The 5 + 2 Industrial Transformation Plan
「五加二」產業創新計畫

INDUSTRY FOCUS
TRANSPORTATION

LIFE IN TAIWAN
2017 UNIVERSIADE

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「五加二」產業創新計劃
The Tsai administration is making a heavy commitment of resources to promoting seven sectors of the economy as the key to transforming Taiwan’s industry. The initial five “pillar industries” were the Internet of Things (also referred to as Asia·Silicon Valley), Biomedical, Green Energy, Smart Machinery, and Defense. Added later were high-value agriculture and the circular economy. The government is counting on the program to spur innovation, create well-paid job opportunities, and bring more balanced regional development to Taiwan.

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Microsoft is the worldwide leader in software, services, devices, and solutions that help people and business enterprises realize their full potential. At our core, Microsoft is the productivity and platform company for the mobile-first and cloud-first world. We reinvent productivity to empower every person and every organization on the planet to achieve more.

Microsoft Taiwan Corporation was established in 1989, and in the more than two decades since then, we have demonstrated our firm commitment to being a responsible local industry partner as well as perform our corporate social responsibility.

As a company, and for our employees as individuals, we value integrity, honesty, openness, personal excellence, constructive self-criticism, continual self-improvement, and mutual respect. We are committed to our customers and partners and have a passion for technology. We take on big challenges, and pride ourselves on seeing them through. We hold ourselves accountable to our customers, shareholders, partners, and employees by honoring our commitments, providing results, and striving for the highest quality.

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mong the flurry of executive orders signed by U.S. President Donald Trump since taking office was one issued March 31 aimed at reducing the American trade deficit with countries with which the United States runs a significant trade imbalance. The order assigns the Secretary of Commerce and Office of the U.S. Trade Representative (USTR) – in consultation with other U.S. government departments including Treasury and Agriculture – to examine, country by country, the degree to which bilateral trade deficits are caused by “tariffs, non-tariff barriers, injurious dumping, injurious government subsidization, intellectual property theft, forced technology transfer, denial of worker rights and labor standards, and any other form of discrimination against the commerce of the United States.”

The Secretary of Commerce and USTR are then instructed to submit a report on their findings before June 29, providing the administration with what Commerce Secretary Wilbur Ross refers to as the “hard facts, not theories” on which to base trade-policy decision-making. Although the appointment of USTR-designate Robert Lighthizer is still awaiting Senate confirmation, Ross is reported to be energetically taking up his assignment under the executive order as a way to improve American trade competitiveness. Ross is also described as showing greater interest in agricultural trade issues than is typical for Secretaries of Commerce.

The five trading partners with the largest surpluses with the United States in trade in goods are certain to get the most attention: China with a 2016 imbalance of US$347 billion, Japan with US$69 billion, Germany with US$65 billion, and Mexico with US$63 billion. South Korea’s imbalance was US$27.7 billion. But others with more than a US$10 billion trade gap with the United States are also expected to be subject to scrutiny, and that includes Taiwan, whose surplus last year as calculated by the U.S. government came to US$13.3 billion.

At first glance, inclusion anywhere on the list might be viewed as a less-than-welcome source of U.S. pressure to make concessions on trade issues. But for Taiwan the spotlight could turn out to be an opportunity. Unlike the other major trading partners, Taiwan lacks formal diplomatic relations with the United States, which keeps Taiwan from receiving as much attention by U.S. officials as it deserves. High-level government-to-government contacts are severely restricted.

At the same time, Taiwan badly needs U.S. support to avoid marginalization in the international economic arena as rival economies enter into more and more bilateral and multilateral trade agreements. The dim outlook for the Trans-Pacific Partnership trade pact following the Trump administration’s withdrawal has dashed Taiwan’s hopes of joining the TPP in a second round, leading Taiwan to turn its attention to the possibility of a bilateral trade or investment agreement with the United States.

The trade imbalance review over the coming months will at least ensure that Taiwan is on U.S. trade officials’ radar, and overall Taiwan should have a positive story to tell about its efforts to protect intellectual property, promote workers’ rights, eliminate technical barriers to trade, increase regulatory transparency, and cooperate with the United States in other areas of potential concern.

President Tsai Ing-wen hinted as much when she spoke in March at AmCham Taipei’s Hsieh Nien Fan banquet. “Faced with the new U.S. administration’s ‘America First’ policy, Taiwan is prepared to make adjustments,” she said, adding that Taiwan supports not only “free trade” but also “fair trade.” That is a message Secretary Ross should be glad to hear.

An Unlikely Opportunity

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意向不到的機會

美

國總統川普上任後接連簽署多項行政命令，包括在3月31日下令要求降低美國對部份國家因貿易嚴重失衡所造成的貿易赤字，責成商務部長和美國貿易代表署同財政部、農業部等其它政府部門，逐國檢查其與美國之間因「開

税、非關稅壁壘、損害性傾銷、損害性政府補貼、侵犯智慧財产、强迫技術轉移、拒絕勞工權利和勞動標準、以及其它對美國商業的任何形式歧視」所造成的雙邊貿易赤字。

隨後美國商務部長和貿易代表署奉命在6月29日前提交調查報告，內容須提交商務部長Wilbur Ross所指稱的「無可動搖事實」，而非理論，美國政府將以此作為貿易決策依據。儘管美國貿易代表署名譽Robert Lighthizer的專人事宜尚未提交議院確認，不過據傳Ross已積極執行此行政命令所交付的任務，藉此改善美國的貿易競爭力，另據傳Ross對農業貿易問題深感興趣，已超過

一般商務部長的水準。

對美國商品貿易盈餘最高的前五大貿易夥伴會受到最多關注：中國在2016年對美貿易順差達3,470億美元，日本為690億美元，韓國650億美元，墨西哥630億美元，越南為277億美元。不過對美貿易順差超過100億美元的其它國家預料也會收到詳細調查，台灣亦在其中。據美國政府統計，去年台灣與大陸貿易達133億美元。
哈雷重機歷史簡介及品牌精神

哈雷是美國百年傳奇經典品牌，自由、奔放、無所畏懼等精神屬性是哈雷重要的元素，更代表了自由不羈的美國文化。哈雷是一種Life style，哈雷愛好者所追求的價值觀，讓哈雷不只是重機，而是種堅定的信仰。

萬眾矚目哈雷頂級三輪車 首度引進台灣

在車迷們千呼萬喚、引頸期盼下，哈雷總代理太古維翰終於首度引進Tri Glide Ultra及Freewheeler兩種頂級三輪車款，搭載了全新Milwaukee-Eight引擎，敏捷的油門反應、全新前避震及可調式油壓後懸吊，源源不絕的動力及充沛扭力，配上陽剛的粗壯外型，以極具侵略性的前衛造型，獲得國內頂級重車玩家的關注。

2017年Street 750 超越性能極限

除了馬力極揚千車的奢華座騎Touring車系大升級，善變多樣的都會座騎Street 750也新增Key Fob防盜器、前後ABS以及新式儀表功能，讓Café Racer在速度與操控的極限再下一城。

「安全至上，專屬樂趣」

台灣哈雷車主俱樂部的核心概念是「安全至上，專屬樂趣」，以示揭開哈雷精神，深入地文化、發掘驚喜體驗。哈雷以「行腳台灣，關懷鄉土」的態度來邀請哈雷車主們，讓車主們深入鄉野，對這塊熟悉的土地，也對自己的人生，展開全新的視野。哈雷車主俱樂部創造了多項不可能的挑戰任務，讓無數車友熱血挑戰自我，創下傳奇紀錄與卓越里程碑。哈雷更帶著這群車友們，為善不落人後、獻愛公益，為台灣社會帶來無比正面的影響力，也將溫暖帶給遙遙遠方的親朋好友們。
MACROECONOMICS

IMPROVEMENT SEEN IN 2017 OUTLOOK

Economists are increasingly bullish on Taiwan’s growth prospects through 2017, with three local forecasting organizations raising GDP growth projections to over 2% for the year. The Chung-Hua Institution for Economic Research (CIER) announced on April 19 that it had raised its forecast from 1.73% to 2.11%. “The stronger-than-expected momentum of the global economic recovery was the main reason CIER increased the forecast,” the institution’s president, Wu Chung-shu, said at a press conference in Taipei. He added that first quarter growth is estimated at 2.76%. Earlier the Yuanta-Polaris Research Institute raised its 2017 growth forecast from 1.8% to 2.1%, and the Taiwan Institute of Economic Research (TIER) similarly raised its forecast from 1.78% to 2.04%. All three organizations cited a rebounding global economy as benefitting Taiwan’s export-oriented economy. The International Monetary Fund and Taiwan’s Director General of Accounting, Budget and Statistics (DGBAS), however, both maintain their growth forecasts for Taiwan below 2%. Economists across the board note remaining risks that might dampen growth, including possible U.S. rate hikes, an economic slowdown in China, and volatile political developments in the Asia-Pacific. A spike in oil prices could also have an impact, with U.S. shale oil contributing to global stocks, that looks unlikely, according to CIER.

Taiwan’s exports continued their bull run, reach US$72.11 billion, a gain of 15% for the year up to March in annual comparisons. Imports, 69.5% of which consist of raw materials that are mostly manufactured into export goods, rose even faster, rising 21.6% through March to reach US$61.32 billion for a US$10.79 billion favorable balance of trade, according the Bureau of Foreign Trade. Exports to Taiwan’s largest trading partners, China and Hong Kong, which together take 40% of Taiwan’s exports, surged in Q1 by 22% to reach US$28.81 billion, while Taiwan’s second largest export destination, ASEAN, likewise saw double-digit expansion of 18% year-to-date to reach US$13.83 billion. Gains in exports to other major trade partners were more muted but still positive. Exports to the United States, which took 11.3% of Taiwan’s trade goods, saw strong gains of 7.6% to reach US$4.81 billion, while exports to the EU, which account for 8.7% of the total, rose by 5.8% to come to US$6.26 billion. Even exports to Japan gained an additional 11.2% in Q1.

ECONOMIC INDICATORS

<table>
<thead>
<tr>
<th>Unit: US$ billion</th>
<th>Year Earlier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Account Balance (Q4 2016)p</td>
<td>18.3</td>
</tr>
<tr>
<td>Foreign Trade Balance (Jan.-Mar.)</td>
<td>10.79</td>
</tr>
<tr>
<td>New Export Orders (Mar.)</td>
<td>41.12</td>
</tr>
<tr>
<td>Foreign Exchange Reserves (end Mar.)</td>
<td>437.5</td>
</tr>
<tr>
<td>Unemployment (Feb.)</td>
<td>3.85%</td>
</tr>
<tr>
<td>Discount Rate (Apr.)</td>
<td>1.375%</td>
</tr>
<tr>
<td>Economic Growth Rate Q4 2016p</td>
<td>2.88%</td>
</tr>
<tr>
<td>Annual Change in Industrial Output (Feb.)p</td>
<td>2.46%</td>
</tr>
<tr>
<td>Annual Change in Industrial Output (Jan.-Feb.)</td>
<td>10.64%</td>
</tr>
<tr>
<td>Annual Change in Consumer Price Index (Feb.)</td>
<td>-0.04%</td>
</tr>
</tbody>
</table>

*— PRELIMINARY SOURCES: MOEA, DGBAS, CBC, BOFT

higher oil prices. Oil is currently averaging some US$50/barrel compared to last year’s US$37/barrel, which had a strong impact on revenues from related sectors. The export value of one of those sectors, plastics, increased by 16% to US$5.1 billion in Q1, but textiles actually fell in annual comparisons by 0.5% to US$2.37 billion, perhaps reflecting shifts in the U.S. retail sector toward cheaper “fast fashion” products, according to industry insiders.

