shall pursue harmony and coexistence with the environment. In doing this, we hope to bring further attention to the long-term issue of the Earth's existence by using our corporate influence.

#### 2. Environmental Policies

Quanta shares environmental protection concepts with all employees:

- We use employee training and implement the ISO 14001 System to let our employees be well informed that environmental protection is the responsibility and obligation of everyone.
- We all work to reduce air and water pollution and waste production, so as to mitigate our environmental impact.
- We strictly abide by relevant statutory regulations and other essential requirements while carrying out product design and production.
- We set forth environmental targets for continued improvement.
- We consider environmental issues while designing products, aiming to implement low energy consumption and low pollution.

#### Occupational Safety and Health Policies:

Compliance with Statutory Regulations, Risk Assessment, Participation of The Entire Staff, Continued Improvements, Hazard Mitigation.

#### **Implementation Guidelines**

- Continued improvement in occupational safety and health
- **■** Implement risk management
- Enhance employee training and contingency response
- Guide the entire staff for total participation
- Abide by occupational safety regulations to protect employees' health



### **Risk Assessment and Crisis Management**

Quanta prioritizes risk assessment and crisis management. The company establishes an Operation Management Procedure with Environmental Considerations to clarify all operational procedures of each department. Assessment and scores are given based on potential environmental impacts, frequency of occurance and scope of influence in operation and production activities of individual departments. This allows the Environment and Management Board to carry out comprehensive assessment in verifying high-, medium- and low-risk sources. Risks of different levels are then controlled accordingly.

The 2009 Environmental Management Committee has determined 15 high-risk environmental considerations, of which Fire Prevention and Contractor's Risk Control are the current focus focused for setting up control solutions.

### 1. Fire prevention

Fire accidents escalate while the economy evolves rapidly, and Quanta has once more emphasized the resolution of Prevention. Fire accidents not only deeply affect the victim, employee and family, but also damage to the company's

development; Quanta is, therefore, always taking fire prevention seriously, ensuring production is perfectly safe.

#### 1.1 Firefighting training:

Every Quanta production base and plant is scheduled to carry out four fire prevention seminars every year, hold at least two fire and escape drills in the plant and dormitory areas that must be participated in by the entire staff. The company has established a voluntary fire squad, equipped with firefighting gear to form a comprehensive fire control and rescue network by coordinating with the firefighting team of every department.



### **Risk Assessment and Crisis Management**

#### 1.2 Fire Prevention Supervision:

Safety inspection of fire prevention is one of major tasks of the EHS Team and includes daily checks and quarterly fire prevention inspections. The daily checks pay attention to thorough compliance with operation procedures that use electrical appliances and chemicals; immediate correction is requested for any violation. The fire prevention inspection mainly deals with correct applications of firefighting equipment and facilities, escape devices and firefighting systems.



#### 1.3 System Maintenance:

The engineering units implement monthly tests and maintenance of firefighting systems in the entire plant, including the water pump system, sprinkler system and smoke detector (temperature sensor) systems.

### 2. Suppliers (Contractors) Management

Contractors play crutial roles in production activities of the company, yet they cannot be treated or contolled as employees. Furthermore, the activities of contractors are full of risk. How to manage contractors is a crutial issue to most company managers. The 2004 version of ISO 14001 Environment Management System includes contractors as associating parties to be controlled.

Contractors' assistance is essential to Quanta's development. In order to maintain a safe environment during development, the company has set forth a series of contractor management regulations. They are updated during the implementation.

#### 2.1 Contractor Information Control:

Contractors are subject to examination and selection and shall submit relevant company information to Quanta.

#### 2.2 Safety Commitments and Agreement:

Contractors will be informed of environment safety regulations of Quanta, and are requested to sign a Commitment Letter on Safety and Health and a Safety Agreement.

### **Risk Assessment and Crisis Management**

#### 2.3 Personnel Trainning:

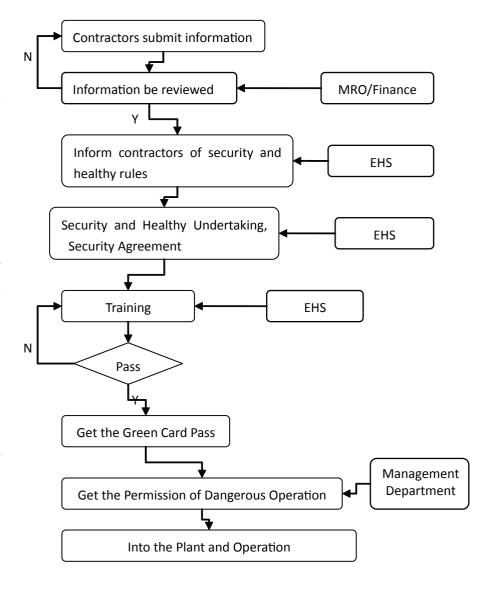
Workers entering the plant for operations shall be trained by the EHS Team with Contractor Safety & Health courses. Trainees are tested and accquire a Green Pass.

#### 2.4 Contractor Identification:

The workforce of the contractor is requested to wear discernible helmets and construction vests.

#### 2.5 Special Work Permit:

For implementing dangerous operations, applications must be filed out in advance for work permits. Such operations can only be performed after attaining the permit and a safety person shall be present at the site for supervision.



## **Green Plant & Environmental Management System**

#### 1. Green Plant

The Copenhagen conference held last December has been perceived as the last opportunity to save the human beings. Regarding issues of global economic development and the survival of human beings, how should we accomplish sustained development? Quanta has, for a long time, sensed the importance of environmental protection and brought up the concept of building green plants. We have realized that as an enterprise, it is necessary to implement energy saving and carbon emission mitigation in production processes and to develop hazard-free processes for green waste recycled products.

Quanta's HQ in Hwa Ya Technology Park are constructed with the concept of a glass building, where in the daytime all the office areas and corridors are illuminated by natural light without the need of additional lighting. This not only saves the cost of lighting fixtures, but also reduces electricity consumption, truly achieving the goal of energy saving and carbon emission reduction.

Environmentally friendly and power-saving lighting fixtures with electronic ballasts are used



in the entire plant to reduce power consumption. Variable-frequency air-conditioning is used, with automatic load adjustment according to the external temperature to save power consumption of the system.

In order to maximize savings of power consumption due to air-con, the company enhanced the insulation of the plant. Other measures include application of heat-insulation films on every external window and door and automatically closing doors in every passage to ensure full separation from the external climate.

In addition, zero discharge of wastewater is achieved in the production process. All the production links are water-free, without any discharged wastewater resulting from the industrial production.

## **Green Plant & Environmental Management System**

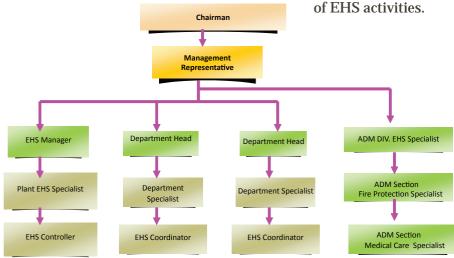
#### 2. Environmental Management System

Due to the escalating consciousness of environmental protection, companies having distinguished performance in protecting the environment have advantageous positions in the international arena. Based on this, Quanta has continued to strive for environmental protection. By introducing the Environmental Management System as a means for the company to manage the environment, Quanta expects to accomplish the goal of improving the environment and mitigating environmental impacts.

### Scheme of Environmental Health and Safety Management

In view of the increasing importance of the Safety and Health and Environmental Protection

issue, Quanta set up an EHS management organization when establishing the plant to increase the effectiveness of EHS operations. Planning guidelines, countermeasures and programs for promoting and executing Risk Management of EHS, establishing an improved focus on safety, health and environmental protection, and carrying out EHS-related projects and tasks were the goals. In order to ensure the participation of the entire staff, the company also set up an EHS Management Committee in addition to the professional EHS units to discuss and determine company-wide EHS strategies and proposals. The EHS Management Committee is comprised of different departments and holds a monthly members meeting to review overall performance of EHS activities.



## **Green Plant & Environmental Management System**

#### **EHS Control System**

Quanta HQ started the Environment Management System at Hwa Ya Science Park in 1999 and attained DNV ISO 14001 certification in 2000. Furthermore, the OHSAS 18001 Occupational Safety and Health certification was licensed in 2004. Regular inspections on internal and external plant systems are implemented for continued identification of operational defects in the company so that immediate improvements may be made. The goal is to achieve system requirements and to comply with environmental policy and guidelines of the company.

Quanta Shanghai Manufacturing City (QSMC) introduced the ISO 14001 Environment Management System in 2001 and attained a supplier certificate in July 2002. After system alteration, the ISO14001:2004 Version was awarded in June 2005.

The following table gives the dates of initial certification of each plant.

Factory name	Location	Process	ISO14001	OHSAS18001
QRDC	Taoyuan, Taiwan	RD, SMT, assembly	2000	2004
F1	Songjiang, Shanghai	SMT, assembly	2002, 10	2002, 10
F2	Songjiang, Shanghai	SMT, assembly	2003, 10	2003, 10
F4	Songjiang, Shanghai	SMT, assembly	2004, 10	2004, 10
F6	Songjiang, Shanghai	SMT, assembly	2005, 10	2005, 10
F7	Songjiang, Shanghai	SMT, assembly	2008, 10	2008, 10
Q-BUS	Songjiang, Shanghai	SMT, assembly	2007, 10	2007, 10
CSMC	Changshu , Jiangsu	SMT, assembly	2007, 07	2007, 07
Dormitory	Songjiang, Shanghai	Living campus	2007, 09	2007, 09

Established in 2006, Quant Changshu Manufacturing City (CSMC) introduced ISO 14001 Environment Management System the same year and attained the supplier certificate in July 2007.

While promoting the Environment Management System, Quanta combines Environment Management solutions with actual plant operations to ensure effectiveness. Based on the PDCA spirit in the management system, systematic methods are employed to manage environmental issues, such as respective EHS risk consideration and assessment including the estimation, substitution and quantity reduction of raw materials; the control and mitigation of pollutants; and the reuse of recyclable products. By substantial implementation of these items, environmental impacts are mitigated and EHS management targets are enhanced, with the expectation of achieving a sustained business.



