

## Appendix Winner list of the 21st Golden Thumb Awards for private participation in infrastructure

### ■ Government agency award

Award category	Project name	Agency (organization)	Reason for award
High distinction	BTO Project of LinHai Sewage Treatment Plant and Reclaimed Water with Private Participation of Kaohsiung City	Water Resources Bureau, Kaohsiung City Government	<ol style="list-style-type: none"> <li>1. It is the first wastewater and reclaimed water treatment plant built simultaneously. In addition, MBR is the main treatment technology of the wastewater treatment plant, which can increase the treated water capacity by 43%.</li> <li>2. The government agency encourages enterprises to adopt innovative thin-film technologies for treatment, assists in the industrialization and value-added application of water-related technologies, and fosters the domestic water treatment technology-related industries.</li> <li>3. The government agency satisfied water demand through reclaimed water production and reduces competition for water between industries and citizens.</li> <li>4. The government agency is moving towards paperless smart management and actively promoting environmental education.</li> </ol>
Excellence award	The Renovation, Operation and Transfer Project of Xindian and Shulin Refuse Incineration Plants in New Taipei City	Environmental Protection Department, New Taipei City Government	<ol style="list-style-type: none"> <li>1. The government agency has referenced how overseas waste incineration plants have been constructed and prolonged their service; also it has formulated the "New Taipei City Large-Scale Waste Incineration Plant Performance Evaluation Criteria" to bring the construction project and technology in line with the international standard.</li> <li>2. In line with the National Development Council's "Taiwan 2050 Net Zero Emission Critical Strategy's" "Waste-to-energy" project, the project is the first domestic waste incineration plant ROT project.</li> <li>3. The Shulin plant also serves as the "Shulin Low Carbon Promotion Center" to promote energy conservation, carbon reduction, and green environmental protection courses. Taking the local area as the starting point, the "Sanying Environmental Education Strategy Alliance" has been established to provide professional and systematized environmental education programs for schools and private organiza-</li> </ol>

			<p>tions.</p> <p>4. Both the Xindian Plant and the Shulin Plant joined the Women's Environment and Development Organization (WEDO) in 2022 in response to the international trend.</p>
Excellence award	2022 Performance-based contract (OT) for road inspection, maintenance and repair in Zhongshan district in Taipei City	New Construction Office, Public Works Department, Taipei City Government	<p>1. For the first time in Taiwan, PBC (performance-based contract) was applied to occasional road repair and maintenance work. The government agency has innovatively introduced performance-based indicators to evaluate the effectiveness of its services, and it uses "results" rather than "process" as the focus of project effectiveness evaluation, and encourages companies to make good use of their professional expertise to introduce innovative techniques, thereby providing a higher quality of road service standards.</p> <p>2. Government organizations' human resources related burden and cumbersome administrative processes are reduced, which brought a new way to carry out occasional road repairs and maintenance work; furthermore, it has achieved good operational results.</p>
Excellence award	Taipei Information Park and Parking Lot BOT Project	Taipei City Government	<p>1. The project solved the parking problem in the surrounding area, revitalized the value of municipal land, and extended the electronic shopping street on Bade Road, thus activating the development in the area.</p> <p>2. Information-related strategic sectors are included as part of the business to facilitate internationalization and promote the development of information-related industries.</p>
Honorable mention award	NTPC Xinzhuang Au MRT Mall & Parking Area BOT Project	Economic Development Department, New Taipei Government	<p>1. The government agency utilizes the advantages of its transportation location, focuses on fashionable entertainment, convenient and comfortable functions, and combines unique commercial items, leisure and urban fashion. Moreover, it has introduced the smart life industry and promoted industrial co-innovation to create an elegant and vibrant metropolitan mall.</p> <p>2. Private participation was introduced to enhance the quality and operational efficiency of public services, which promoted local development and created 2,410 local job opportunities.</p>
Honorable mention award	The Entrusted Operation Management Project of Taichung	Tourism and Travel Bureau, Taichung City Government	<p>1. The organizer assisted private organizations in completing the change of the use license of the visitor center, in-</p>