Taiwan’s vital electronics and machinery sectors also saw double-digit gains of 16.6% in Q1. At US$39.46 billion, the sector accounts for 54.7% of Taiwan’s total export value. The machinery subcategory, which has been selected for special support by the government, makes up 7.5% of total exports and gained an additional 11.2% in Q1.

Taiwan’s Purchasing Managers Index (PMI), a leading indicator, reached a record high of 65.2 in March, up from 55.8 in February. It was the 13th consecutive monthly gain. Export orders, also a leading indicator of future economic activity, rose 12.3% year-on-year in March to reach US$41.12 billion.

In response to the strengthening economy, consumer confidence in Taiwan rose from 78.12 in March to 78.2 in
April, the highest measure since October 2016, as reported by National Central University. Unemployment declined slightly, from February’s 3.83% to 3.78% in March, while the Consumer Price Index remained steady at 0.18%.

DOMESTIC

TAIWANESE TREKKER FOUND ALIVE IN NEPAL

A Taiwanese trekker who disappeared in the mountains of Nepal with his girlfriend has been rescued after 47 days in the wilderness, just three days after his girlfriend died. Liang Sheng-yueh, who turned 21 on Friday, and Liu Chen-chun, 19, went missing in early March while trekking in northwestern Nepal during a snowstorm and without a local guide. The pair had little food and survived for weeks on water and salt.

Liang’s family formally requested help in late March after losing contact with the two adventurers, and a search was mounted by the Nepalese government that continued until being suspended in late April due to inclement weather. The search had only recently been resumed when Madhav Basnet, an official at the Kathmandu-based Asian Trekking Agency, and three others found the pair. Liang was much weakened by the ordeal, having lost 30 kilograms and with his toes infected with maggots and his hair with lice. Liang was airlifted to Kathmandu for hospital treatment and Liu’s body for a post-mortem.

MOST SUNFLOWER ACTIVISTS ACQUITTED

On March 31, the Taipei District Court acquitted 22 defendants on the basis of “civil disobedience” for the March 18, 2014 break-in and occupation of the Legislative Yuan in what came to be called the Sunflower movement. The student-led movement occupied the legislature’s main chamber for over a month to protest the Cross-Strait Service Trade Agreement, a trade in services pact between China and Taiwan that the student protestors contended was being rushed through after having been negotiated without enough public communication.

The 22, who included protest leaders Lin Fei-fan, Chen Wei-ting, Huang Kuo-chang, and Wei Yang, were charged with inciting others to commit a crime, obstruction of police officers in the discharge of their duties, and other crimes committed during the break-in at the Legislative Yuan. Taipei District Court Chief Judge Liao Chien-yu said that three-judge panel reviewed theories and practice surrounding the concept of civil disobedience, and concluded that “the defendants’ occupation of the legislature on March 18 was in accordance with the seven major requirements for civil disobedience,” including concern for the public good and non-violence.

In a separate trial on April 10 involving the March 23, 2014 attempted break-in at the Executive Yuan, the Taipei District Court acquitted student protest leader Wei Yang along with 10 others, but another 11 defendants were convicted of damaging public property and disrupting public services, and were sentenced to three-to-five month prison terms. The April ruling did not cite the principles of civil disobedience.

The current government has sought to drop all charges levied against the Sunflower protestors, but some of the charges are automatically indictable even without a complaint.

PENSION REFORM PROTESTS CONTINUE

President Tsai Ing-wen’s goals of comprehensive pension reform are being met with passionate and sometime
violent protests by civil servants, military officers, and others who will likely be impacted. On April 17, the Pension Reform Oversight Alliance (PROA) organized a protest outside of the Legislative Yuan aimed at blocking a review of pension reform bills. The protests continued throughout the week and turned violent, with several members of the Democratic Progressive Party (DPP) and its allied New Power Party being assaulted by protestors as they tried to enter the legislature on April 19. Premier Lin Chuan criticized the protestors for violence and the National Police Agency for its insufficient protection of lawmakers. Police are questioning a number of protestors about alleged violent acts.

The pension reforms are aimed at reducing interest paid out on civil servants’ retirement packages that are seen as being overly generous and endangering the entire pension system in Taiwan.

FOREIGN SKILLED WORKERS WOOED

The Executive Yuan revealed a draft law on April 20 aimed at attracting foreign skilled workers through significant changes to existing immigration laws. The draft amendments, called the “Act for Recruitment and Employment of Foreign Professional Talent,” would apply to personnel from all over the world (including Hong Kong and Macau) except for mainland China. The draft, which would be restricted to workers in designated industries, provides for lower tax rates, more lenient visa requirements, and inclusion in national pension schemes. The bill now goes to the Legislative Yuan for approval.

CROSS-STRAIT

TAIWAN HUMAN RIGHTS ADVOCATE HELD IN CHINA

While on a trip to China, Taiwanese human rights advocate Lee Ming-che was seized by the authorities on March 19 and held incommunicado before China finally announced that he had been arrested for “activities endangering national security,” according to media reports. As of press time, Lee, an instructor at Wenshan Community College and a former DPP worker, remains in custody in an undisclosed location in China. Lee’s wife, Lee Ching-yu, was blocked from entering China after her “Taiwan Compatriot” travel document was abruptly canceled as she was about to board a flight from Taipei to Beijing on April 10. Lee Ching-yu was provided with a photocopy of a letter purportedly written by her husband stating that he was healthy, but with few details. She was also warned by a go-between that if she insisted on taking the case public, her husband’s videotaped confession would be broadcast on Chinese TV. Lee Ching-yu and supporters remain unclear as to why her husband was targeted at all, as he reportedly kept his views on China’s human rights violations low-key.

TRUMP-XI TALKS TOUCHED ON TAIWAN

At an April 7-9 summit between U.S. President Donald Trump and Chinese President Xi Jinping at Trump’s Mar-
a-Lago resort in Florida, Taiwan was mentioned but was not used as a bargaining chip between the two powers, the Ministry of Foreign Affairs said April 12. Vice Minister of Foreign Affairs Leo Lee told the Taiwan legislature’s Foreign Affairs and National Defense Committee that U.S. senior officials had briefed Taipei regarding the summit. According to the U.S. officials, Chinese Minister of Foreign Affairs Wang Yi raised the issue of Taiwan with U.S. counterparts, but reportedly were given a reply that expressed the standard U.S. position on China-Taiwan relations and invoked the United States’ Taiwan Relations Act.

BUSINESS

TSMC MISSES REVENUE GOALS

Taiwan Semiconductor Manufacturing Co. (TSMC), the world’s largest foundry chipmaker, missed its first quarter guidance by NT$6 billion (US$196.7 million) on a stronger than expected NT dollar, according to media reports on April 11. TSMC’s posted Q1 consolidated revenue came to NT$233.91 billion, lower than the projected range of NT$236 billion to NT$239 billion. Q1 revenue was up 14% in annual comparisons, though it saw a quarterly decline of 10.79%. TSMC blamed the strength of the NT dollar for the miss, saying that the 2% rise in value, from NT$32/US$1 to NT$31.16/US$1 caught the firm by surprise. This was the biggest shortfall in sales against analysts’ forecasts since the financial crisis of 2008-2009. TSMC is one of Taiwan’s largest companies and is considered vital to the health of the overall economy. Despite the missed guidance, analysts remain bullish on TSMC.

HON HAI ENDS 2016 ON A HIGH

Hon Hai Precision Industry Co. (also known as Foxconn) reported its full-year results on April 1, disclosing that the world’s largest contract manufacturer of electronics saw record high earnings in 2016 of NT$148.66 billion (US$4.9 billion), up 1.22% from last year. Mirroring Taiwan’s overall exports, Hon Hai had been slumping for the first three quarters of 2016 before a surging Q4 made up for the previous disappointing results and propelled Hon Hai to its new high.

BIOTECH STRUGGLES FOR PROFITABILITY

The struggles of two of Taiwan’s most renowned pharmaceuticals firms points to the risks involved in biomedical research. TaiGen Biopharmaceuticals Holding Ltd., founded in 2001 with the help of the National Development Fund (NDF), announced on April 18 that it had received 137 million RMB (US$19.9 million) from China’s YiChang HEC ChangJiang Pharmaceutical Ltd. to jointly develop a new treatment for chronic hepatitis C. The announcement was reportedly to allay investor concerns that the firm would soon lose funding from the NDF, which is reportedly seeking to exit its earlier investments in order to free up funds for investments in new firms and technologies.

Another firm that likewise was fostered by the NDF, TaiMed Biologics Inc., has recently begun to book sales of its breakthrough HIV medication, Ibalizumab, but nevertheless analysts remain skeptical that the firm can deliver a profit in the near future. Ibalizumab has recently been approved under the U.S. “fast track” process, yet analysts express concern that its high price – US$60,000 per patient per year – will greatly limit its market. Further, the launch of the drug will likely be delayed in Europe due to the lack of fast track approval.
Nuclear Freeze vs. Carbon Abatement

Simultaneously achieving the two goals will be a big challenge.

Nuclear power, which by law is due to be phased out entirely by 2025, has dropped to less than 6% of total power generation in Taipower’s grid. With four out of six reactors offline – two because of Legislative Yuan reluctance to approve the resumption of operations after incidents, one due to lack of spent-fuel storage, and the fourth temporarily for refueling – Taiwan is at its lowest use of nuclear power in decades.

That may be good news for Taiwan’s adamant no-nukes crowd, but it’s not so good for carbon emissions reductions. To replace the lost nuclear power, Taiwan has had to turn to fossil fuels, whose share of power generation has risen to 90%.

On April 10, when Taiwan saw the temperature climb to 35°C, coal generated 40.5% of total power, LNG 39%, fuel oil and diesel 8.2%, with another 2% from private co-generation sources (mostly coal), according to the Taipower website. Renewables generated some 4.6%, and nuclear 5.4%. That same day, power demand rose to record highs and reserve power capacity dropped below 6%, prompting Taipower to issue an orange alert indicating tight supply margins, only the second time such an alert has been issued in the month of April (the first time was in 2016).

By comparison, in 2014 nuclear accounted for 19% of power generation and fossil fuels for 78%, with reserve margins at around 15%.