## **Green Plant & Environmental Management System**

Statistics of Environmental Protection Expenditures

Quanta is dedicated to environmental protection; the annual expenditure on environmental protection is phenomenal. 2009 environment protection expenditure totaled NTD15,219,261. Most of this went to engineering and investment in energy-saving equipment.

Major future environmental protection expenditure of the company will include: upgrade costs for the existing environmental protection and power saving equipment; operating cost of the same; costs of refuse treatment; and environment monitoring costs.

#### 3. Environment Impact

The environment policy of the company says, "to reduce the pollution of air and water and the production of wastes in order to decrease environmental impacts." In order to preserve the Earth, Quanta has fully complied with statutory regulations of the local government. Based on this, Quanta reduces environmental impacts by way of improvement to production processes and legal disposal of hazardous wastes.

Treatment and Control of Three Major Wastes (wastewater, gas, dreg) in QSMC

In the area of waste control, Quanta continuously upgrades technology to cope with new environment protection statutes or standards and limits pollution by incorporating highperformance pollution prevention technologies and facilities. Overall pollution control facilities include preventive measures against pollutants in exhaust gas, wastewater, noise, soil and groundwater; all pollution-preventing facilities are operated and maintained by professional task teams. In addition, annual inspections against major wastes have been performed, the results of which conform to discharge standards specified by the relevant authorities.

- Exhaust gas: No exhaust gas existed in construction projects and production processes except heat discharge from equipment pipelines. Exhaust tanks are provided to process the heat discharge.
- Elevated discharge: Exhaust tanks are 3m higher than the highest building within a 200m range in the vicinity. Regular surveillance is performed by entrusting quality authorities (local environment monitoring stations) every year; all the surveillance results conform to national and local standards.

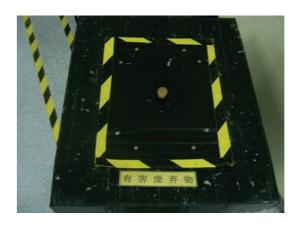
## **Green Plant & Environmental Management System**

- Wastewater: Quanta expels no production wastewater: a small amount of wastewater is produced by the laboratory and through maintenance of equipment; it is treated by trusted quality control companies. Other wastewater is the sewage of daily life, which is incorporated into sewer systems of the local government. A Sewer Pipelining Agreement is signed to ensure it conforms to a consolidated discharge standard before being discharged into the sewer system.
- Noise: The major sources of noises are the cooling towers and compressors, having a noise value of approximately 80dB(A). The company employs low-noise facilities with additional sound and vibration insulation measures to satisfy the requirements of  $\leq 65 dB(A)$  during the daytime and ≤55dB(A) at night at distance of 1m outside the plant boundary.
- Solid wastes: For production site areas, wastes are categorized as harmful and harmless for compilation, collection and treatment. For office areas, classification bins are provided for daily life wastes. Wastes generated by the company from electronic components, ICs and PCBs

are handled by environmentally friendly solid waste treatment companies and everyday wastes are collected by municipal environmental protection authorities.



Classified waste bins in office areas



Harmful waste tank in production areas

## **Green Plant & Environmental Management System**

The following table gives inspection results of three major wastes discharged in QSMC:

#### 3.1 Livelihood wastewater

Place of sampling	Item	Result	Unit
	PH	7.31	/
	Color degree	8	Chroma
	SS	13	mg/L
	$COD_{Cr}$	51.6	mg/L
Wastewater Outfall	BOD <sub>5</sub>	17.2	mg/L
wasiewalei Ouliali	Ammonia	5.39	mg/L
	Vegetable oils and animal fats	0.12	mg/L
	Volatile phenol	2.05*10 <sup>-3</sup>	mg/L
	LAS	0.098	mg/L

#### 3.2 Exhaust Gas

Place of sampling	Item	Consistency mg/m <sup>3</sup>	Speed of emission Kg/h	Height of exhaust port m
ONAT and all an	Tin and its compounds	3*10 <sup>-6</sup> L	/	
SMT workshop FQ00106108	Particles	1.48	6.24*10 <sup>-2</sup>	
exhaust port	Non-methane total hydrocarbon	2.68	1.13*10 <sup>-1</sup>	
CNATadvah a.a	Tin and its compounds	3*10 <sup>-6</sup> L	/	
SMT workshop FQ00106107	Particles	~`	~~	
exhaust port	Non-methane total hydrocarbon	2.66	1.36*10 <sup>-1</sup>	24
CMT workshop	Tin and its compounds	3*10 <sup>-6</sup> L	/	24
SMT workshop FQ00106106	Particles	0.94	6.56*10 <sup>-2</sup>	
exhaust port	Non-methane total hydrocarbon	10.5	1.56*10 <sup>-1</sup>	
CNATadvak a.a	Tin and its compounds	3*10 <sup>-6</sup> L	/	
SMT workshop FQ00106105	Particles	0.92	4.69*10 <sup>-2</sup>	
exhaust port	Non-methane ~total hydrocarbon	3.20	1.59*10 <sup>-1</sup>	



## **Green Plant & Environmental Management System**

#### 3.3 Noise Level at Plant Boundary

			Result	: Leq			
	Main	During the day					
Place of sampling	Source	Date 2009.11.27					
	Source	Time	Measurement	Background Value	Result		
1# 1 meter outside	Noise in		54.6	53.2	54.6		
the east plant	the plant		54.6	55.2	54.6		
2# 1 meter outside	Noise in		60.0	57.9	60.0		
the south plant	the plant	14:00	00.0	57.9	00.0		
3# 1 meter outside	Noise in	—14:15	58.6	58.2	58.6		
the west plant	the plant		36.0	30.2	30.0		
4# 1 meter outside	Noise in		60.1	58.3	60.1		
the north plant	the plant		00.1	30.3	00.1		
		Result Leq					
	Main	During the night					
Place of sampling	Source	Date 2009.11.27					
		Time	Measurement	Background Value	Result		
1# 1 meter outside	Noise in		50.6	50.3	50.6		
the east plant	the plant		00.0	50.5	00.0		
2# 1 meter outside	Noise in		53.9	52.9	53.9		
the south plant	the plant	22:30	33.9	52.5	55.5		
3# 1 meter outside	Noise in	<b>—</b> 22 : 40	50.6	49.2	50.6		
the west plant	the plant		00.0	70.2	50.0		
4# 1 meter outside	Noise in		51.3	50.4	51.3		
the north plant	the plant		01.0	JUT	01.0		

#### Treatment of Harmful Waste in QSMC

Major harmful wastes generated from Quanta's production processes include used light bulbs, organic fluids, non-organic fluids, used machine oils, rags with used machine oils and used air-filters made of paper; they are all entrusted to resource suppliers for harmless disposal. Major treatments in

2009 are as follows:

Hazardous Waste		Weight/Amount	Hazardous Waste	Weight/Amount
Waste Lamp		4000PCS	Waste Oil Rag	4500KG
Organic Waste Liquid		12000KG	Waste Air Filter Paper	12KG
Inorganic	Waste	10000KG	Waste Oil	2500KG

## **Environmental Protection and Energy Saving Campaigns**

We are fully aware that protecting the environment and nurturing the Earth require active responses of every member of society and that consciousness of environmental protection and energy saving in every employee is necessary for the active participation in and implementation of environmental policies. Quanta therefore stresses employee training in order to cultivate environmental protection concepts. This should influence and motivate every member of society to jointly protect the surroundings, take care of the Earth and escalate the environmental protection concept.

### 1. Cultivation of Environmental Protection Consciousness

Combined with ISO 14001/OHSAS 18001 operations, EHS Teams have conducted multiple em-





ployee trainings for EHS Management and operators of EHS tasks. Through on-the-job training of substantial EHS tasks, environment protection concepts are implemented on all levels, cultivating the environmental consciousness of the staff and continued increase of overall performance in protecting the environment.

Annual trainings in 2009 included Environment **Protection Consciousness Training for Baseline** Management, ISO 14001 Internal Auditor Training, Training on relevant knowledge of GHG Emission and Certification Systems (ISO14064) and Training on Reach Statutes and relevant knowledge.

## **Environmental Protection and Energy Saving Campaigns**

#### 2. Promotion of Environmental Protection

EHS teams from the company take advantage of company intranet resources to promote environmental protection projects. The theme presents room for deeper thinking and provides tips to the staff for carrying out environmental protection tasks. Besides organizing EHS trainings and promoting EHS themes, they also make use of bulletin boards in the company by posting EHS information posters, EHS statutes and results of environmental and occupational safety and health to stress and enhance the EHS consciousness of employees.





### 3. Tree Planting Activities

With the theme Take Care of the Environment and Love Home, a series activities and measures concerning environmental protection and energy savings as carried out in 2009, including promotional activities during Environmental Protection Month, Daily Sunlight Illumination for Energy Savings, Inspection of Nitrogen Use, Tree Planting for Carbon Reduction and so on. The hope was that colleagues would take action together to reduce global carbon emissions and fight against global warming.

## **Environmental Protection and Energy Saving Campaigns**

On Arbor Day, during the tree planting activities led by Mr. Hwang, Jian-Tang, Chairman of QSMC and CSMC, high-level management and employee representatives planted 68 trees in Quanta Shanghai Manufacturing City, creating a capacity of holding 51,680kg of CO2 for a period of 100 years. (Note: assuming average lifetime of trees to be 100 years. Each tree absorbs 760kg of CO2 in 100 years, therefore 68\*760 = 51,680kg).







### 4. Ride-Sharing Web Page in QRDC

In response to climate change and global warming, a ride-sharing web page has been established in the intranet to promote ride-sharing among employees, not only to lower the cost and reduce commuting vehicles, but also to reduce CO2 emissions, and so achieve even greater environmental protection.