	Calligraphy Greenway Square with Affiliated Facilities		<p>creasing the space for indoor use to enhance the supply of service facilities at the Calligraphy Greenway, and solving the problems of insufficient leisure space for the citizens, difficulties in the operation of the original brick-and-mortar stores, and the management and maintenance of the public facilities, thereby upgrading the overall quality of leisure.</p> <ol style="list-style-type: none"> <li>2. The spatial planning, featuring both a green landmark and a multi functional park, has won numerous awards at home and abroad.</li> <li>3. In order to provide uninterrupted public services and to attract enterprises to invest in the project, the government agency took into account the operational experience and development potential of the original OT project, and actively revised the investment conditions and restarted the investment promotion. Consequently, it took only 2 months to finalize the bidding, which is very efficient and proactive.</li> </ol>
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## ■ Innovation award

Award category	Project name	Agency (organization)	Reason for award
Innovation award	2022 Performance-based contract (OT) for road inspection, maintenance and repair in Zhongshan district in Taipei City	New Construction Office, Public Works Department, Taipei City Government	<ol style="list-style-type: none"> <li>1. For the first time in Taiwan, PBC ("performance-based contract") is applied to occasional road repair and maintenance work, and 6 categories, 12 items, and 20 performance indicators have been innovatively proposed to evaluate the effectiveness of the service.</li> <li>2. A private organization and the Digital City Laboratory of National Cheng Kung University jointly developed the "Automated Road Defect Detection and Measurement System of 3D panorama pavement inspection vehicle," which can be applied to road inspection and maintenance work.</li> <li>3. The company pioneered the development of an AI smart identification system for sidewalk defects and built a visual road pavement condition indicator management platform.</li> </ol>
Innovation award	The Renovation, Operation and Transfer Project of Xin-	Environmental Protection Department, New Taipei City Government	<ol style="list-style-type: none"> <li>1. This is the first waste incineration plant ROT project in Taiwan that encourages private participation.</li> <li>2. It is the first investment promotion held for two plants, which maximizes public welfare</li> </ol>

	dian and Shulin Refuse Incineration Plants in New Taipei City		and reduces the administrative time of the authorities. 3. The investment promotion strategy is based on a combination of friendly environment and innovative technology.
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## ■ Private Team Award

Award category	Project name	Agency (organization)	Reason for award
Excellence award	BTO Project of LinHai Sewage Treatment Plant and Reclaimed Water with Private Participation of Kaohsiung City	HDEC-CTCI (Linhai) Corporation	<ol style="list-style-type: none"> <li>1. The private organization sets correct, specific, and quantitative operation and maintenance goals, strategies, and related operational standards and procedures to achieve optimal operations that reduce energy consumption, save resources, and increase processing efficiency, and it also set up an emergency response plan process to improve service stability.</li> <li>2. The efficiency of wastewater recycling is improved and the quality of reclaimed water is better than the regulatory standards. The company voluntarily provides reclaimed water for external parties to use for planting, watering, and road washing without charge.</li> </ol>
Excellence award	Outsourcing construction and operation plan of sewage and sewer system engineering in freshwater areas	North Shore Environment Corporation	<ol style="list-style-type: none"> <li>1. The private organization designed an attractive building that complies with the green building regulations and created a pipe park to give back to the surrounding community, which breaks the public's image of wastewater facilities and increases the space for people to rest and play.</li> <li>2. The company completed 52.7 kilometers of sewerage network to connect 56,763 households, which exceeded the original target and accelerated the popularity of sewerage connections in the Danshui area, thereby providing a good living environment for the public.</li> </ol>
Excellence award	2022 Performance-based contract (OT) for road inspection, maintenance and repair in Zhongshan district in Taipei City	Saint Dong Building Product And Service Inc	<ol style="list-style-type: none"> <li>1. The company uses artificial intelligence to perform big data computation for the "automatic road defect recognition system" and develops the "road panorama inspection vehicles" that reconstructs the 3D scene through image matching for inspection and maintenance of roads, thus saving the cost of manpower for road inspection.</li> <li>2. The private organization provided the "bus lane flatness inspection" and the "performance-based contract information service platform" without charge to facilitate the management of government</li> </ol>