On April 13, the government announced an ambitious NT$36.5 billion effort to clean up Taiwan’s air, which has noticeably deteriorated. At a press conference, Premier Lin Chuan noted that it is difficult to pinpoint the exact sources of air pollution. However, the Environmental Protection Administration has estimated that the energy sector is responsible for some 89% of emissions.

The government touts the introduction of more-efficient ultra-supercritical units in several power plants and increased reliance on plants burning natural gas, but while such units are less polluting, they nevertheless emit tons of CO₂.

The obvious solution is renewable energy. So far, wind and solar comprise negligible amounts of Taiwan’s power generation, less than 1% each, but the administration has ambitious goals to change that. It aims to have 20GW of solar installed capacity by 2025. Of the initial 1.4GW of installed capacity planned for mid-2018, not a single such project is under construction or has even been approved. The reason? Many of the potential sites are salt marshes that provide crucial habitats for rare migratory birds, particularly the black-faced spoonbill.

It’s a painful contradiction with no ready solution. Should landscapes that support endangered species be sacrificed for renewable energy, which is being deployed primarily for climate change mitigation – the purpose of which, in part, is to reduce biodiversity loss?

Compromises can surely be hammered out, but in the meantime emissions continue to rise, and CO₂ emissions remain in the atmosphere.
anywhere from 20 to 200 years. The short-term remedy would of
course be to restart nuclear reactors that have been idled due to political
opposition. Jinshin (NPP1) reactor 1 and Kuosheng (NPP2) reactor 2
both experienced incidents – in December 2014 and May 2016 respec-
tively – that forced them to shut down for repairs. Both reactors have
been repaired to the satisfaction of the Atomic Energy Council (AEC),
but the legislature has blocked their restart.

Reactor-1 at Kuosheng has also been shut down since November
last year when it maxed out its spent fuel storage pools. Taipower
has a plan to get around the problem by converting a loading pool
to a spent fuel storage facility. The conversion plan, which has been
approved by the AEC after an 11-month review, would create enough
spent fuel storage capacity for the reactor to be refueled and restarted
by July, which would help with the summer peak demand.

But legislators from the New Power Party have objected that the
project was done in an opaque manner and ignores the will of the
public. Taipower responded that it held several town halls about the
project and that even some environmental NGOs have recognized the
need for the construction and eventual restart of Kuosheng-1.

Yet even this construction would only enable the Kuosheng-1 unit
to run for two more fuel cycles, not enough to carry it to the end of
its licensed lifecycle in 2021. Meanwhile, Jinshin’s single operating
reactor will shut down next month as its spent fuel pools likewise will
be filled to capacity. The Jinshan facility is scheduled for retirement in
December 2018.

Assuming that New Taipei City doesn’t rescind its ban on dry
cask storage, which would enable enough space to be cleared in the
cooling pools to allow the reactors at Jinshang and Kuosheng to be
refueled, Taiwan’s options are scant. One possibility is for construc-
tion of Kuosheng’s loading pools to allow this reactor to restart,
while also restarting the reactors that remain offline due to polit-
cal interference. Due to the lack of spent-fuel storage capacity, all
of these reactors would still be unable to operate until their original
decommissioning dates, but they would at least provide some relief
from spiraling emissions.

Beyond that – until renewables can take up a major portion of
Taiwan’s energy mix – the Taiwan public may have to decide between
discontinuing nuclear power on schedule and the prospect of wors-
ening air quality.

— By Timothy Ferry

Regulating the Workplace

Company HR representatives cite an urgent
need for greater flexibility.

When Deputy Labor Minister Liau Huei-fang accepted an
invitation from AmCham Taipei’s Human Resources
Committee to exchange views with Committee members
about recently implemented amendments to the Labor Standards Law
(LSL), more than 100 HR specialists showed up for the meeting on
April 19. The record attendance for an HR Committee event reflected the broad concern across foreign-invested and domestic industry in Taiwan about the ramifications of the new amendments, which include provisions covering working time, rest days, public holidays, annual leave, and overtime compensation.

The bill was passed by the Legislative Yuan on December 6 last year and promulgated by the President on December 23, with some articles going into effect on that date and some on January 1, 2017 – in either case providing employers with barely any time to adjust their personnel policies and systems. The key feature of the revisions was to establish a five-day workweek, with one mandatory rest day per week and one flexible day-off on which employees may agree to work overtime – with increased rates in effect when workers put in four hours or more of overtime.

While stressing their commitment to a proper work-life balance for employees, attendees at the meeting stressed to the Deputy Minister that the rigid personnel practices mandated by the law may be appropriate for traditional manufacturing operations, but are detrimental in the modern performance-based workplace – especially when Taiwan is seeking to promote an innovative, knowledge-based economy. Professional and technical personnel tend to resist the paternalistic constraints imposed on their working time, such as the need to keep and file attendance records.

Among the suggestions raised at the meeting by HR representatives were:

- Exempting high-level personnel whose salaries are above a stipulated amount (for example, more than three times the industry average) from the relevant provisions of the LSL amendments.
- Giving employers more staffing flexibility by allowing the option of a four-week period (instead of a single week) for calculating work and rest days.
- So as to avoid undeserved reputational damage, publishing the names of companies – and the chief executives of those companies – found to be in violation of the LSL only after violations have been confirmed, not when the inspectors first file their reports. It was also suggested that the names of first-time offenders not be made public unless they fail to correct their deficiencies in a reasonable amount of time.
- Specifying in the later enforcement rules that the burden of proof that authorized overtime work has in fact been carried out should rest with the employee.
- Providing a 30-day buffer at the end of the one-year period for employees to utilize any unused leave time, whether by opting for cash or days off.
- Ensuring that labor inspectors, many of whom are newly hired, are properly trained so as to minimize inconsistent interpretations of the rules from one inspector to another.

Deputy Minister Liau gave assurances that the inspectors are receiving rigorous training before enforcement of the new rules begins. She thanked the attendees for their comments, some of which she said the Ministry would consider, but noted that there is no current plan to further amend the law to relax any of its provisions.

— By Don Shapiro
The 5+2 Industrial Transformation Plan

BY TIMOTHY FERRY

五加二」產業創新計畫

撰文／法提姆
The Tsai administration is making a heavy commitment of resources to promoting seven sectors of the economy as the key to transforming Taiwan’s industry. The initial five “pillar industries” were the Internet of Things (also referred to as Asia·Silicon Valley), Biomedical, Green Energy, Smart Machinery, and Defense. Added later were high-value agriculture and the circular economy. The government is counting on the program to spur innovation, create well-paid job opportunities, and bring more balanced regional development to Taiwan.

The Tsai Ing-wen administration is hoping that five plus two equals industrial transformation. In what it is calling the 5+2 Major Innovative Industries policy, the administration aims to shift Taiwan’s industrial base away from its traditional concentration on contract manufacturing and gear it towards high-value-added, service- and solutions-oriented business models. It envisions the result as spurring innovation, job creation, and more equitable wealth distribution by region.

What started out as the “5 Pillar Industries” during Tsai’s presidential campaign – focusing on the industrial sectors of the Internet of Things (also referred to as “Asia·Silicon Valley”), Biomedical, Green Energy, Smart Machinery, and Defense – subsequently was expanded to include “new agriculture” and the “circular economy” as the “+2.” The program was then broadened even further to include the Digital Economy and Cultural Innovation, with even Semiconductors and IC Design included, although the name of the policy remains 5+2.

“Before the election you talk about what will be the focus, and there are ideas for what should be added, but...
5+2 INNOVATIVE INDUSTRIES

after the election it’s very hard to talk about what to subtract,” says Stephen Su, head of the Industrial Economics Knowledge Center (IEK) at public/private Industrial Technology Research Institute (ITRI).

With budgets in the tens of billions of NT dollars and grand plans for support in terms of infrastructure build-up and regulatory and legal reform, the cross-ministry initiative promises to link Taiwan local industries to global markets and corporations – and, through its emphasis on innovation, to future technological and market developments. The 5+2 plan also holds the promise of reducing Taiwan’s dependence on trade with China while developing ties with more advanced economies.

The proposal will be backed by the government’s NT$100 billion (US$3.3 billion) Industrial Innovation and Transformation Fund to be used for investment in new technologies, with another NT$10 billion from the newly established National Investment Corporation.

“...The 5+2 industries plan focuses on the transformation of Taiwan’s industrial development,” explains Kung Ming-hsin, deputy minister for the National Development Council (NDC), which is leading the Asia·Silicon Valley/Internet of Things and Biomedical elements of the plan and plays a major role in the other sectors. Kung says that Taiwan’s long-standing position as an OEM provider of commodity goods to the world’s supply chains has pushed industries to compete on cost rather than value, which diverts business development away from R&D and investment, preventing companies from entering higher value-added segments of industry.

“The purpose of this 5+2 industries plan is to face the problems that we have seen so far in our economic development,” he says, describing the plan as the direction for the “next generation of national development.”

The 5+2 plan calls for huge investments in building research facilities and other infrastructure in regions where industry clusters already exist. Taiwan’s economy is primarily driven by small and medium enterprises (SMEs), which are effective at trimming costs but lack the resources to invest in R&D, stymieing innovation. Taiwan has long employed the strategy of funding public-private research institutes to facilitate R&D, and the 5+2 plan expands on this strategy for the specified industries.

Equally important, the 5+2 plan – in concert with several other programs initiated by the Tsai administration – provides funding and capital-access for businesses in these sectors, and will involve amending existing statutes and regulations that are seen as standing in the way of industrial transformation. For instance, the Executive Yuan recently released the draft of a bill to extend substantial perks and privileges to highly skilled foreign talent, as the dearth of such talent is seen as a major obstacle to Taiwan’s economic progress. The government is seeking to amend the Company Law, the Basic Law on Technology, and several other laws along with a host of regulations.

“The laws that exist right now are based on the development model of the past,” says Kung. “We need new thinking, a new approach to meet the needs of industrial development for the next 10 or 20 years.”

Not everyone is persuaded

Darson Chiu, a research fellow at the Taiwan Institute of Economic Research (TIER) and a professor at Tunghai University, is among those questioning whether the 5+2 plan will have the impact that the government desires. “Will it be able to resolve the structural issues facing Taiwan’s economy?” he asks. “I don’t think this is the right policy to cure these problems.”