## **Greenhouse Gas and Climate Change**

Ever since the industrial revolution, human activities, accompanied by growing populations and advancing technologies, have accelerated and expanded pollution. Industrial production uses mineral fuels such as coal and petroleum, which emit large amounts of multiple greenhouse gases including carbon dioxide. Since these GHGs are highly penetrative to short-wave solar radiation and highly absorptive of longwave radiations from the earth - a phenomenon known as the Greenhouse Effect - they have caused global warming, which is a concern all over the world.

Furthermore, extensive emission of GHG into the atmosphere greatly amplifies the greenhouse effect that causes global warming, causing ice layers in polar areas to melt, oceans to rise and thus a reduction in land area. Alterations of ocean currents and precipitation patterns result in increased frequency and intensity of floods, droughts and wind storms. Climate changes caused by global warming have directly or indirectly affected the ecological system and many species are extinct or diminishing quickly, agricultural yields drop, plagues and disasters spread.

To sustain human life, dealing with the humanmade greenhouse effect has become urgent.

Quanta has actively reacted to face relevant impacts upon business operations resulting from calamities caused by climate change, as well as to conform to international agreements or regulations which are expected to be more and more strict. It is also our obligation to tackle the stringent need to respond to global climate changes, so as to further enhance energy savings and reduce carbon emission, providing a better environment for the survival and development of our offspring.

### 1. Challenges and Opportunities

Quanta tackles impact upon business operations coming from climate changes with the Business Continuity Recovery Plan (BCRP), which will incorporate potential risks in the future with corresponding strategies.

Since climate change impacts may cause price rises in energy resources and raw materials, or even the interruption of supplies, Quanta has implemented regular analyses and assessment addressing operational costs and has set forth relevant managerial plans. Quanta's production bases and supply chains are now deployed with globalized arrangements for mitigating risks to individual areas. Financial investments are also considered to expand the scope of business.

## **Greenhouse Gas and Climate Change**

Because the international governments stress GHG control systems, it is expected that more strict regulations will be enforced to limit carbon dioxide emission by international agreement or statutes, which will indirectly form thresholds for enterprises. Only green products and green industries that consume little energy and have lower GHG emissions will be supported by society and general public. Therefore Quanta has actively started implementing voluntary emission reduction plans and respective measures since 2007. Currently, besides continuing investments in facilities for reducing GHG emission and execution of research projects on energy-saving subjects, Quanta further promotes supply chains of green products by cooperating with supporting suppliers for lowering operational costs, and develops green products with lower carbon content.

Quanta faces the risks derived from climate change and senses new opportunities for operating the enterprise. The company not only increases investments for improving power savings and water-saving facilities that brought substantial benefits to the company, but also augments customers' purchasing power with designs and produces green products that are more energy and material efficient. Quanta believes that promoting environmental protection mea-

sures not only positively associates with cost cutting, but also greatly helps to sustain enterprise's competitiveness.

#### 2. Carbon Disclosure Project

To mitigate global warming is one of inevitable responsibilities of enterprises all over the world. Quanta Computer Inc. has actively participated in the Carbon Disclosure Project (CDP), a project jointly initiated by major corporations worldwide. Quanta has also revealed to relevant investors details of potential risks to the company due to climate changes, together with Quanta's corresponding strategies. Quanta has further publicized its GHS emission data and its mitigation performance, to demonstrate that Quanta is striving to tackle the climate change issue and is determined to seek improvement. Furthermore, Quanta has, at the same time, realized that besides mitigating CO2 emission and energy consumption, it is more important to change enterprise operation into a low-carbon-emitting mode. Quoting words of Matthew Kiernan, the founder of the Carbon Disclosure Project, Quanta believes that, "The Carbon Disclosure Project is merely a means, not an end; the final goal is to alter the behavior"; and that focus shall be put on the formation of a Low-Carbon Economy by means of production optimization and reformation.

## **Greenhouse Gas and Climate Change**

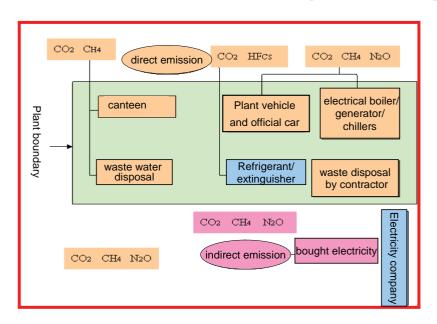
Note: The Carbon Disclosure Project was jointly initiated by 315 international investment corporations including Merrill Lynch, Goldman Sachs, AIG, HSBC, ANB ARMRO, and so on. CDP surveys each of 2,400 international enterprises on its current status and strategies on the disclosure and mitigation of CO2 emission, in order to assess threats and opportunities resulting from climate changes. The CDP index thus established is then used as a key reference by institution investors for verifying whether successive investment shall be injected to the individual enterprise.

#### 3. GHG Inventory

Since 2007, the Quanta Research and Develop-

ment Complex (QRDC) has implemented inventories of Direct GHG Emission, Energy-related Indirect GHG Emission and other Indirect GHG Emission. Up to now, inventories from 2007 to 2009 are complete. According to historical data, main sources of GHG Emission in QRDC came from outsourced electricity required for company operation. The CO2 produced from the power generation process accounts for 99% of the emissions of the company.

Quanta started the GHG inventory and verification project in 2007, with a standard mechanism established for taking GHG inventory and verifying the emission data to fully monitor GHG status and performance in reducing emissions.



Starting in 2010, Quanta will further invite professional consultant companies to assign senior consultants for cultivating ISO 14064 internal inspectors and assisting the company to establish a GHG Inventory System, so as to systemize the system and enhance its reliability.

## **Greenhouse Gas and Climate Change**

#### 4. GHG Reduction Target

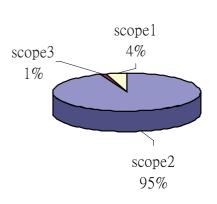
Quanta established the Emission Reduction Team in 2008 and GHG Emission Inventory Workforce in 2009 for implementing inventory programs. Monthly analyses is performed on energy resource control levels and the energy utilization status of the company to verify existing problems and weak links in the energy source utilization, seek for energy-saving direction to reduce power consumption. In doing this, we expect to achieve an emission mitigation target of 0.1% per annum.

Source	Range	Emissions(T/CO2e)	Proportion(%)
Purchased	2	13247.8	94.13 %
Electricity			
Diesel	1	419.47	2.98 %
Incinerator	3	209.17	1.49 %
LPG	1	153.2	1.09 %
Wastewater	1	39.78	0.28 %
Gasoline	1	4.38	0.03 %
TOTAL		14,073.8	100 %

#### 5. Energy Saving Management

When we use energy, we not only deplete resources but also generate CO2 that causes the Greenhouse Gas effect. In Quanta, major energy consumption comes from purchased parts and outsourced electricity and the GHG emissions are mainly concentrated in outsourced electricity. In order to effectively reduce environmental impacts, lowering power consumption of the company is crucial. Quanta has successively introduced energy-saving technologies in the past years and implemented relative improvement projects to reduce power consumption, of which excellent performance has been seen. Furthermore, energy-saving management solutions are promoted for office and public areas, accompanied with related campaigns and training activities to improve colleagues' concepts and habits concerning energy saving and GHG emission reduction.

2009 Inventory of QRDC Carbon Dioxide Emission



- 1. Preserve more energy sources for our offspring.
- 2. Save costs for the company, reduce consumption.

Cost of each computer = Actual Cost + Indirect Cost.

Indirect cost is the resource consumption required to maintain normal operation of the equipment, including electrical power, compressor, nitrogen, water and air-con that ensures the working environment.

3. Reduce waste of energy resources, maintain equipment operation.

## **Greenhouse Gas and Climate Change**

In order to achieve energy savings and emission reduction to mitigate pollution and protect the environment, the Administration Division of QSMC established the Power-saving and **Emission Reduction Team in** April 2008 to carry out monthly analysis of energy source control levels and the power consumption status of the company to verify existing problems and weak links in energy source utilization, seeking for energy-saving directions to reduce power consumption. A total of 14 projects have been implemented so far, of which 10 have been accomplished, 2 are in progress and 2 under review for a total savings of 2083.77 ton-coal-equivalent (Tce).

NO.	ITEM	STATE	annual energy saving amount tce(ton of standard coal equivalent)	Completion Date
1	Water-saving device installation	Done	2.78	Jan. 2006
2	Lighting system optimization	Done	77.2	May. 2007
3	Energy-saving of drinking fountain	Done	35.9	July. 2007
4	Modification of air humidifier	Done		Oct. 2007
5	Nitrogen(in process) improvement	Done	926.3	Feb. 2008
6	Modification of air compressor frequency converter	Done	95.99	Oct. 2008
7	Air-conditioning temperature control	Done		Oct. 2008
8	Start high-power equipment during valley hours in the night	Done	_	Nov. 2008
9	Nitrogen control in the production line	Done		Mar. 2009
10	Level 2 & 3 ammeter installation	Done		Mar. 2009
11	Improvement on lighting (install T5 instead of T8)	Processing	434.5	Dec. 2008- Nov. 2009
12	energy-saving equipment purchase	Processing		Continued
13	Modification of water-loop pump frequency converter	Evaluating	256.6	Nov. 2009
14	Improvement heating by Using cooling tower and heat exchanger in the winter	Evaluating	254.5	Dec. 2010
	TAL ANNUAL SAVING / e(ton of standard coal equivalent)	2083.77		

## **Greenhouse Gas and Climate Change**

In response to the power saving and emission reduction targets set by China in the Eleventh Five Year Plan for reducing 20% of power consumption and 10% of total emissions of pollutant per unit GDP during the 11-5 period, QSMC submitted a 6% power saving target for the 11-5 period. Take the F1 Plant as an example. The present accomplishment status is as follows:

TARGET	UNIT	2006	2007	2008	2009	2010
Energy-consuming Reduction Rate Per 10 thousand output	%		6%	6%	6%	6%
Comprehensive Energy Consumption	tce	18466	22733	28000		
Actual Energy-consuming Reduction Rate Per 10 thousand output	%		11%	7%		

REMARKS: Annual Energy-consuming Reduction Rate Per 10 thousand output

## **Green Policy and Quality Management System**

Accompanying the ever-escalating voices of environmental protection, the EU's RoHS directive, REACH Statute, EuP directive and increasing regulations promulgated by more and more countries are forming a severe environmental protection storm that has swept across every link of the global electronic industry. Taking "Ensure Customer Satisfaction, Fulfill Green Enterprise" as its changeless aim, Quanta has undertaken responsibilities and obligations to protect the environment while realizing the sustained development of the company. For this purpose, Quanta have invested massive amounts of human resources and assets in promoting green products and establishing a Hazardous Substance Free management system. These endeavors began in 2004. The company strictly abides by relevant legal and statutory requirements, such as the EU's RoHS directive. China's Pollution Control regulations over Electronic and Information Products, Japan's J-Moss statutes and so on, as well as customer requirements, throughout the lifecycle of the product. From product design, procurement, material management, production and service to close attention to the latest requirements for green products advocated by international environmental protection organizations, Quanta produces green products that comply with environmental protection statutes

and customer needs. Sustainable improvements are carried out effectively to reduce impact to the environment.