			agencies and inspection companies, which realized real-time and paperless random inspections. Moreover, the private organization also maintains the "Taipei City road inspection vehicle real-time reporting system" without charge.
Excellence award	BOT Project of National Taiwan University's Student Dormitory on Changxing Street and Shuiyuan Campus	Prince Housing & Development Corp.	<ol style="list-style-type: none"> <li>1. The company chooses environmentally friendly and energy-saving products, such as using LED lights for emergency lighting in public areas and rooms, replacing air-conditioners with energy-saving ones, planning a rainwater recycling system for gardening and watering, and adjusting the lighting in public areas according to the seasonal sunshine, thus realizing the goals of a circular economy and environmentally sustainable operation.</li> <li>2. The University's dormitories provide 24-hour real-time service and security control to enhance students' convenience and safety.</li> </ol>
Excellence award	Taipei Information Park and Parking Lot BOT Project	Syntrend Creative Park Co., Ltd.	<ol style="list-style-type: none"> <li>1. The company has built an intelligent parking management system, which includes six major functions, namely, automatic gate for exit and entry, parking space guidance system, license plate recognition, automatic payment, face recognition, and vehicle tracking.</li> <li>2. SYNTREND Startup Foundation was founded to create a platform for domestic and international innovation interaction and exchange, to cultivate talents in relevant fields, and to provide space for industries, government, and academia to exchange ideas.</li> <li>3. Breaking the stereotype that the Information Park's main customers are men, the private organization has conducted activities with women as the main theme in order to emphasize the balance between male and female customers.</li> <li>4. The company's employee gender ratio is 51% female and 49% male; from time to time, the company organizes company-wide staff-engaged meetings or activities.</li> </ol>
Honorable mention award	Tingba Parking Lot of Chubei City in Hsinchu County, Entrusted to Private Organization in Constructi	Chubei New Century Shopping Mall Co., Ltd.	<ol style="list-style-type: none"> <li>1. The company created the first landmark building in Hsinchu County that combines modern parking and Hakka-themed shopping malls.</li> <li>2. The main public parking lot meets green building specifications. A complete management plan is in place to provide the most comfortable, high-quality parking environment in the area. In addition, intelligent parking services are introduced to enhance parking convenience by</li> </ol>

			<p>providing license plate recognition and toll machines with car search functions.</p> <ol style="list-style-type: none"> <li>The company has set up family-friendly toilets, barrier-free toilets, breastfeeding rooms and baby-sitting rooms, as well as hot water, diaper changing stations and diaper vending machines; in terms of spatial planning, the company provides an independent, private, quiet and convenient space for infant feeding.</li> <li>The company values gender equality and employs approximately 61% female employees and 44% female managers</li> </ol>
Honorable mention award	The Entrusted Operation Management Project of Taichung Calligraphy Greenway Square with Affiliated Facilities	Calligraphy Greenway Co., Ltd.	<ol style="list-style-type: none"> <li>The creative plan of the company revitalizes the old space. Moreover, the plaza provides a variety of open spaces for the public, new business opportunities for shopkeepers, and increased tax revenues, resulting in Taiwan's first multi-age, multi-gender, mixed-use park plaza.</li> <li>The private organization used creative marketing methods, integrated the resources that the Taichung City Government has invested over the years to maintain the green belt landscape, hold festivals and events, enhance public transportation services, and boost foot traffic; in addition, it cooperated with local stores to introduce local brands and improve the use of leisure facilities, so that this project can develop the young user group through distinctive venues, quality stores, and artistic and cultural activities, thereby opening up venues from daytime to nighttime.</li> </ol>
Honorable mention award	NTPC Xinzhuang Au MRT Mall & Parking Area BOT Project	Hon Hui Xin Bei Co., Ltd.	<ol style="list-style-type: none"> <li>The company integrated the top-notch team at home and abroad to build the elaborate exterior of the whole building using glass curtain wall design, obtained the silver-level intelligent building label to respond to the national energy-saving policy; moreover, it upgraded the green building label of the bidding specification from silver-level to the gold-level voluntarily.</li> <li>Providing 456 public parking spaces to satisfy the parking needs of the surrounding area and introducing more than 300 brands, the mall has become the largest one in New Taipei City, and it offers one of the most important amenities in areas such as Xinzhuang, Sanchong, Luzhou, Wugu, and Taishan.</li> </ol>