台灣經濟研究院研究員邱達生也對此表達了質疑，他說：“5+2產業創新計畫的目的，是要因應我們經濟發展到目前所出現的問題。”他並說，這項計畫是“新一代國家發展”的方向。

在「5+2」計畫之下，要在產業農業已經存在的地區大量投資興建研究設施，並且從事基礎建設。台灣經濟主要靠中小型企業推動，它們屬於降低成本，但缺乏資源在研發方面進行投資，因此難有創新。台灣早就有利用政府與民間資金成立研究機構以進行研發的策略。 「5+2」計畫是要擴充這項策略，以服務特定產業。例如計畫中智慧機械的部門提到要在台中建立研發與生產中心，而台中正是台灣工具機產業的重鎮，而且業者幾乎全都是中小型企業。

同樣重要的是，「5+2」跟政府推動的其他好幾項計畫的内容，都包含為相關產業的公司提供經費與資本管道，並且要大幅修訂被認為阻礙產業發展的現行法律。例如行政院最近公佈一項草案，要對具有高等技術的外國人才提供多項優惠，因為這類人才短缺被認為是台灣經濟發展的重大障礙。政府也準備修訂公司法、科技技術基本法等好幾套法律和許多條例。

質疑的聲音

部分人士懷疑「5+2」計畫能否達成政府期望的目標，其中包括台灣經濟研究院研究員和東海大學教授邱達生。他問道：「它能夠解決台灣經濟結構型的問題嗎？我不認為這是解決這些問題的好政策。」

台灣經濟持續面臨的挑戰，包括欠缺自由貿易協定，人才大量外流，薪酬漲以及投資低迷，根據台灣經濟研究院的數據，台灣從2010年以來的年經濟成長率，平均不到2%。

台灣2015年的名目國內生產毛額（nominal GDP）為5,300億美元，其中62%來自服務業，但根據美國中央
The lack of Free Trade Agreements (FTAs), largescale outflow of talent, stagnant wages, and low investment levels continue to challenge the island’s economy. Taiwan’s economic growth rates during this decade have so far averaged less than 2% annually, according to TIER data.

Although 62% of Taiwan’s nominal 2015 GDP of US$530 billion was generated by the service industry, according to the CIA WorldFactbook, low wages and an underdeveloped service sector have retarded growth. Industry, which generates 36.1% of GDP, remains the primary growth engine. Yet exports declined by 1.7% in 2016 to come to US$280.4 billion, according to Bureau of Foreign Trade (BOFT) statistics, and Taiwan narrowly avoided going into recession thanks to a strong fourth-quarter export performance.

Reliance on exports has led to Taiwan becoming increasingly integrated into the global economy. TIER’s Chiu says that the economic growth rate in Taiwan has become more and more aligned with the global growth rate, with the correlation coefficient reaching 80%. “When the correlation coefficient is 80%, that means that there is 20% room for government to do something,” he notes, contrasting this situation with Taiwan’s era of high growth from the 1970s to the 1990s, when the correlation coefficient was less than 40% and government action could have far more impact.

World Bank data shows global GDP growth averaging 2.23% since 2008, down from an average of 3.41% in the decade preceding 2007. Chiu says that this rising correlation has resulted from Taiwan’s increased reliance on selling intermediate goods such as electronic components and petrochemicals to global supply chains. According to the OECD participation index, 71% of Taiwan’s exports are in intermediate goods, which are vulnerable to abrupt changes in global supply or demand. The lack of FTAs with significant trade partners likewise hinders growth, particularly in comparison with Taiwan’s main competitors such as South Korea. About 80% of Taiwan’s exports are similar to Korean exports, but while Taiwan’s FTAs are limited to New Zealand, Singapore, and diplomatic allies in Central America, South Korea has signed many FTAs.
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with substantial trade partners, including the United States, EU, and China. “We deal with a much heavier trade barrier,” observes Chiu.

The previous Ma Ying-jeou administration sought to overcome these obstacles to trade by signing the Economic Cooperation Framework Agreement (ECFA) with Taiwan’s largest trade partner, China, which along with Hong Kong takes some 40% of Taiwan’s total exports. Although the “early-harvest” portion of ECFA lowered tariffs on some important exports, the agreement was criticized for increasing Taiwan’s reliance on China and for doubling down on a business model of contract manufacturing that continues to sputter.

Jumping over barriers

Instead of confronting trade barriers, Kung says that the industrial transformation set out by the 5+2 plan will enable Taiwanese firms to leap over them. “In the past, the focus was primarily on trade, so tariffs and trade costs were a very important factor,” he says. “But now the 5+2 industries focus on applications and services – total solutions. The pricing of these solutions includes both hardware and software, so it’s different from the past.”

Kung explains that instead of simply making an individual product, smart machinery or green-energy firms offer total solutions that includes the product, the software and control systems, servicing, and more. In addition, Taiwanese machinery-makers can benefit from a ready market in the widespread network of Taiwanese firms with manufacturing sites in other countries, while solar-power providers may consider re-orienting trade towards Southeast Asia in line with the administration’s “New SouthBound Policy.”

“Indonesia has 18,000 islands, and they may need a solar power generation station for each island,” Kung says. “What they want is for a Taiwanese company to provide the solar panels and to make sure that they have a stable energy supply. The price is for the total solution, not just the components.”

Previous governments have similarly talked up industrial transformation as the key to economic development, however, only to see Taiwan continue to depend heavily on commodity manufacturing. The general business model of OEM contract manufacturing has stagnated over the past 15 years in the wake of a rising China and slowing global growth and trade, and many of the programs coming under the 5+2 plan resemble similar efforts by earlier administrations to restructure Taiwan's industries. The Ma administration, for example, pushed the development of green tech, and Taiwan was an early powerhouse in solar cell and LED manufacturing during his presidency, while Chen Shui-bian’s administration placed considerable emphasis on biotech during the 2000s. Taiwan’s solar cell and LED makers, however, continue to rely on a cost-cutting OEM model that earns extremely low margins in a saturated global market, while biotech’s long development cycles mean that Chen’s biotech bets have yet to pay off.

Criteria for inclusion

Many also wonder why certain industries and not others were chosen for inclusion in the 5+2 plan. Kung says that determination was based on “the vision of what Taiwan will be in the future, and what kinds of industries reflect that vision.” The inclusion of Green Energy, for example, reflects the longstanding goals of the ruling Democratic Progressive Party (DPP) “to create a nuclear-free and low-carbon country,” he notes, while Biomedical can stimulate R&D and spur innovation in caregiving in an aging society. “Another thing we considered is that we need to reflect international trends in...”

 Criteria for inclusion

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According to NDC publications, balancing regional development is yet a third consideration, and for most of the industries selected there are existing industry clusters in various parts of Taiwan. For example, the machinery makers are famously clustered in Taichung, while green energy installations are found primarily in the south of Taiwan.

Yet this approach has also led to accusations of political favoritism. “If you look more closely at those industries selected you can see that they are clustered in DPP counties for the benefit of the local parties,” says TIER’s Chiu.

ITRI’s Su admits the industries selected do in fact benefit DPP-controlled regions, but explains that deep local involvement in the programs is a key difference distinguishing Ma-era initiatives from the 5+2 plan. “Whereas most of the time the drivers are at the central government, now each sector has a collaborator or owner from one of the cities,” he says. “Local city ownership hand in hand with the central government – this is a big change.”

Su says that collaboration between the local mayor or administrator and the central government leads to more efficient implementation, which he sees as a big improvement over the previous government’s tendency to dictate policy from above. On the other hand, “the minus is that the city mayor will need to look beyond his jurisdiction and think about the whole of Taiwan,” he notes, citing that as a reason why central government oversight is necessary.

The Asia·Silicon Valley program thus comes under the NDC but with the enthusiastic support of Taoyuan Mayor Cheng Wen-tsan, while Smart Machinery is under the joint auspices of the Ministry of Economic Affairs (MOEA) and the Taichung city government. A dedicated research institute for Green Energy will be built in Tainan, and will fall under the supervision of both the MOEA and the Ministry of Science and Technology (MOST).

Critics also question the 5+2 plan’s goals for Green Energy and Defense. “Once you start a national defense industry, you have to put up with a lot of fixed costs and lots of ongoing variable costs,” says TIER’s Chiu. To recoup these costs, “you have to have a channel to sell those products to overseas markets, and that’s not going to happen because China will protest. So allocating budget in this area could be a problem.”

The Green Energy sector, for its part, is developing too slowly and will not provide sufficiently reliable and affordable power, according to various critics.

Yet ITRI’s Su sees the 5+2 plan’s goals in these two sectors as emblematic of its overall strengths: clear articulation and firm commitment. With the government’s pronounced goals on Green Energy and National Defense, “it’s pretty clear where they want to go,” he observes. “If it’s clearly said, ultimately government, industries, and research institutes such as ITRI will find a way to overcome the challenges. The question is whether they can sustain this direction for five to ten years without major changes – that will be the big challenge.”

...
5+2 INNOVATIVE INDUSTRIES

ASIA·SILICON VALLEY – DON’T FORGET THE DOT!

Innovation is high on Taiwan’s agenda, and the Asia-Silicon Valley segment of the 5+2 Innovative Industries plan promises to launch Taiwan into the innovation value ecosystem, says National Development Council (NDC) Deputy Minister Kung Ming-hsin. Innovative technologies and business models are transforming global business, Kung says, and “if Taiwan is not included in that trend, it will be very difficult to catch up.”

The Asia-Silicon Valley program aims to foster development of startups as well as Internet of Things (IoT) technologies on the premise that startups stimulate innovation, and that the IoT sector promises tremendous growth opportunities.

“The major objective is to foster an innovation and entrepreneurship ecosystem particularly related to IoT,” says Wang Ting-an, deputy CEO of the Asia-Silicon Valley Development Agency (ASVDA) and counselor to the Ministry of Science and Technology. The program is a key feature of the 5+2 plan, and is one of the few elements that has gained political support from both sides of the aisle.

“Taiwan is good at high tech, and we already have a number of technology science parks, so we should have a good chance of making Taiwan a platform for bringing Asian technology to Silicon Valley,” says Chu-chia “Steve” Lin, economics professor at National Chengchi University and researcher with the KMT-affiliated National Policy Foundation.

The name for the program was originally “Asian Silicon Valley,” but later a dot was inserted to make it “Asia·Silicon Valley. The dot is meant to signify that Taiwan is not aiming to recreate Silicon Valley in Taiwan, but instead to indicate that “Taiwan wants to be the dot – the hub – between Silicon Valley and Asia,” says Stephen Su, general director of the Industrial Economics Knowledge Center (IEK) at the Industrial Technology Research Institute (ITRI).

Through the Asia-Silicon Valley initiative, the government is seeking to create an ecosystem enabling startups to get funding, amend outdated laws and regulations that have stymied growth, and increase the talent supply. Specific goals include increasing Taiwan’s share of the global IoT market from 3.8% in 2015 to 5% – out of the US$4 trillion to $11 trillion projected by research firm Gartner Inc. – by 2025.

The program also seeks to encourage the formation of 100 successful IoT-related enterprises, either local startups or R&D centers set up by large corporations. Further, it aims to develop three global systems integrators in Taiwan, successfully attract investments from two world-class companies, and create one online IoT-related learning platform.