Quanta's entire green products management system is comprised mainly of Green Design, Green Production and Green Supply Chains; the system is subject to continual improvement to meet customer needs.

### 1. Green quality assurance, QC 080000 Hazardous Substance Process Management System

Quanta's Quality System is prepared in accordance with Quality Assessment System and Hazardous Substance Process Management System Requirements of Electronic Components (IECQ QC080000) set forth by ISO and IEC. Quanta have attained both ISO 9001 certification and IECQ 080000 Management System Certificates. Strict environmental protection requirements are realized via the QC 080000 Hazardous Substance Process Management System. All products comply with relevant international environmental protection laws and statutory requirements, such as RoHS of the EU and China, halogen free requirements, REACH regulations, EuP directives, and others as well as green product

## **Green Policy and Quality Management System**

requirements of the customer. In addition, via authentication and repeated inspection by the customer, non-conformities can be further avoided. Quanta's exacting management for environmental protection is highly recognized by customers and contributes to winning customer orders.





The QC 080000 Certificate and the opening meeting of QC 080000 internal audit (Shanghai Plant)

#### 2. Green Product Committee

In order to carry out Corporate Social Responsibilities (CSR), Quanta established a CSR Committee in 2009 led by Chairman Barry Lin, who delegated corresponding responsibilities to four committees including the Green Product Committee that takes care of R&D for green products. Chaired by Vice President Steve Cheng, the Green Product Committee will regularly meet with respective business divisions and relevant units, including Procurement, QA, Production Lines, Product Design Center, and others to discuss trends of and methods for compliance with international statutes. This is to ensure that all the manufactured electronic products comply with requirements of international green statutes.

### 3. Green Product Laboratory (GP Lab)

To ensure the conformity of product quality to legal and statutory regulations and customer requirements, Quanta invested millions Dollars to set up a chemical laboratory in its Shanghai Plant in September 2006. The lab includes a Mechanical Disjoint Room, an Organic Preparation Room, an Inorganic Preparation Room, Sample Rooms, Solvent Rooms and Analytical Instrument Rooms (XRF, ICP, UV, GC-MS and IC test-

## **Green Policy and Quality Management System**

Equipmen	tXRF		ICP	UV	GC/MS	IC
	x-ray fluorescence analyze	er	Inductive	UV-Visible	Gas	lon
			Coupled Plasma	Spectrophotometer	Chromatography-Mass	Chromatograph
	Portable	Desk top	Emission		Spectrophotometer	
			Spectrometer			
Photo	INNEX STYTEMED.  RECORD AT THE MATERIAL					

List of GP Lab Instruments

ing instruments). This Lab passed ISO 17025 laboratory accreditation by the China National Accreditation Service (CNAS) System in Nov. 2008 and is able to carry out tests for hazardous substances such as Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr6+), polybrominated biphenyls (PBBs), polybrominated biphenyls ethers (PBDEs), Chlorine (Cl) and Bromine (Br). The Lab consists of a group of professionals with related background. Besides supporting front-end product design and green packaging requirements of respective business divisions, the group is also responsible for final inspections of production components, semifinished products and finished products of the

Shanghai and Changshu Plants. Once the laboratory finds that the sample exceeds standards, an emergent management mechanism of the supply chain will be activated, demanding suppliers to identify the problem and make improvements to prevent any re-occurrence. With relevant test reports and supporting data re-issued as proofs of corrected parts before products are delivered to customers.

## **Supplier Relationship**

#### 1. Selection of Green Suppliers

Quanta has cooperated with suppliers in producing green products. In order to enhance environmentally friendly design and production by the supplier, in addition to a "Letter of Commitment to Environmental Protection" signed between the supplier and Quanta, the company has requested suppliers to pass tests performed by certified supporting laboratories for the delivered goods and declare the test report. At the same time, Quanta implements random inspections according to categorized Risk Management while accepting materials, with samples sent to Quanta's GP Lab for Hazardous Substance Monitoring. In order to effectively communicate with suppliers and manage the huge database, the company has established web pages at green.quantacn.com and sub.quantatw.com, to control raw materials and auxiliary materials, respectively that are purchased by the company.

Accompanied with further awareness of hazardous substances and updated environmental protection statutes, Quanta has successively refined its selection of materials for new products and successfully prevented six hazardous substances before the promulgation of EU statutes. In recent years, Quanta has been striving to achieve halogen-free requirements.

Since 2006, Quanta hosted a Green Suppliers

Seminar to actively promote effective management of Design Origin and Supply Chain. Quanta carefully screened new candidate suppliers in 12 major aspects (see Table 1), of which the environment, ethics and green product management are indispensable items.

Only a healthy supply chain can provide materials and products that support the sustainable operation of enterprises. Quanta is eager to promote and spread this concept to upstream and downstream businesses to jointly contribute to protecting the Earth's environment.

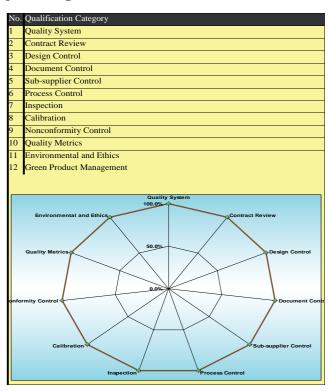


Table-1 Categories of qualifications for ratifying candidate suppliers

## **Supplier Relationship**

#### 2. Green Supply Chain Management

In the Green Supply Chain Management
System, Quanta requests Tier 1 suppliers
to set up relevant management systems,
e.g., ISO9001 and ISO14001 validation, to
ensure products made by Quanta do not
violate any quality specification or
requirement. Quanta also perform on-site
audits for hazardous substance management addressing the ISO Management System to confirm
the supplier conforms to Quanta's green policy
and corresponding solutions, so as to eliminate
risks of non-conformities and achieve effective
and beneficial management.

For effective communication with suppliers on the Quality Policy, Quanta regularly holds annual supplier conventions, inviting all system and vital component suppliers. This is to promote Quanta's Quality Policy and Quality Targets and to ensure that products comply with respective environmental specifications. Fig.1 gives brief descriptions of supplier selection and annual supplier training programs.

## 3. Environmental Requirements over Supply Chain

Quanta sets up environmental specifications for all parts according to requirements of international industrial standard JIG-101. In case the



Fig.1 Quanta Supplier Selection and Summary of Annual Supplier Training

customer requests more strict specifications, the unit for setting up environmental specifications (e.g., Product Design Center) will assist in performing differential analysis and set forth specially customized control requirements. Suppliers are requested to upload necessary information/data to Quanta's environmental website and shall be audited based on requirements of Quanta GP Management. The supplier shall assign a trained QC engineer to visit the plant and review and query, item by item, the content of the control file and the corresponding supporting data (i.e., the supplier is required to set up a management system for complying with GP Management requirements, which includes material/parts acknowledgment, purchase, material acceptance, production processes and delivery/shipping management). In case the supplier fails to pass the audit, a deadline will be set for improvement; those who fail to improve as requested will be eliminated.

## **Supplier Relationship**

For the management of upstream suppliers, caution is taken about whether the supplier abides by hazardous substance restrictions and customer's specific control requirements. Via Process Control Flowcharts, procedures including part acknowledgement, purchasing, material acceptance, production process, delivery, and so on are strictly monitored; after material/part acknowledgement, an acceptance inspection is also performed before the material/part enters the plant for production use. While carrying out manpower allocation for executing tasks, the existing workforce is adequately employed and environmental requirements are incorporated into management of daily-tasks in the existing process for searching environmental statutes, reviewing supplier documents, implementing requirements of green supplier management system, and verifying compliance of delivery goods; by way of information technologies, ruling principles are incorporated into systematic inspection of the Green Product Management, for saving manpower and avoiding any human error.

An example of this is during the acceptance inspection of a supplier material. The Engineer will check if the material has passed GP Acknowledgement via the SAP System; if not, the material will be held by the material acceptance

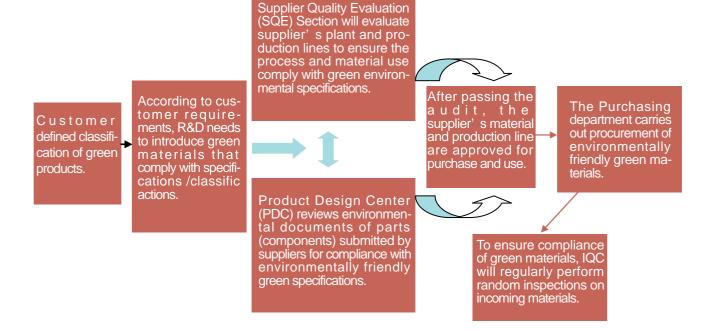
department until it passes GP Acknowledgement. Only after that can the material enter the plant for use. On completion of acceptance inspections, the inspection data will be uploaded to the Quanta Environmental Database to facilitating the queries of internal personnel. During the production process, semi-finished and finished goods are scanned with hand-held XRF equipment for critical-point random inspection. In case of any doubtful piece, the production will be stopped immediately in order to clarify the problem. The production will be resumed only when conformity is confirmed. Environmental management is not only performed on general parts; all the auxiliary materials that are easily omitted (such as soldering pastes, tin filaments, glues, markers that are used in the production process) are subject to risk assessments, with different levels of control measures carried out to secure total prevention. And finally, there is a link with the SAP System for a compliance check before delivery. All products shall be confirmed by the delivery-compliance check for being released for shipment. By way of multi-level control mechanisms of the Information Technology platform, all the incoming material, the production processes and the delivered goods are guaranteed to conform to Green Product requirements.

## **Green Procurement**

Regarding Green Procurement, Quanta Purchasing Department requests that part (component) suppliers comply with to environmental standards for all their materials and production processes. Each of the suppliers of materials or modules, based on a different environmental classification, shall upload the environmental classification of its plant (process) and material via Quanta's parts/materials validation system (Agile, PDM). After this is done, it can obtain acknowledgement of PDC/SQE review and auditing and the Quanta Purchasing Department can place orders accordingly via the electronic purchasing system.

Additionally, even for acknowledged suppliers within the system, Quanta IQC still performs random tests to ensure that products delivered conform to the acknowledged classification. This is to ensure that all the products delivered by Quanta conform to environmental specifications.

From the front-end design to mass production, the purchasing department is responsible for ensuring that suppliers and their supply of materials match the production schedule. In case of any problem in the process of promoting Green Products, the purchasing department will communicate with the supplier immediately for a timely production of the green product. Flowchart of Green Procurement is as follows:



## **Green Production**

Quanta is a major OEM of Notebook computers. When designing the product and selecting qualified green suppliers, considerations are given to relevant statutory regulations of customers, target countries and internal GP Requirements of the company. Relevant random tests are performed when accepting materials and prior to delivering products to the customer. All the equipment, auxiliary materials and supporting tools are verified to be free of hazardous substances and tested for conformity according to risk classifications. In case of any GP nonconformities, identification, control and follow-up will be carried out according to internal ISO Documents to ensure compliance with GP Requirements. Pertaining implementations are as follows:

#### EU RoHS compliance Effective: EF-00038 PDM Version: 9.0 EF-00038 Reversion ECL Meet worldwide regulations - FP - EU \_ PFOS directive EF-00038 Effective Battery directive - FUI PDM upgrade: Ver. 9.2.2.2 POHS LE Modify vendor's Halogen-Free Requirement in PDM Modify Spec. in PDM - PF(V1) Adds 1st wave of SVHC EP (V1) in REACH Declaration - EU(V1) $\rightarrow$ PF0S $\rightarrow$ Br/QPF(V1) - EUL(V1) EP (V1) – NA EU(V1) EUL(V1) 2007.12~2008.02 2009.01 2005.10 2008.06 2008.10

Fig. 1 Timeline of Quanta's Implementation of Restricted Substances

#### 1. Material Control

#### 1.1 Statutes monitoring and adaptation

In order to comply with human health and environmental safety, Quanta carefully set forth a Green Material standard ES-02-001. Suppliers are requested to comply with Quanta Standards while delivering parts and products to Quanta. This Green Material standard covers 28 hazardous items covered in the EU's RoHS (2002/95/EC); packaging materials directive (94/62/EEC); Battery Directive (2006/66/EC); REACH directive of Substances for Very High Concern; and JIG 101. In order to comply with halogen-free (nowadays extensively expressed as BFR/CFR/PVC free) requirements of the industry, these requirements have been incorporated in specifications of restricted substances by Quanta since February 2008. The timeline of Quanta's implementation of restricted substances is as per Fig. 1.

To ensure direct or indirect compliance with environmental protection requirements of different areas in the world, Quanta holds a monthly meeting of the Green Product Committee to grasp the latest trends.

## **Green Production**

green products and to attain effective compliance with the latest environmental statutes in the world. We are closely cooperating with the following organizations:

#### INEMI

#### **HDPUG**

- Joins as a member of INEMI, actively cooperates with relevant electronic/mechanical operators for researching the following:
  - HFR-Free PCB Materials Project
  - PVC Alternative
  - Eco-impact evaluator for ICT equipments

#### GreenPeace

The GreenPeace organization pays regular visits to Quanta every July for discussions on whether the industry complies with environmental requirements set internally by the organization, or any difficulties there may be. This interview facilitates Quanta's understanding of the current trend in the international development and readiness of green technologies.

#### ITRI

Quanta won "EuP Directive Assistance and Promotion Project" awarded by Industrial Development Bureau in Q3 of 2007. By participating in this project, Quanta acquired relevant methods for auditing green products and surveying suppliers. Internalization of these methods (starting 2007/08/28) has enabled Quanta to establish foundations for implementing GHG inventory and Eco-design.

## **Green Production**

## 1.2 Green Components/Restricted Substances Survey Platform

In October 2005, Quanta officially introduced and initiated a material verification system of components (Agile, PDM). Green Suppliers certified by Quanta are allowed to log in the electronic platform Green.quantatw.com (see Fig. 2) to download Quanta's environmental require-



Fig. 2 Login Screen of Green.quantatw.com

ments of part and component suppliers in order to declare green compliance and perform a review of individual components.

#### 1.3 Material Control

#### 1.3.1 Acceptance Inspection

In order to ensure compliance to GP Requirements of materials delivered by suppliers and to reduce and prevent any reverse influence on the company and products, IQC and MIS have jointly developed GP Sampling, an electronic system to assess the collective quality of the material based on the supplier, risk and category. The system generates a sampling plan for auto-

mated random selection of test samples, which are then sent to the GP Lab for testing and inspection.

## 1.3.2 Process Control (Auxiliary Material Control)

In order to ensure compliance with GP Requirements of products delivered to the customer, Quanta carries out full assessments of auxiliary materials used by the production line. High-risk auxiliary materials are controlled. The Shanghai Plant and Changshu Plant have purchased eight hand-held XRF units and given training to over one hundred employees on how to carry out random sampling inspection of consumables/semi-finished goods/finished goods in different production lines of the plants to prevent any contamination. Inspection methods of international environmental audit authorities are simulated in spontaneous tests to prohibit any nonconformities from being delivered. At the same time, on-the-job training is given to the entire staff regarding awareness of RoHS and ensuring implementation of the Green Product policy of the company.

#### 1.3.3 Handling Nonconformities

In order to verify, isolate, mark and dispose nonconforming materials or finished goods and to prevent them from being further processed or

## **Green Production**

used mistakenly, Quanta introduced a Close Loop Corrective Action (CLCA) at the beginning of 2009. This is an electronic system that records all nonconforming products derived from the production processes, the suppliers and the customer ends so that follow-up and control can be enforced accordingly.

#### 1.3.4 Lead-free Process

Quanta started substantial survey and switchover of Pb-free parts in 2004, much earlier than the EU's RoHS Directive stipulated. By 2008, the company cooperated with the Industrial Technology Research Institute (ITRI) to jointly assess the yield ratio escalation in Pb-free soldering processes to ensure a successful introduction of Lead-free Green Products into all of Quanta's respective business units.

#### 1.3.5 Halogen-free Process

In the next wave of the green trend, Halogen-free shall be the issue of focus. More and more customers pay attention to Halogen-free products and start to introduce them. For this reason, Quanta has actively launched joint development with customers at the beginning of 2007 and has met customer requirements in terms of R&D, process and test and inspection capabilities.

Quanta was invited to share its Halogen-free experiences in the Environmental Materials Seminar held by Intel in November 2008. Quanta is ready to produce Halogen-free products and has officially promoted them in mass production models.

#### 2. Green Products

For the purpose of providing safe and worry-free products to our customers, Quanta not only abides by statutory regulations and safety standards of respective countries, but also voluntarily follows strict ecological standards to carry out GP Compliance Assessment at all stages of Product Development. Relevant Green Design and Green Standards are as follows:

#### 2.1 Green Design

Green Design is also known as Eco Design or Design for Environment (DfE). Eco Design is achieved via considering at different stages of the product lifecycle (see Fig. 3), by studying the product's environmental attributes (e.g., easily dismantled, recyclability and reusability) and by using them as design targets. While this sets up green design targets, products also possess necessary functions and meet lifespan and quality requirements.



Fig. 3 The Lifespan Concept

## **Green Production**

Green Products are a modern creation with the strongest international competitiveness. As a main leader in the global Notebook Computer industry, Quanta endeavors for Green Research when developing NB products with Green Benefits to contribute to preserving our earth. Green Design is achieved via four strategies as shown below (see Fig.4), with continuous Green Reforms performed to optimize it. Criteria are internally transformed as Standard Operation Procedures of Quanta's R&D personnel with the ultimate goal of designing Green Products inspired by innovations of the Green Revolution.

Reduce product weight/Volume

Use recyclable materials
(post-consumer recycled plastics)

Use bio-based materials

Marking to plastics & packaging

Reduce number of individual parts
Easily to dismantle by one person

Upgradability/ Exchangeability

Iso 11469 mark for plastics > 25g

Reduce number of individual parts

Easily to dismantle by one person

Upgradability/ Exchangeability

Iso 11469 mark for plastics > 25g

Fig.4 Four Strategic Fundamentals of Green Product Design Promoted by Quanta

2.1.1 Mitigating and Replacing Hazardous Substances

Quanta voluntarily invested in the construction

of an environmental material survey system (called Agile PDM) in 2005 and started operation in October the same year. It cut down and controlled hazardous substances in all components. All suppliers of electronic components and mechanisms are requested to submit Factory Test Reports via this system to disclose their compliance with international environmental statutes, e.g., compliance survey on RoHS (2002/95/Ec), etc. They are also asked to sign a commitment to environmental protection. Only those ratified by the Product Design Center are permitted to be used on final products. Via this

strict Green Quality Control, Quanta products are enabled to comply with:

- RoHS Directive (2002/95/EC)
- Packaging Directive (94/62/EC)
- Battery Directive (2006/66/EC)
- REACH Directive (EC 1907/2006)
- Dangerous Substance Directive (67/548/EC)
- BFR/CFR/PVC free in plastic part & PCB/PCBA\*
- Arsenic free in glasses\*

[Note]: \* Indicates compliance to customer's product specifications.