The government recognizes that talent is a necessary ingredient to achieve these objectives. Some 50% of startups in Silicon Valley are created by immigrants, but Taiwan’s labor pool is heavily domestic. To expand talent resources, the Executive Yuan has drafted a Foreign Talent Act that will dramatically liberalize Taiwan’s immigration rules for foreigners with desired talents. The country has also created the Taiwan Entrepreneur Visa, modeled on a similar program in Singapore, and has established programs for talent connections with Silicon Valley.

Since access to capital for business expansion is also a perennial challenge for Taiwan’s startups, the Industrial Innovation and Transformation Fund will make NT$100 billion available through the National Development Fund, while the National Investment Co. will provide a further NT$10 billion and the Angel Investor Program another NT$1 billion. A Fund for Startups, founded by the Taiwan Stock Exchange, will offer another NT$270 million.

Deputy Minister Kung also stresses the importance for the plan of significant regulatory reform. “Even if we have the right approach but the laws and regulations are not reformed, there’s no way that we can accomplish what we need to do,” he says.

ASVDA was launched on December 25, 2016 to assist companies and integrate resources to promote IoT and startups. Shortly afterward, the ASVDA Bay Area Office was opened in California to tap into networks of industries, universities, and research institutes internationally.

The program has already fulfilled one its main goals – attracting at least two international companies to open up...
IoT research centers in Taiwan. Microsoft and Qualcomm have both launched such facilities. In addition, more than 140 companies and organizations have joined an Asia-Silicon Valley IoT Alliance. Members include Acer, MediaTek, Advantech, Cisco, Microsoft, and IBM.

Despite the enthusiasm surrounding the program, however, many questions remain. Can Taiwan attract sufficient foreign talent to stimulate the generation of startups? Will Taiwan’s relationship to IoT “value chains” simply be more contract manufacturing of IoT-enabled components? And will Taiwan embrace innovation’s flipside, disruption? The recent controversy in Taiwan surrounding Uber suggests that this process may be painful.

— By Timothy Ferry

5+2/2
BIOMEDICAL AND TAIWAN’S AGING POPULATION

Development of the biotech, biopharmaceutical, and medical device industries offers an opportunity not only to advance Taiwan’s technology and grow its economy, but also provide solutions to many of the problems faced by an aging society.

“Taiwan is aging at a rapid rate and we need new ideas and new approaches by industry to tackle that issue,” says Deputy Minister Kung Ming-Hsin of the National Development Council. “The biomedical, biopharmaceutical, and medical device sectors all have something to contribute to take care of the diseases that come with aging.”

With 14% of its population already considered elderly, Taiwan is aging quickly and will become a super-aged society – with 20% of its population over 65 – by 2025, putting increased stress on the healthcare system. Strengthening public health and promoting social welfare are therefore two fundamental goals of the Asia-Pacific Biomedical Industry plan, the formal name for this aspect of the 5+2 program.

Taiwan already has a thriving industry sector under the broad biomedical heading, with over 40 companies listed on the Taiwan Stock Exchange and many firms located in the Central and Southern Science Parks making biomedical equipment, biologic drugs, medical devices, generic drugs, implants, and more. Nearly 200 more companies are located in the National Biotech Research Park in Taipei’s Nangang District, and the Ping-tung Agriculture and Biotechnology Park in the South is host to nearly 100 more.

Taiwan’s biomedical industry earned revenues totaling nearly US$10 billion in 2015, according to data supplied by the Ministry of Science and Technology (MOST). But most of the production involved the manufacture of generic drugs or OEM medical devices, occupying lower links in the value chain. The biomedical program will seek to raise the value of Taiwan’s industry by establishing and upgrading R&D centers, integrating advances in precision machinery to manufacture higher-value medical devices, and transforming generic drug companies into makers of innovative pharmaceuticals.

Efforts to raise the level of Taiwan’s biopharma industry began in the 2000s, but with long development cycles, the investments have yet to pay off. The lengthy lead time is one of the reasons that many oppose spending government money on this sector.

“We’ve been doing biopharma for a long time, since the Chen Shui-bian presidency, with a lot of budget allocated towards it, but no return so far, so it’s a huge disappointment,” says Darson Chiu, a Tunghai University professor and researcher with the Taiwan Institute of Economic Research. “We should be very careful regarding biomedicine, as it will take a lot of investment and squeeze our limited budget.”

Drug development is a highly risky endeavor, with the odds extremely low that even promising molecules in the lab will eventually lead to blockbuster products. Taiwanese biotech firm OBI Pharma lost billions of NT dollars in market cap last year after it revealed that Phase III clinical trials for its new breast cancer vaccine OBI-822 were not statistically significant, causing a selloff of company shares.

Taiwan conducts highly regarded fundamental research in molecular biology at a number of prestigious research institutes and universities, particularly Academia Sinica. “But applying that research to commercial developments has been an issue and we haven’t done very well on that,” says NDC’s Kung. He says that the Basic Law for Technology, which has strict limitations on academics’ ability to work in private industry, has stymied development of the sector, and that the government is looking to amend this law “to encourage cooperation between research institutions or centers and commercial industry.”

Kung acknowledges the risks involved in biopharma research, and notes that the government is also placing heavy emphasis on the medical device sector, which requires far shorter development time and has much faster time to market.

— By Timothy Ferry
5+2/3
GREEN ENERGY FOR A NUCLEAR-FREE, LOW-CARBON FUTURE

Progress on renewable energy development is slow, but green energy advocates are more optimistic than ever before that Taiwan can live up to its potential as a green-energy hub. “There is now a strong determination to make this work,” wrote Bart Linssen, managing director for German wind power turbine maker Enercon Taiwan, in an email. “We are very confident about the Taiwan market.”

The government has ambitious goals for renewable energy. It seeks to have 20GW of installed solar capacity and 3GW of installed offshore wind capacity by 2025, together meeting 20% of Taiwan’s power needs. Yet nearly a year into the Tsai Ing-wen presidency, Taiwan has yet to see even 1GW of installed solar capacity. In addition, none of the Tier 1 (over 500kW) ground-mounted systems planned for select regions of rural southern Taiwan have been approved by the government, leaving Taiwan a long way from the additional 1.4GW of installed capacity targeted for mid-2018, much less the eventual 20GW.

Regulatory holdups, complicated applications requiring approvals from both central and local governments, and complex land deals are all delaying solar-power development, as is pushback from agricultural groups in direct competition for the limited available land. Environmentalists are also opposing the use for solar power development of land contaminated by salt water, saying this “wasteland” is actually salt marshes that provide vital habitats for rare migratory birds, including the black-faced spoonbill.

Offshore wind projects have finally started with the successful recent installation of two Formosa 1 pilot wind turbines in the waters off Changhua County, yet further projects are developing slowly. Onshore wind has not seen significant expansion since a series of violent protests over wind farms located near homes in rural Miaoli tarnished its image. The perception was created that Taiwan’s current 700MW of onshore windpower is as much as the island can tolerate.

Yet K.H. Chen, CEO of Taiwan’s largest domestic solar power developer, Sinogreenergy, is taking the delays in stride. “This is all just the learning curve,” he says confidently, though admitting that his investors, Swiss-based Partners Group, which is putting US$200 million into Sinogreenergy to develop 150MW of solar power in central and southern Taiwan, are surprised at the slow pace. “I don’t think land is actually the issue,” he says. “We need to find the general SOP to get these projects approved.” Chen forecasts that Taiwan’s total solar power installed capacity will reach 3-4GW in the next three years.

Linssen is likewise sanguine about the present delays. Despite the attention that offshore wind has received in recent years in Taiwan, “onshore wind is now very much back on the agenda,” noted Linssen. “That is the reason we chose to have our regional center for Asia here for sales and service. We will now also add a procurement center in Taiwan. Enercon will be buying local products for its global supply chain.”

Enercon’s plans for the local market dovetail exactly with the Tsai administration’s goals of expanding the green energy industry by developing home-grown projects. Huge local demand would make Taiwan a desirable market for large international renewable energy builders and investment firms, prompting the development of local supply chain partners, technology transfers for local manufacturers, and employment for local technicians, installers, and engineers.

To spur the industry along, the administration has set aside NT$1 trillion for green energy development over the next 10 years, and under the auspices of the 5+2 Innovative Industries plan is establishing an R&D center in Tainan to focus on green energy development.

Recently passed amendments to the Electricity Act now allow green energy providers to sell their power directly to consumers (although most green energy suppliers had reservations about the efficacy of that amendment), and NDC Deputy Minister Kung says that the government will propose revisions to several more laws and regulations to ease the development of renewable energy in Taiwan.

The key factor explaining the optimism surrounding green energy in Taiwan is not the rate of current progress, but rather belief that finally the government is solidly behind the industry. “If the government is firm and clear in its goals, industry will be very willing to join us in the development,” says Kung, noting that international investment firms are increasingly looking for opportunities in the Taiwan market for renewable energy. “We need to create opportunities for those companies that are willing to transform. The time for Taiwan’s transformation is already overdue.”

— By Timothy Ferry
5+2 INNOVATIVE INDUSTRIES

5+2/4
RISE OF THE (SMART) MACHINES

While much of the 5+2 Innovative Industrial plan remains controversial, two sectors have gained support from both major political parties: smart machinery and Asia·Silicon Valley. Smart machines mean manufacturing equipment that is intelligent, self-learning, and can communicate with other machines and human operators, transmitting data in real time. These advanced technologies are finding applications in almost every industry.

The smart machines program aims to leverage Taiwan’s strengths in IT and machine-making to gain a larger share of the burgeoning Industry 4.0 sector. Also called “the Fourth Industrial Revolution,” Industry 4.0 refers to the rapidly advancing radical automation that is seeing smart machines swiftly replace human workers across a swathe of industries. The global market for smart machinery stood at US$7.4 billion in 2016, and is expected to grow 15% annually to reach US$15 billion by 2021. After that, it will grow even faster, reaching US$40 billion by 2026, according to a study by analytics firm BCC Research.

Smart machinery is a good bet for Taiwan because “it plays off our strengths. We are good at computer technology and related production so we can bring this knowledge into the machines,” says Chu-chia “Steve” Lin, an economics professor at National Chengchi University and researcher at the KMT-affiliated National Policy Foundation. Integrating Taiwan’s developing Internet of Things (IoT) technology, including sensor and controller components but increasingly software, into its already strong machine-making industry clustered in Taichung is seen as an effective way to expand markets while generating employment. The Taiwan machinery industry’s annual output is valued at about NT$1 trillion (around US$33 billion) by the Taiwan Association of Machine Industry, and according to Taiwan’s Topology Research Institute, in 2015 Taiwan was the world’s seventh largest producer and fifth largest exporter of machine tools.

A smart machine is loaded with sensors and other components enabling it to gather large amounts of data – on the operations of the machine, productivity, maintenance, inventory, etc. – and then communicate that data to other machines or a human operator.

The Fourth Industrial Revolution is already underway, with smart machines replacing humans in a wide range of jobs ranging from accounting to manufacturing to transportation. This trend is expected to have huge implications for productivity and employment in the coming decades.