## **Green Production**

#### 2.1.2 Energy-saving Design

According to results of lifecycle survey and analysis, the highest power consumption of computer products occurs during the operating stage, where significant environmental impacts are seen. In order to effectively reduce energy consumption and environmental impact, the R&D of power supply will consider the following methods for achieving energy savings:

- Adoption of LED to replace CCFL light tubes in LCD monitors
- Production Design that reduces energy consumption, including the compliance to relevant statutes including:
  - Energy Star
  - EuP Lot 6, Lot 7
  - E-standby
  - CECP
- Improvements in packaging/transport design to reduce shipping volume by optimizing package stacks, therefore reducing GHG emission.

#### 2.1.3 Extension of Product Lifespan

Basically, Quanta products comply with specifications of Waste Electric and Electronic Equipment (WEEE). Measures for accomplishing the compliance include the following:

- Use single materials for plastic parts as far as possible
- Easy-to-dismantle Design, such as:
  - Avoid using gluing or welding for joining

incompatible materials.

- Reduce types of screws and use tenons or clips for assembly.
  - Modular design
- Easy to upgrade and replace, e.g., interexchangeability of hard disks, CD drives and memories.
- Reduce scrap and enhance shared use of materials

Starting in 2009 Q1, the Product Design Center (PDC) of Quanta has actively engaged in R&D of Standard Parts at the request of the Vice President, enabling sufficient sharing of standard parts developed by R&D at the initial stages of product design. This not only cuts down costs but also escalates shared use of Standard Parts.

#### 2.1.4 Preservation of Earth Resources

- Plastics > 25g are subject to recycling marking in accordance with ISO 11469.
- Packaging materials shall be marked according to relevant marking regulations of recyclable packaging materials.
- Introduction of use of recycled plastic or packaging materials, either post-consumer recycled or pre-industrial recycled.
- Reduced weight and volume of finished goods
- Surface coating avoided as far as possible for plastic parts

## **Green Production**

Endeavors to promote Green Design helps Quanta reach the following achievements (see Fig. 5):

- Decrease environmental impacts (compliance to worldwide environmental requirements and satisfaction of customers' environmental needs)
- **■** Promote ECO-friendly products
- Improve competitiveness and green opportunities of products and of the enterprise
- Realize the commitment of sustained business/development of the enterprise



Fig. 5 Benefits of Green Products for Quanta

## 2.2 Pre-compliancy of Statutes and Customer Requirements

2.2.1 Pre-assessment of ECO-Design (EuP Precompliancy)

EU promulgated ECO-Friendly Design for energy using products, namely EuP Directive (2005/32/EC), has been altered to the ErP Directive (2009/125/EC), requiring energy products to comply with specific implementation methods before marketing. This includes compli-

ance guidelines for Lot 6 notebook computer standby mode loss and provision of technical files. In order to fulfill the social liabilities of the enterprise and to ensure compliance with statutory regulations and customer requirements, Quanta won the EuP Directive Assistance and Promotion Project, which was awarded by the Industrial Development Bureau in 2008. It implemented compliance assessment programs in advance to understand major environmental impacts resulting from notebook computers and to conduct effective improvements to mitigate subsequent market impacts.

2.2.2 Greenhouse Gas (GHG) Management As a result of customer influences, Quanta participated the Supplier Chain Leadership Collaboration (SCLC) of the Carbon Disclosure Project (CDP) in 2008, which is based on the supply chain. This revealed Quanta's policy for dealing with the Greenhouse Effect and its emissions data.

For an accurate survey of GHG Emissions, Quanta officially launched the GHG Core Team in October 2009. General Affairs conducted overall survey operations, with the Product Design Center planning relevant policies and the allocation of Product Carbon Footprint. Plans have been made to invite suppliers and certifying

## **Green Production**

institutes to go to QSMC to train members of the Production Line. This is to establish the entire GHG emission of QSMC and the R&D Building for continued enhancement of plant management and escalation of energy efficiency. In the end, this will accomplish the goal for mitigating GHG emission. This project is currently in progress; future plans mainly include:

- Carbon Management Information System
- Set up of Carbon Management Information System
- Promotion of emission mitigation solutions and analysis of optimization models
- Product Carbon Footprint Issue
- Continued attention to Carbon Footprint Standards and the development trends of the Carbon Label.
- Extension of Carbon Management into Green Design

Note: On behalf of major international enterprises, SCLC requests upstream and downstream suppliers of the product supplier chain to submit GHG emissions data, emission reduction targets, climate change countermeasures and risk assessment data of the enterprise for integral control and management of the enterprise's GHG emissions.

## 2.3 Green Supplier Chain Management or Convention

In order to implement the Quanta Green Environment Policy, with the commitment not to use hazardous substances that are harmful to the ecological environment and humans and to comply with customer requirements, Quanta has banned the use of 14 substances and limited the use of 21 items (including six RoHS-listed items, three halogen-free items and PFOS) and requested suppliers to disclose the use of 25 substances (including 15 Substances of Very High Concern of REACH). In relation to compliance of substances in use, the company classified products into four Environmental Compliance Levels (ECL) internally, which include PF (V1), EP (V1), EU (V1) and EUL (V1), for control; they are defined as follows:

- PF (V1): Indicates the part/component that complies with high-level environmental specifications including RoHS, PFOS, BFR/PVC free and JIG specifications.
- EP (V1): Indicates the part/component that complies with RoHS, PFOS and BRF/PVC free specifications.
- EU (V1): Indicates the part/component that complies with RoHS and PFOS.
- EUL (V1): Indicates compliance with RoHS 5 of components (except lead in SIL Solder used in Servers)

## **Green Production**

Moreover, in order to let qualified suppliers explicitly and precisely understand Quanta's green requirements, the unit for setting up green specifications holds a suppliers' convention annually. Irregular seminars will be held when specifications are altered significantly. Two sessions of supplier training gatherings took place in March 2008 at Wu-Gu Commercial Exhibition Center in Taiwan and Song-Lin Guesthouse in Shanghai (see Fig.6 for session site). Over 700 people from three plants attended the meeting. To facilitate suppliers prompt understanding of Quanta's green requirements, we provide a specific environmental consultation window in the PDM materials validation system so suppliers can query and consult with the company at any time.



Fig. 6 Suppliers' Convention held at Song-Lin Guesthouse in QSMC

#### 2.4 Green Innovation

2.4.1 Package Volume Optimization: Overall review of product package design for effective improvement in load bearing ratio so as to cut down waste in transport.

2.4.2 Introducing recycled post-consumption plastic and packaging materials: Quanta has used more than 13% recycled materials in the casings of several models.

2.4.3 Introducing aluminum-magnesium alloys in casings: In order to increase the total recyclable ratio of casings, both for environmental protection and economy, Quanta has successively introduced Al-Mg alloys because aluminum is a non-toxic material. Aluminum alloys have a density similar to engineering plastics but their strength is, by far, much higher.

#### 2.5 Green Products Performances

#### 2.5.1 Eco-certifications

Green Product is the prevailing trend in the market. No GP, no market. As a member of the Earth' s residents, Quanta endeavors to take on responsibilities for the sustainability of the Earth by producing products that conform to Eco-Design requirements of the customer. Examples are the Green Mark of Taiwan, Electronic Product Environmental Assessment Tool (EPEAT)

## **Green Production**

and Energy-saving Design (including Energy Star, CECP, E-standby, etc.). Starting Q1 of 2009, all NB products produced by Quanta for brand owners comply with Green Design and Energy-Saving Design requirements. Table 1 shows relevant model numbers. Fig. 7 shows certificate labels.

Table 1 Accomplishments in Eco-Certification Models

Green Certification	Number of Models (Unit)	Brand Owner
EPEAT	21	Dell, Lenovo, Sony,
		HP, Toshiba, BenQ
Energy Star	10	Dell
CECP	31	Dell, Lenovo, Acer,
		Sony, BenQ, HP,
		Toshiba
e-Standby	17	Dell, Lenovo,
		Toshiba

Note: Statistics of Q2-Q4, 2009



Fig. 7 EPEAT, Energy Star, CECP and E-standby

#### 2.5.2 Escalating Energy Efficiency

A pioneer EuP report shows power consumption of electronic products has maximum environmental loading at their operation stage. In order to continuously improve energy efficiency of products, Quanta has endeavored to comply with national statutes (including those of the USA, China, Korea, the EU, New Zealand, Australia, and others) and customer requirements, and has actively joined the voluntary Energy Star project organized by United States Environmental Protection Agency (USEPA), for voluntary development of energy-saving products to reduce power consumption and to indirectly mitigate GHG emission.

## 2.6 Joining with Non-governmental Organizations and Environmental Groups

Environmental statutes are evolving to become more stringent day after day, to ensure that Quanta Green Products are in line with national statutory requirements and at the same time comply with customers' environmental requirements (e.g., BFR/CFR/PVC Free), as well as to update Quanta's Green Image and increase opportunities and competitiveness, Quanta actively intensified cooperation with international nongovernmental organizations, green groups and electronic and mechanical industries, expecting to take the lead in developing technology for

## **Green Prospects**

Continued development of commercial models with green competitiveness, for appraisal and selection by owners of major international brands. Escalate Quanta's green image by promoting green strategies and green opportunities and by marketing Quanta's maximized green advantages into major world-class manufacturers. This also creates green opportunities for owners of green bands.

In order to effectively introduce design concepts of green products, R&D personnel and designers are given training courses to realize the importance of green design, with a Green Design Assessment Form incorporated in the work-load assessment of R&D tasks. This is so that nonconformities to Ecology Design can be corrected or modified before Design Exit.

Implement the project "Minimum Size Package Data Survey Study" and discuss with all package material suppliers to identify optimal methods for stacking packaging materials so as to reduce the use of materials.