Chuang Chia-yu, president of Crown Machinery Co. in Taoyuan, says that “traditional machinery has no value added. It’s just hardware and just price competitive. Software is the value added that makes a machine globally competitive.” A smart machine can earn a 40-50% premium over a conventional machine, according to industry insiders.

However, most Taiwanese machine makers lack the knowhow to produce smart machines. Dana Burch, director of OEM business for Rockwell Automation, a U.S. leader in automation solutions, concurs with general observations that while Taiwan has “a lot of people on the leading edge who are committed to doing things faster, better, and cheaper,” they are often small companies that jealously guard their knowhow.

“They don’t like to talk about what they do, but that inhibits learning and growth in the industry,” he observes.

The Smart Machinery initiative plans to build an innovation center in Taichung in which systems and technology will be installed, and where automation solutions providers such as Rockwell and others will host seminars to teach local manufacturers how to make greater use of automation. “Getting those kinds of people together doesn’t happen easily,” says Burch. “Through these government-sponsored seminars, you’ll have a whole lot of people” exposed to what Industry 4.0 can accomplish.

— By Timothy Ferry

5+2/5
DEFENSE INDUSTRY FOCUS ON FIGHTER-TRAINERS AND SUBMARINES

In the face of China’s rapid military build-up and Beijing’s pressure on other countries not to sell weaponry to Taiwan, “what can Taiwan do except develop its own defense industry?” asks National Chengchi University professor Arthur Ding, a defense specialist. “It’s the inevitable outcome of China’s interference.”
The “new agriculture innovation program” adopted by the Executive Yuan on December 8 last year forms the basis of this “plus” initiative added onto the original Five Pillar Industries. The goal is to develop a viable agricultural sector suitable for a modern economy – one with sufficient competitiveness without over-reliance on government subsidies.

The program aims to increase the output value of local agriculture by NT$43.4 billion (US$1.4 billion) by the end of 2020, and over the same period to increase the average farming-household income by NT$40 billion (US$1.3 billion). The administration says that investments in the defense industries will not only benefit national defense but will contribute to overall economic development, as well as in other sectors.

Several of these programs are already underway and will involve both state-owned and private industrial firms and research institutes. For example, the Air Force signed a memorandum with the National Chungshan Institute of Science and Technology (NCSIST) to build the next-generation fighter aircraft, budgeted at NT$3.6 billion (US$11.5 billion). The aircraft will be designed in conjunction with the Aerospace Industrial Development Corp. (AIDC). In addition, around NT$3 billion (US$99 million) has been budgeted for the design phase of the submarine program which will involve collaboration between NCSIST and the state-owned shipbuilding firm privatized in 2008.

The administration says that investments in defense industries will not only benefit national defense but will contribute to overall economic development, generating some NT$250 billion to $400 billion (US$7.6 billion to $12.1 billion) in earnings and creating thousands of new jobs.

Taiwan’s previous experience in weapons development includes the Indigenous Defense Fighter (IDF), developed in the 1980s in conjunction with Honeywell and General Dynamics, a fleet of frigates based on the U.S. Navy’s Perry-class, and missile and missile-defense systems that were based largely on U.S. technology but in some cases are said to exceed the performance of the U.S. versions.

But Taiwan stopped building fighter jets after the IDF program ended and instead opted to purchase advanced weapons from the United States. To successfully complete the new mission of building fighter-trainers, Taiwan will largely have to rebuild its engineering team and know-how.

Submarines are even more challenging to design and build. Taiwan has a long history of shipbuilding, but no experience making submersible vessels, and the project will undoubtedly require substantial support by foreign defense contractors.

Because of the high cost and technical difficulties, many question whether it is wise or even feasible for Taiwan to develop its own defense sector. Taiwan will probably have a hard time finding partners and the necessary technology. On the other hand, political obstacles also make new or even second-hand weapons systems difficult to acquire from abroad.

Arthur Ding says that a local defense industry will benefit Taiwan in a variety of ways. First, it will generate numerous well-paying high-tech jobs at a time when many recent graduates are frustrated at the lack of good employment opportunities in technology on the island. Developing the defense industry will also enable Taiwan to upgrade its technical capacity in a number of related sectors, notes Ding. Although Australia struggled to build its Collins-class submarines, the experience allowed it to significantly increase its capabilities on various technological fronts.

Taiwan’s capabilities in software and IT hardware will also likely stand it in good stead when it comes to developing Taiwan’s cyberwarfare capabilities.

— By Timothy Ferry
Wikipedia defines a circular economy as a “regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling.”

In line with global trends, the Taiwan government is actively promoting this concept, with emphasis on the recycling and reuse of resources so as to assure sustainable development of the economy and the integrity of the environment. A major goal is to cut the reliance of Taiwan’s economy on fossil fuels, as every percentage point of GDP growth currently still entails a similar rate of expansion in CO₂ emissions.

While the government is still drafting the detailed circular-economy program, some major elements have been determined, notably in the fields of petrochemicals and biotech. The Ministry of Economic Affairs, for instance, has decided to establish a “special circular-economic zone” in Kaohsiung, aimed at recycling and reusing waste and by-products generated by local heavy industry, such as generating electricity from the waste heat and steam of the petrochemical production process. This project was conceived in the wake of the petrochemical pipeline explosion in Kaohsiung in mid-2014.

The state-run enterprises CPC Corp., China Steel, and Taipower are spearheading the circular-economy plan. Along with natural gas and oil refining, the circular economy will be one of the three major targets for CPC’s NT$200 billion investment plan for the next six years. One project to be included is the utilization of fuel gas, a by-product of oil refining, for the production of styrene. China Steel for its part will expand the use of furnace slag as materials for pavements, cement, armor blocks, artificial reefs, and other purposes.

Another project is to use methane, produced from pig manure, for power generation as part of the “Plan for the Revitalization and Development of the Pig-raising Industry” initiated by the Council of Agriculture and passed by the National Development Council on February 20 this year. The project aims to generate 100 million kilowatt-hours of power this year from the waste of one million pigs, with the number of animals to be expanded to 2.5 million by 2020.

— By Philip Liu

**5+2 INNOVATIVE INDUSTRIES**

hold annual income to NT$1.8 million from the 2015 level of NT$1.2 million. To achieve the goal, the government plans to invest a total of NT$110 billion — NT$20 billion in the first year and NT$30 billion in each of the remaining three years.

A centerpiece of the four-year program is the introduction of modern technology into agricultural operations, so as to boost the added-value. The government will enlist industry, academia, and research bodies to jointly engage in the R&D of agricultural technologies. The program calls for the setup of 20 “agricultural processing zones” and comprehensive agricultural cooperation with Thailand, Vietnam, Burma, and Indonesia. It will also encourage the establishment of agro-biotech firms.

Besides developing high-added-value agricultural products, advanced technologies will also be employed in helping the farming sector cope with the problems of labor shortages and climate change. By developing manpower-saving techniques, such as the use of drones for pesticide spraying, the government expects to achieve a 60% reduction during the four-year period in the level of manpower needed on Taiwan’s farms.

To inject fresh blood into farming, the Council of Agriculture hopes to enroll 3,000 senior-high graduates a year in university agriculture departments. In return for free tuition, the students will be asked to pledge to engage in agricultural activity for at least three years after graduation.

To stabilize farmers’ incomes, the government also plans to enact an agricultural insurance law, offering tax incentives to encourage insurance companies to offer insurance to farmers against loss from natural calamities. Over the past 20 years, such losses have amounted to an average of NT$11.7 billion annually.

Other major policies under the program include enhancing the competitiveness of the livestock and poultry-raising industries, promoting the sustainable utilization of agricultural resources, assuring the safety of domestic agricultural products, and expanding domestic and overseas sales channels for Taiwan’s agricultural goods.

— By Philip Liu
Southeast Asia may be close to Taiwan geographically, but Taiwanese traditionally tended to see its people as little more than a source of cheap labor. Even in academia, says Edwin Yang, an instructor in the College of International Studies at National Taiwan Normal University, Southeast Asia until recently was not considered a serious field of study. “The majority of scholars still have the mentality of the Middle Kingdom – that Southeast Asia is home to Nanyang, the southern barbarians.”

The New Southbound Policy developed by the government of President Tsai Ing-wen aims to radically change this mindset. With a motto of yiren-weiben or “people orientation” and a 2017 budget of NT$4.1 billion (about US$134 million), the government is encouraging multiple social and business linkages with Southeast Asia and the Indian subcontinent that embody new principles of equality and reciprocity.

The scope of the linkages is broad, ranging from tourism, the most notable success story so far, to easing hardships experienced by local migrant workers, to supporting Taiwanese manufacturers in the region by pushing for bilateral investment agreements. The aim is to present Taiwan as a friendly and equal partner willing to assist with these nations’ development.

The policy, which went into effect last November, covers 18 nations including 10 in Southeast Asia and six in South Asia, plus Australia and New Zealand. The priority nations for the early stages are Indonesia, India, Vietnam, Malaysia, the Philippines, and Thailand.

“It is a multipurpose policy to broaden and deepen our engagement with these partner countries – with their governments, their businesses, and their people,” says Minister Without Portfolio John Deng, who heads the Office of Trade Negotiations which is overseeing the program. “Taiwan has strong soft power and we’re willing to share our experiences in building up soft power with our partner countries.”

The Tsai administration is looking to this strategy to help Taiwan overcome a number of economic challenges. Because of pressure from China on other nations, for example, Taiwan has had difficulty entering into free trade agreements and other pacts with its trading partners. The New Southbound Policy allows diplomatically isolated Taiwan to increase its economic engagement through informal, lower-
profile networks.

Another prospective benefit is that attracting Southeast and South Asians to work and study in Taiwan could help resolve talent and university-student shortages created by Taiwan’s aging society. Further, diversifying trade eases Taiwan’s over-reliance on China, and projects being discussed – such as exporting electronic toll collection systems and hospitals to the region – help to shift Taiwan’s exports of goods and services away from an overconcentration on electronic products.

Overall, the more cosmopolitan approach to business enables Taiwan to improve as a global business location. As Alan Hau Yang, executive director for Southeast Asia Studies at National Chengchi University puts it, the New Southbound Policy is not merely an economic policy, it is a “grand national strategy.”

Even without the China factor, engaging with the region makes economic sense. The 10 Association of Southeast Asian (ASEAN) nations, which are home to 630 million people and a diversity of languages and cultures, are generally experiencing much faster growth than the rest of the world. Their rising middle classes are hungry for education, technology, and ever-better living conditions. While the International Monetary Fund forecasts global growth for this year at 3.5%, the Asian Development Bank projects that Vietnam will experience growth of 6.5%, the Philippines 6.4%, and Indonesia 5.1%.

And in contrast to aging Taiwan and China, Southeast Asian nations tend to have relatively young populations, making their future economic prospects even rosier. A similar trend can be seen in India. The ADB puts its economic growth for this year at 7.4%, which would make it the world’s fastest-growing economy. Half of its estimated 1.3 billion people are aged under 25, according to a Standard Chartered Bank report.