Cut down GHG emissions in the production stage. Accomplish and verify the platform for GHG Emission Inventory so as to identify major polluting sources contributing to GHG emissions and to continue improving GHG emissions to mitigate environmental impact.

Establish an environmental database of green materials (e.g., Bio-based materials, post-consumer recycled plastics, recycled packaging, renewable energy accessories etc.) and actively develop Green Products to offer green solutions to customers. This is to increase order quantity and escalate the environmentally friendly image by, for example, introducing recycled plastics into structural mechanisms with a ratio of 5% to 15%.

## **About Quanta Culture & Education Foundation**

## About the foundation --- knowledge sharing • Equal cultural enrichment

With the motto of "what comes from the society goes back to the society," Quanta Group made good on its promise of paying back to the society on behave of its entire employees body and founded "Quanta Computer Education Foundation." We officially changed its name to "Quanta Culture & Education Foundation" in 2005 to jumpstart the education system, engage in school campus aesthetic, and merge the local arts and culture platforms.

"Knowledge sharing, equal cultural enrichment" is the motto of Quanta Culture & Education Foundation. We strive to become the integrating platform for domestic and international arts and culture, education, exhibition and performance. By pulling together creativity and crafts and possessing an E-era pluralistic thinking, we enliven arts educational activities and developed an integrated platform for multidisciplinary program. We provide multi-layered educational content for the campus, the community, cities and villages. We also bring arts and culture to the outpost islands and remote villages. We broaden children's learning experience by allowing them to experience the beautiful people, things and objects in this world and on this land.

## 2. Chairman's insistence --- technology is momentary, but culture is an eternal career

I grew up in Hong Kong and founded Quanta Computer in Taiwan. I'm passionate about exploring new technological trends, and I'm also passionate about arts and cultural activities. Regarding the roles technology and culture, I think "technology" is although an important tool during the transition of cultural growth, but "culture" is the eternal career.



Quanta Foundation upholds "insisting on the "truth of technology, exploring the "beauty" of humanities, and paying back to the "good deeds" in the society. We strive to build an environment of quality arts education. We believe in the ideal of "standing firm in the world, with vision on Taiwan" and develop cultural career with that in mind. We hope to cultivate children's macro perspective in thinking and in mind and to create unique local cultures Taiwan can take pride in.

## 3. Executive-Director's ideal --- Learning how to become moved and to respect from the simple love in life and from the beauty of ordinariness.

During the decade history of the foundation, we felt the pulses of international and Taiwanese trends each day and experienced the changes on the earth and with the environment. As a member working for the promotion of arts and culture education, the foundation is forever adjusting so as to create a proper and balanced learning system. We hope to lead children to discover the simple love and the beauty of ordinariness in life. We hope they can understand the raptures of life and know how to turn this rapture into respect for life. To respect diverse cultures, diverse voices, diverse states of life, and to believe that this world can become more beautiful because of mutual respect.



## Corporate Social Responsibility

### Using the energy of arts education to jumpstart the learning and sharing spirit

### 1. Quanta "Immersed in Art" campus touring exhibition --- using the energy of arts education to jumpstart learning and the sharing spirit

Analects of Confucius. Transmission Chapter Master said: "ideal lies in morality, persistence should base on goods; obedience depends on mercy, leisure lies in arts" Quanta's "Immerse in Art" touring exhibition has been dedicated to the taking root and promotion of arts and humanities. The term "Immersed in Art" comes from the Transmission chapter of the Analects of Confucius. The term "art" herein does not means "art" only but rather an eclectic conglomerate of "etiquette, music, shooting, defense, books, and mathematics." Quanta "Immersed in Art" comes from this context. We have been developing different exhibition themes. We aim to bring the three faceted concepts of "enlightenment of art," "technology inspiration," and "humanity content" into exhibition education for sure. We hope to promote a solid basic education for all the elementary schools around Taiwan so that children's lives can reach balanced development.

### 1.1 Quanta "Immersed in Art" touring exhibition content

Enlightenment of art

An enlightenment of knowledge using art as education basis leads children to appreciate the values of life through the enlightenment of aesthetics and cultures.



#### Technology inspiration

Through the exploration and integration of science and technology explore the truth from different angles and turns the monotonous knowledge into daily life application.

#### Environmental protection of the soul

Reflection and discussion lead one back to one's self value, internalizing the knowledge and resources of different disciplines into the energy in life.

#### 1.2 Quanta "Immersed in Art" touring exhibition administration structure



### Using the energy of arts education to jumpstart the learning and sharing spirit

### 1.3 2009, Quanta "Immersed in Art" exhibition promotional activities snippets

The people who have visited Quanta "Immersed in Art" campus touring exhibition have reached 1,710,314 since 2004. We have organized 15 exhibitions and 522 sessions so far. We visited a school of only 12 people and many big schools with thousands of people. We toured through the cultural centers around Taiwan and Hualien Prison. We made it happen one step at a time!

	Subject \ Year	2004	2005	2006	2007	2008	2009.	Sessions/Participants
							12.31	
1	People of the World	9 sessions with about	5 sessions with about					14 sessions with about
	video exhibition	473,500 people	6500 people					480,000 people
2	Naughty urchin of arts • Exploration of	4 sessions with about	35 sessions with about	9 sessions with about	7 session with about	9 sessions with about	1 sessions with about 800	65 sessions with abou
	the universe • Liu Chi-wei exhibition	23,600 people	76,400 people	100,000 people	21,000 people	17,164 people	people	238,964 people
3	The Disappearing Group Images —	3 sessions with about						3 sessions with about
	Chou Ching-hui photograph exhibition	3,000 people						3,000 people
4	Eye-Opening exhibition	1 sessions with about						1 sessions with about
		7,250 people						7,250 people
5	From the Forgotten Deserts —		15 sessions with about	37 sessions with about	9 sessions with about	2 sessions with about		63 sessions with abou
	Centuries of Dazzling Dunhuang Art		30,000 people	13,0000 people	12,000 people	30,000 people		175,000 people
i	Magic Pencil Drawing a Reading			13 sessions with about	14 sessions with			27 sessions with abou
	Wonderland			40,000 people	about 38,300 people			78,300 people
7	Loving New life Touring Cars — Womb			3 sessions with about				3 sessions with about
	Diary Exhibition			151,000 people				151,000 people
3	Collage Rainbow Nation • Flying			27 sessions with about		22 sessions with about	30 sessions with about	132 sessions with ab
	across Eden — Africa photography			45,000 people	about 63,036 people	24,065 people	62,504 people	194,605 people
	exhibition							
9	A Piece of Cake —contemporary arts			4 sessions with about	9 sessions with about			16 sessions with about
	education exhibition			5,000 people	56,400 people	3,900 people		65,300 people
10	Song Dynasty Cultural Exhibition					46 sessions with about	14 sessions with about	76 sessions with about
						54,403 people	20,946 people	108,549 people
11	Wandering with Lines education					16 sessions with about	10 sessions with about	40 sessions with abou
	exhibition Tour				about 10,000 people		12,300 people	38,830 people
2	NIKI's Spiritual Castle					4 sessions with about	22 sessions with about	26 sessions with abou
•						7,550 people	29,298 people	36,348 people
13	Hunting for Hidden Treasures with the MasterMillett exhibition					17 sessions with about	47 sessions with about	64 sessions with abou
						47,108 people	77,952 people	125,060 people
14	The Secrets of the Sky—A Tour						5 sessions with about	5 sessions with about
	through the Starry Sky with KAGAYA						24,458 people	24,458 people
5	Embrace Van Gogh • Exploring Life's Palette							About to open
	15 exhibitions	17 sessions with	55 sessions with about	93 sessions with about	122 sessions with	119 sessions with about	129 sessions with about	535 sessions with ab
		about 507,350	112,900 people	471,000 people	about 222,936	183,720 people	227,458 people	1,727,164 people
		people			people			

### Using the energy of arts education to jumpstart the learning and sharing spirit

### 2. 2009 Quanta "Immersed in Art" campus touring exhibition

2.1 Our petite vanguard tour guide, learning confidence, humility, knowledge and the sharing spirit through experience

2009.10.07, "The Secrets of the Sky — A Tour through the Starry Sky with KAGAYA," Hsinchu City National Hsinchu University of Education affiliated experimental elementary school

The petite vanguard created paper theatrical boxes of constellation stories and shared the tales of constellation with their junior schoolmates.



2009.09.30, "The Secrets of the Sky-- A Tour through the Starry Sky with KAGAYA," Taipei Fine Arts Museum

We brought children to the museum and allowed them to learn the curriculum of professional exhibition knowledge and bodily expression so that they can build the confidence to proactively share with others.



2009.10.26, "NIKI's Spiritual Castle", Taichung County Chung-Ker Elementary School

Chung-Ker Elementary School is located in a Hakka neighborhood. While explaining the art works for the NIKI exhibition, the petite vanguards used fluent Hakka and Mandarin to conduct bilingual explanation, thus igniting new sparks between Western art and a traditional language.



### Using the energy of arts education to jumpstart the learning and sharing spirit

2.2 Our volunteer teachers, in pursuit of excellence, were tireless and constantly brushing up their knowledge for the children.

2009.03.22, "The Secrets of the Sky— A Tour through the Starry Sky with KAGAYA," Taipei **Astronomical Museum** 

Through fun-filled interactive tools, allowing teachers to understand the importance of creative teaching.



2009.7.22-27, "The Secrets of the Sky— A Tour through the Starry Sky with KAGAYA," Shanghai Science & Technology Museum in China

The foundation and the volunteer teachers went to Shanghai to study general education promotion experience and observed the astronomical wonder of the century --- a total solar eclipse.



2009.12.26, Embrace Van Gogh • Exploring the Life's Palette, Taipei Municipal Jianguo High School

Participants who joint Van Gogh seminar camp reached 300 people. Inviting Taiwan's professional scholars in arts and education to share their knowledge.



### Using the energy of arts education to jumpstart the learning and sharing spirit

2.3 Our interaction with the local community groups ignited sparks between arts and culture and the local culture

2008.11.19, "Hunting for Hidden Treasures with the Master --- Millett Exhibition," National Formosa University

The foundation collaborated with National Formosa University to organize a universitycentered exhibition so that the neighboring schools of all levels could share the solid, diverse educational resources. It not only provided internship opportunities for college students' education program but also incorporated the local cultures into the project, fully demonstrating the show's uniqueness.



2009. March - December, "Hunting for Hidden Treasures with the Master --- Millett Exhibition," Taoyuan County Pu Ding Elementary School A series of field classes to experience rice farming operation, from planting, cultivation, fertilization to harvesting allows children to experience the local cultures centered on agricultural farming.



2009.07.10, "Hunting for Hidden Treasures with the Master --- Millett Exhibition." Hualien Prison

The petite vanguards tour guides from Taipei Tai-Ping Elementary School explained the Miller exhibition for the inmates at Hualien Prison. This may be an unique once-in-a-lifetime experience for the children. We also hope an exhibition of this kind can slowly change and inspire the inmates.



### Using the energy of arts education to jumpstart the learning and sharing spirit

2009.01, "Hunting for Hidden Treasures with the Master --- Millett Exhibition," Lienjiang **County Dong Yin Elementary School** 

The soldiers who were serving their military terms in Dongyin also attended the Miller exhibition at Dong Yin Elementary School.



2009.08.03, "NIKI's Spiritual Castle", Taichung **County Cultural Center** 

Taichung County Magistrate Chang Chuang-hsi (left) and children shared the experience of exploring NIKI's art world through the learning object created by the foundation advisory team --- NIKI three-dimensional jigsaw puzzle.



2009.11.29, "NIKI's Spiritual Castle", Taichung County, Wu Fu Elementary School

On that day, the streets in Wufu Village were shut down because the entire community had mobilized to greet NIKI, resulting in a distinctive kind of temple festival gathering. At the same time, an old man who is 80 plus in age got to know NIKI, the beautiful artist from France.



### Using the energy of arts education to jumpstart the learning and sharing spirit

### 3. The best form of encouragement we give to those proactive and aggressive participants -- Quanta Immersed in Art Award

One sentence Can Illuminate a Painting. The careful preparation and elaborate grooming up are all for going up the stage. The children gave it all. Tour guide wizard, creative teaching, digital teaching, essay competition-- the essence of five years of Quanta's Immersed in Art was all presented here.

Quanta Immersed in Art Award trophy, using the concept of "word" as in the Chinese character dictionary, Shuo Wen Chieh Tzu.

We hope children can "say what they know and deliver it with substance," understanding and practicing the concept of knowledge sharing.



2009.07.04, the first edition of Quanta Immersed in Art Award exhibition guide wizard competition, Taipei City Shuanglien Church Children's elaborately-designed costumes and careful preparation were all for learning knowledge so that they could share with more people!





Using the energy of arts education to jumpstart the learning and sharing spirit

2009.07.04, the first edition of Quanta Immersed in Art Award ceremony, Taipei Taiwan **Cement Building** 

During the ceremony, all the children put their pressure behind them to enjoy the riveting ceremony performances!



2009.07.04, the first edition of Quanta Immersed in Art Award presentation ceremony, Taipei Taiwan Cement Building

Huang Kuang-nan, National Taiwan University of Arts President (left), former chairman of the Council for Cultural Affairs was invited to present awards (right), symbolizing their acknowledgement of Quanta's Art Immersion from both the academia and the cultural circles.



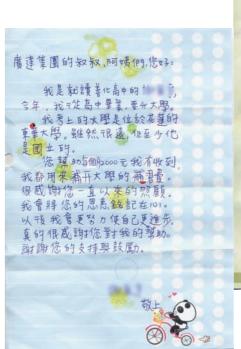
2009.07.04, the first edition of Quanta Immersed in Art Award presentation ceremony, Taipei Taiwan Cement Building

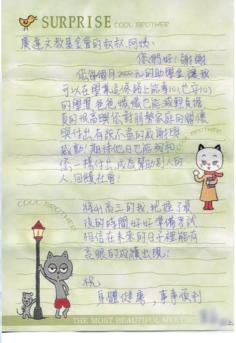
Tsai Sheng-chun couple volunteered to personally delivery every piece of exhibit painting to the remote areas in Taoyuan since their retirement from school. Chairman Lin presented special contribution awards to the volunteers who dedicated themselves whole-heartedly.



#### 1. Sponsoring Family Support Foundation to continue with "Warm Scholarship Train" project

We have brought together the power of the group's employees to help out children from destitute families for the long run since 2004. The children use the money to pay for miscellaneous school fees and books. For the leftover money, they contribute it to support their families. In the hundreds of letters from these children, they tell us in details how they use the subsidies wisely and share their feelings and ideals with us. They look forward to becoming capable persons who can contribute to the society!





#### 2. Morakot Flood "Quanta Rescue the Campus Five-Year Plan"

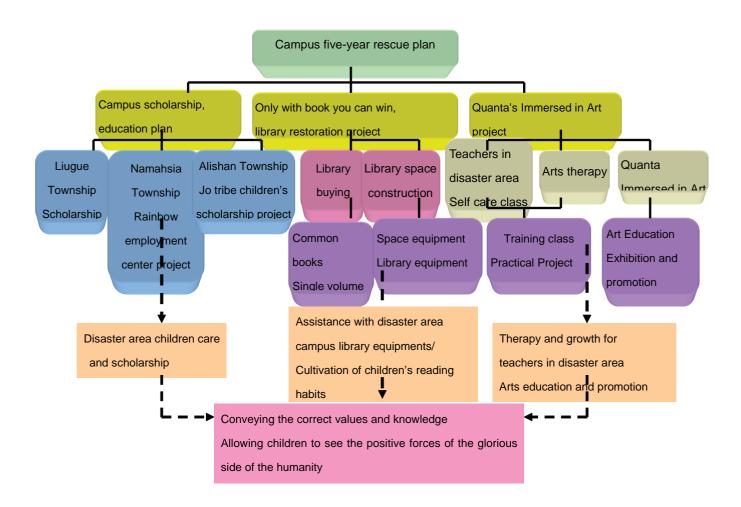
When Morakot Flood seriously battered Taiwan in 2009 and after the front line rescue mission had been completed, the problem we faced was whether the tens of thousands of children could go back to school as normal and the problems related to classes.



2009.08.12 Beginning Chiayi County, Kaohsiung County, Pingtung County

Foundation's Executive-Director Yang personally visited the disaster-hit areas to learn about the latest situations. He convened with the various city and county education departments, school principals and teachers to discuss about the consequent strategies.

After visiting the affected areas, Quanta Culture & Education Foundation targeted four counties, 21 townships and 61 schools. With the principle of "Not lagging behind with emergency aid, resources not used twice," we launched the three projects under "Quanta Rescue the Campus Five-Year Plan" with empathetic attitude and careful but brave actions.



## Social caring

The first project of "Campus Rescue and Scholarship Plan," a five-year scholarship funds and scholarship system helped children go through difficult times.



2009.10.16, Kaohsiung County Liou Guei Junior High School

The second project, "Only with Books You Can Win: School Library Restoration"

Donation of Extracurricular books, and the establishment of children's library space and the upgrade of equipments. Extracurricular books are selected by "Immersed in Art" project's scholars and school principals. The books are divided into four categories including literature,

art, history, natural sciences, and then are classified further according to age groups.



Quanta Group's Vice Chairman Liang Chi-chen led 150 Quanta employees to hand pick the first batch of 10,000 books. The employees wrote their blessing on gift cards for children in the affected areas. By the end of October 2009, Quanta Group donated over 85,000 books to 61 schools!



2009.09.18,QRDC



The children wrote their words of gratitude after receiving the books!

The third project, Quanta's "Immersed in Arts" plan: self-care and arts classes for teachers in the disaster afflicted areas

Introducing the diverse arts and spiritual exhibitions and events to the lives of children in the affected areas. Teaching the front line teachers the counseling methods of arts therapy. Helping the teachers and students to walk out of their nightmares together through the experience of arts and culture.



#### 3. EWC Social care programs

- 3.1. Employee Donation: Donate money and secondhand goods to charities.
- 3.2. Recruit the physical and mental challenge candidates as Quanta's suppliers.
- 3.3. Support domestic agriculture: Purchase crops from the local farmers, and cultivate trees in suburban.

## **Planning and Visions**

With global warming and climate change problems becoming increasingly serious, natural disasters caused by abnormal climate have been happening nonstop. Although the December Copenhagen Climate Change Summit has just come to its conclusion, no unanimous agreement has been reached as an outcome of the meeting. However, the common understanding for the maximum climate temperature raise, the concrete reduction goal for carbon dioxide emission and green climate fund has shed light on renewed consensus in the post Kyoto Agreement era.

"Green climate" has apparently become an important benchmark for management around the globe. As a member in the global financial body, Quanta has consistently paid attention to the climate change issue in addition to dutifully fulfilling its social responsibility. Furthermore, related risk management and opportunity use in response to the climate crisis are the important strategies of Quanta's green technology, including:

- 1. Constantly being updated on the important directions of international agreements and standards that might become new regulations in the future.
- 2. Paying attention closely to the progress of related governmental regulations, including greenhouse gas reduction method, energy recy-

cling development regulations, energy tax, and carbon dioxide emission inspection benchmark etc.

- 3. Developing cloud computing, connectivity and client device; broadening the computer benefit in school campus and corporations; promoting low energy consumption.
- 4. Enhancing product's carbon information divulging or carbon footprint certification. On one hand, assisting clients to meet the international criteria; on the other hand, jointly promoting low carbon plan aimed at the entire supply chain and product manufacturing.
- 5. Consistently developing green technology products, using green recycled energy.
- 6. Enhancing the environmental awareness of all its employees, setting an example by actually practicing energy saving and carbon emission reduction.
- 7. Promoting energy education full throttle. We will continue to build up the internal impetus for Quanta's fulfilling environmental responsibility as a corporation through the operation of various CSR committees. We will promote operation system that satisfies regulations and moral awareness and aggressively achieving the mission of the coexistence of economic development and the global environment.