Officials and economists alike are concerned about the economic dependency on China that grew under the previous Ma Ying-jeou administration. Almost 40% of the island’s exports go to the mainland or Hong Kong, a figure the Tsai administration is anxious to lower.

Diversifying trade

In fact, the trend toward diversification has already begun. While Taiwanese generally prefer doing business in China, where Mandarin is spoken and the cultures are similar, China’s growth is slowing and labor costs are rising as the economy shifts from an export-driven to a consumption-driven orientation.

Many China-based Taiwanese manufacturers, especially makers of low-end products such as shoes and furniture, are expanding operations in Southeast Asia, attracted by the cheap labor. A prominent example is Taichung-based Pou Chen, one of the world’s largest manufacturers of shoes for brands such as Nike and Adidas. It built up a production base in southern China starting in the 1980s, but is now increasing output from factories in Indonesia and Vietnam.

According to the Taiwan Institute of Economic Research (TIER), citing Investment Commission statistics, China remains the nation’s number-one destination for exports and investment, with at least US$165 billion in accumulated investment. (The actual figure could well be higher, since companies often invest through subsidiaries in Hong Kong or tax-free havens such as the Virgin Islands.)

The ASEAN nations collectively form Taiwan’s second largest export market and investment destination, with accumulated investment of US$91 billion. Next to China, Vietnam has received the most Taiwanese investment, some US$31 billion. Taiwan was once ranked number one among global investors in Vietnam; in 2016 it was the sixth-biggest investing country. Taiwanese investment comes to US$17 billion in Indonesia, US$15 billion in Thailand, and US$12 billion in Malaysia.

Around 2011, Taiwan began to invest more in ASEAN nations than in China, reversing a trend of over two decades. TIER notes that the seven largest ASEAN economies saw Taiwanese investment increase by 43% from January through September 2016, while investment in China over the same period shrank 12%. Taiwanese investment is also starting to pour into India, Standard Chartered reports. Accumulated investment there from 2000 to 2016 stood at US$177 million, ranking Taiwan as India’s 40th largest investor, but nearly half of this amount flooded in after March 2015.

This trend is likely to intensify if the current uneasiness continues in cross-Strait relations. “Southeast Asia has the potential in the next five years to catch up to China,” says Standard Chartered economist Tony Phoo. “They can’t match the size of China, but they can be as competitive.”

Roy Chun Lee, deputy executive director of the Taiwan WTO and RTA Center at the Chung-hua Institution for Economic Research (CIER), notes that the New Southbound Policy is facilitating what is a natural economic trend. Overseas Taiwanese businesspeople (台商 Taishang) have been present in Southeast Asian countries such as Vietnam for decades, forming extensive networks with local overseas Chinese. And former President Lee Teng-hui had his own “Go South” policy in the 1990s, as did President Chen Shui-bian in the 2000s (which is why the current program is called the New Southbound Policy). But those earlier efforts had only limited success because the China market was such a strong draw.

One difference in the new plan is that South Asian nations are included for the first time. But the biggest change, experts say, is that previous policies had the narrow focus of looking southward simply for cheap land and labor, which made it less welcome in the target countries.

This time Taiwan is seeking to build relationships on a more equal and reciprocal basis. Kristy Hsu, director of the Taiwan ASEAN Studies Center at CIER, says that as the New Southbound Policy was being set up, a number of ASEAN countries expressed interest in seeing more people-to-people exchanges, particularly in education and training for their youth. And for the first time, Taiwanese businessmen are showing an interest in certain Southeast and South Asian countries as important consumer markets in their
Tourism and education

In terms of people-to-people exchanges, the biggest gains have been in tourism. From January to November last year, 195,419 visitors from the 18 countries came to Taiwan, a 23% increase over the same period the year before, and helping to offset a significant slump in mainland tourists. Cambodian tourists, at 85%, showed the biggest increase, albeit from a low baseline. The number of tourists from Thailand increased by 52%, from Brunei by 51%, and India 38%. NCCU’s Alan Hau Yang says the government hopes to attract more than 2.2 million tourists a year from Southeast Asia by 2019.

Eased visa requirements are facilitating this growth. Brunei and Thailand gained visa-waiver status last year, joining Malaysia and Singapore. In mid-April the Ministry of Foreign Affairs announced that the Philippines would receive visa-free treatment on a trial basis for a year, and that visa application procedures would be streamlined for Cambodia, India, Indonesia, Laos, Myanmar, and Vietnam, including the opening of online applications. The electronic processing eliminates the need for applicants to travel to their nation’s capital to apply at a Taiwanese de facto embassy. In addition, citizens of Sri Lanka and Bhutan have been allowed to apply for tourist visas for the first time.

In other moves to promote tourism, the Executive Yuan is encouraging local governments to host travel fairs in the region, while the Tourism Bureau is encouraging local restaurants to comply with Islamic dietary laws and obtain Halal certification. Recently the Central News Agency reported that the number of Halal-certified restaurants had broken the 100-mark, and tourism officials are pushing to increase the number further to 200. Phoo says these developments could make Taiwan an attractive tourist destination for the affluent global Muslim market.

For the promotion of Taiwan as an educational hub for the region, the government has allocated a budget of NT$1 billion. In 2015 around 40% of Taiwan’s foreign students came from ASEAN nations, and Deng says plans call for doubling the number of students from Southeast Asia within a few years by offering more scholarships. Deng says the government is also encouraging Taishang to establish scholarships in the local communities where their businesses are operating, partially to improve their corporate image. According to Hsu of CIER, many Southeast Asian students are eager to learn from Taiwan’s development experience in such fields as management, entrepreneurship, high-tech industries, and agriculture.

Scholarships will also be established for Taiwanese to study in Southeast Asia. In addition, the government is encouraging Taiwan universities to set up academic programs in the targeted countries, and Southeast Asian languages will start to be taught in Taiwan’s elementary schools from the next school year.

However, some observers worry that universities now rushing to obtain grants to set up Southeast Asian study centers may simply be looking for ways to overcome their current shortage of resources, without having a deep-seated commitment to the projects. And Alan Hau Yang points with concern to cram schools that are even advertising courses in Southeast Asian languages with slogans such as “Learn to speak Bahasa Indonesian and earn NT$1 million a year.” He fears that later disillusionment will erode support for the New Southbound Policy.

As the government hopes the New Southbound Policy will promote a two-way flow of professionals, it is seeking to streamline regulations with regard to visas, residency, health insurance and tax incentives for qualified personnel from the target countries. It is also establishing a database to help match professionals from the 18 countries with prospective employers among local companies, and last year the Cabinet-level Overseas Community Affairs Council held two job fairs on behalf of Taiwanese enterprises with operations in Southeast Asia.

The policy also involves helping first-generation immigrants from Southeast Asia to use their linguistic and cultural backgrounds to make a larger economic contribution, such as obtaining foreign-language teaching certification or working in tourism. Another aspect of the policy is to improve the welfare of the over 600,000 migrant workers in Taiwan as part of the effort to build better relations with their home countries. Last October, the Legislative Yuan amended the Employment Services Act to lift the requirement
that migrant workers must leave the country after working in Taiwan for three years before being rehired. The change had the effect of eliminating stiff brokerage fees. Most recently, the Ministry of Labor ruled that Taiwanese employers must grant paid vacations and other forms of leave to migrant workers after one year of service.

**Business cooperation**

The New Southbound Policy may also help support the government’s programs to cultivate the “Five Plus Two” innovative industries and to undertake investment in “forward-looking infrastructure.” One of the five industries is green energy. Taiwan is a key producer of solar panels and also aspires to build up expertise in offshore wind farms that could one day be made available to other markets around the region.

One area where noticeable progress has already been made is agriculture. Last December, the Council of Agriculture launched the Taiwan International Agriculture Development Co. to promote farming products and technology. John Deng says that productivity-enhancing techniques and equipment developed in Taiwan for small-scale farms have been well-received in Southeast Asia, where there is great market potential. But as small businesses face financial challenges in entering the regional market, the government is providing bank guarantees totaling NT$50 billion. Indonesia has been particularly interested in agricultural cooperation with Taiwan, including projects involving aquaculture and organic farming.

As the promotion of healthcare and sharing of disaster-prevention techniques are also key parts of the New Southbound Policy, says CIER’s Lee, the Ministry of Health and Welfare (MOHW) has been heavily involved in the program. The Ministry just completed a pilot immunization program in Myanmar, which had the aim of both engaging in a humanitarian effort and promoting business opportunities for Taiwanese vaccination producers. The government hopes to cooperate with all 18 targeted countries on bilateral pharmaceutical certification and the training of public-health workers. Deng adds that Taiwan is in talks with several of these countries to establish joint research programs to combat contagious diseases such as dengue fever.

According to Lee, one obstacle the New Southbound Policy faces is that mid-level government officials do not always fully understand or appreciate the policy’s objectives. In the case of the Myanmar vaccination program, for instance, he says, MOHW personnel find it hard to combine the idea of offering humanitarian assistance with the pursuit of business opportunities. As another example, Kristy Hsu cites the need by small and medium enterprises for more information about the host country’s policies and regulations before they can take advantage of opportunities in such important markets as ASEAN and India.

But Taiwanese officials are frequently unable to provide enough detailed information or analysis. This problem was encountered last year by smaller medical equipment companies that were interested in setting up shop in Indonesia following its “big bang” liberalization that allowed majority foreign ownership in that industry for the first time. However, the medical instrument companies found entering the market to be complicated and government help insufficient, says Hsu.

Experts say China is most worried about Vietnam, where Taiwan’s economic relations are the warmest. As a sign of Beijing’s concern, China and Vietnam in January signed a joint communiqué in which Vietnam promised to resolutely oppose Taiwan independence and refrain from developing any official ties with Taiwan. China is also wary about Taiwan’s relations with India and Indonesia due to their large sizes and resulting clout. If Indonesia leads in Taiwan cooperation, its ASEAN counterparts might follow. The Indonesian Council on World Affairs and its private Habibie Center were Taiwan’s two main collaborators in the first “track two dialogue” forums between ASEAN and Taiwan last November. How China will react to these emerging informal networks remains to be seen.
Airline and Airport Ups and Downs
IS SHUTTING SONGSHAN AIRPORT A FLIGHT OF FANCY?

Given the downtown airport’s ownership structure and importance in serving Taiwan’s outlying islands, closing it would be problematic.

BY MATTHEW FULCO

Originally from Xindian, Alex Tsai is the manager of a bed and breakfast in the offshore island-county of Penghu and travels to Taipei up to five times a year to visit family and friends, shop, and take a break from Penghu’s splendid isolation. When he read media reports that the Taipei City government was considering shutting Songshan down, Tsai was not pleased. “For travelers like me, there’s no comparison between the convenience of the Songshan and Taoyuan airports,” he says.

Even with the opening of the Taoyuan Airport MRT, which makes it possible to reach the airport from central Taipei within 45 minutes, Tsai prefers Songshan. “It takes 50 minutes to fly from Penghu to downtown Taipei [Songshan],” he notes. “It’s about the same time to fly to Taoyuan, but then it’s another hour to get to Taipei by the time you disembark and take the train.”

Songshan is both a civilian airport and military airbase. It was the sole international airport serving Taipei until 1979, when Chiang Kai-Shek International Airport (now Taoyuan Airport) opened in Taoyuan. From then until the late 2000s, Songshan served only domestic routes.

The resumption of direct air links between Taiwan and China in 2008 provided impetus for Songshan’s expansion. Along with the thaw in cross-Strait relations, the Ma Ying-jeou administration (2008-2016) promoted the idea of using Songshan as a hub in a “Northeast Asia Golden Flight Circuit” of city airports. During Ma’s first term, routes were opened from Songshan to Shanghai’s Hongqiao, Tokyo’s Haneda and Seoul’s Gimpo airports.

Between 2008 and 2012, passenger volume at Songshan surged from 3.1 million to 5.7 million, and then grew more modestly to 6.1 million in 2016 as restrictions were placed on adding new capacity.

Business travelers, who account for a large swath of Songshan’s passenger volume, have lauded the airport’s re-introduction of international flights. “Being able to fly from Songshan to Hongqiao really reduces my travel time between Taipei and Shanghai,” says Jerry Wei, a senior director at the market intelligence firm Migo, which has offices in Taipei, Shanghai, and San Jose, California. Wei flies the Songshan-Hongqiao route almost monthly.

Since he lives in the eastern Taipei district of Nangang, Wei has little reason to take the Taoyuan Airport MRT, which terminates at Taipei
Main Station in the west of the city. “Going that route is not a good use of my time,” he says.

Also relying on the Songshan-Hongqiao route is Carl Wegner, director of Greater China business development for R3, a New York-based financial technology consortium. “Customs clearance is quicker, and there’s no need to travel to Taoyuan,” says Wegner, who divides his time between Shanghai and Taipei. “You just need to accept smaller planes and no late flight options.”

**Clipping Songshan’s wings**

Despite Songshan’s revival over the past decade, the Taipei City government under Mayor Ko Wen-je has called for its business to be transferred to the Taoyuan airport by 2020. At the ceremony launching the Taoyuan Airport MRT in March, Ko urged the central government to begin discussing the relocation of Songshan’s routes with local governments.

“The integration of Songshan and Taoyuan airports can be discussed in a more serious manner with the launch of the Wugu-Yangmei Overpass along the National Sun Yat-Sen Freeway [Freeway No.1] in 2013 and the airport MRT line,” Ko was quoted as saying in the English-language *Taipei Times*. “It is time that the government made a decision.”

In place of the airport, the Taipei City government proposes building a 330-hectare “Central Park.” The plan would join the former airport site on the southern bank of the Keelung River with riverside sections of Taipei’s Dazhi and Dawan areas, forming a wetland park. Together with the nearby Taipei Expo Park, it would form a Central Park that could be used among other things as a venue for outdoor movie screenings, concerts, and live broadcasts of sports events.

The idea isn’t new. During the 2002 Taipei City mayoral election campaign, opposition Democratic Progressive Party (DPP) candidate Lee Ying-yuan, now Minister of the Environmental Protection Administration, suggested turning Songshan into a large green space like New York City’s Central Park. But Lee lost the election to Ma Ying-jeou, and the proposal was shelved.

As reasons for shutting Songshan down, the Taipei City government and other opponents of the airport point to its impact on the local community. Besides the noise from planes, height restrictions mean developers cannot build structures as high as they would like.

At the same time, proximity to the airport lowers property values in the neighborhood, in what would otherwise be a prime downtown Taipei location, observes Paul Lee, head of AmCham Taipei’s Infrastructure Committee and chairman and CEO of Global Construction International.

Lai Chen-I, Chairman of the General Chamber of Commerce of the Republic of China and a veteran of the construction industry, urges the government to act to shut down Songshan now that the Taoyuan Airport MRT is in operation.

“It’s now possible to get from downtown Taipei to Taoyuan Airport in just 35 minutes; it’s very convenient,” he says. “So why do we still need Songshan, which has a negative effect on the city?”

Lai suggests the Songshan site be converted into a central business district with premium residential, office, and retail space. “It should be like Manhattan,” he says.

Some opponents of Songshan Airport say that its location in downtown Taipei makes it inherently unsafe. Those voices grew especially loud in the wake of the February 2015 crash in the Keelung River of TransAsia Airways Flight 235, which resulted in 43 deaths and 14 injuries. The Kinmen-bound flight had just taken off from Songshan Airport.

Following the crash, Kuomintang
Legislator Luo Shu-lei told the Chinese-language *United Daily News* that Songshan was the “most dangerous airport” in the world and should be shut down.

A March 2015 editorial in the English-language *Taiwan News* said that Songshan poses a threat to the safety not just of nearby residents, but to all the parts of Taipei City and New Taipei City that are below flight paths. “Do you keep an airport running which might cause the loss of hundreds or even thousands of lives the next time things go wrong, or do you close it down in an orderly process and transfer its operations to another airport ready to take over?” the editorial said.

Hwang Tay-lin, an associate professor of aviation and maritime management at Chang Jung Christian University, says that media reports about Songshan Airport being unsafe are exaggerated. The airport is in full compliance with international aviation requirements, he says. “It’s not reasonable to say that Songshan is unsafe simply because it is located in an urban area,” Huang maintains. “The TransAsia crash occurred because of pilot error, not because of an issue related to the airport itself.”

**Easier said than done**

In January, the Ministry of Transportation and Communications (MOTC) announced it had commissioned a feasibility study to evaluate whether Songshan Airport should be closed and its air traffic moved to Taoyuan. The Ministry’s Civil Aeronautics Administration (CAA) and the Taoyuan International Airport Corp. are currently working together on the study, which is expected to be completed by year-end.

Lee of AmCham Taipei’s Infrastructure Committee questions whether the study will be perceived as being objective. “With the government carrying out the study, people are going to think it’s biased,” he says. “What we need is for the government to hire an independent party who can stay above local politics and offer objective analysis and recommendations.”

In an interview with *Taiwan Business Topics*, CAA Director-General Lin Kuo-shian highlighted three issues that will weigh heavily in any decision about Songshan’s future. First, travelers to and from Taiwan’s offshore islands account for 84.3% of Songshan’s annual domestic passenger volume of 2.8 million people. “If Songshan Airport’s flight capacity is relocated to Taoyuan Airport, it will greatly impact their needs and rights,” he says. Many of those passengers come to Taipei for just a limited amount of time and highly value the convenience of Songshan, he notes.

Underscoring that point, DPP Legislator Yang Yao, who represents Penghu, said during a meeting of the Legislative Yuan in March that residents of Taiwan’s offshore islands strongly oppose closing Songshan since it would compromise their access to the high-quality medical facilities in Taipei.

Secondly, the CAA owns only 41.5% of Songshan’s land, with the remainder belonging to the Ministry of National Defense. “For Songshan to be shut down, the Ministry of National Defense would have to agree, and they have their own considerations, different from the CAA or the Taipei City government,” Lin explains.

Thirdly, Lin points out that Taoyuan Airport’s passenger volume has spiked in recent years. Its runways, terminals, and aprons are on the brink of overload, and have no extra capacity to accommodate Songshan’s passengers and facilities. “It would be better to evaluate the feasibility of relocating Songshan Airport in 2030, after capacity improvements of Taoyuan have been completed,” he says.

In March, speaking to legislators,....
The best beaches on the island of Taiwan are in Kenting National Park, an isolated nook of the Hengchun Peninsula near the country’s southernmost point. To get there from Taipei requires a two-hour journey on the high-speed rail to Kaohsiung, followed by a 2 to 2.5-hour taxi ride or a three-hour bus trip.

The length of the trip to Kenting has long been a deterrent to its tourism business, with domestic tourists often opting instead for the bucolic Penghu islands, a mere 50-60 minute flight from anywhere in Taiwan. Venturing farther afield, one can reach Japan’s Okinawa islands in about 100 minutes by air.

With an eye to raising Kenting’s profile, in the early 2000s the Pingtung County government persuaded the central government to allow it to build an airport that would cut travel time from Taipei to Kenting to about an hour. In theory, the idea was sterling. If the journey was a breeze, who would be able to resist Kenting’s rustic tropical charms?

There was just one problem overlooked by planners: Powerful downslope winds lash the Hengchun Peninsula from October to April, making it next to impossible for seven months of the year to land the light aircraft that Kenting’s Hengchun Airport can accommodate. Hengchun’s location – near the ocean and surrounded by mountains – means the airport cannot be expanded to accommodate larger jets able to navigate the heavy winds.

As a result, arrival numbers at the Hengchun Airport fell from 23,000 in 2004 (its first year of operation) to 11,000 in 2006 and just 2,448 by 2011, according to the Civil Aeronautics Administration (CAA). No flight arrivals have been recorded at Hengchun Airport since September 2014.

Industry observers had expected the central government to turn Hengchun Airport over to the military, yet in December the Ministry of Transportation and Communications (MOTC) announced a CAA plan to bring international charter flights to the airport for a two-year trial period. Under the scheme, Kaohsiung International Airport would deploy workers to Hengchun Airport to handle work related to international flights, such as customs, immigration, quarantine, and security matters.

The CAA plan is based on a proposal by the Pingtung County government. “The Hengchun Airport exists because the local government wanted an airport, so they are clearly going to oppose efforts to close it,” says Hwang Tay-lin, associate professor of aviation and maritime management at Chang Jung Christian University.

At the same time, he explains, the airport is hemorrhaging cash. Although no flights have arrived at or departed from the airport in two-and-a-half years, “people are still going to work every day,” Huang says. Annual losses from the airport’s operations come to some NT$60 million (US$1.9 million), according to the CAA.

According to recent posts on Hengchun Airport’s Facebook page, the airport is hosting educational activities. An April 11 post shows photos of students from the Affiliated Hospitality
Taoyuan Airport provides the majority of Taiwan’s international flight service. Taipei City’s Songshan Airport, Kaohsiung Airport, and Taichung Airport offer limited international service to Asian destinations.

But since a flash flood disrupted service at Taoyuan Airport in June 2016, Taichung officials have been urging that the city’s Ching Chuan Kang Airport, which also serves as an air force base, be upgraded to a full-scale international airport. Taichung Mayor Lin Chia-lung has maintained that an international airport is needed to serve the city’s population of 2.75 million and its multiple industries, as well as to reduce congestion at Taoyuan Airport, where airport traffic reached 40 million passengers last year.

In a July 2016 report by Taiwan’s Central News Agency, Lin described his proposal as a “well-thought-out strategy that would allow the northern, central, and southern regions to complement one another and help achieve balanced regional development.”

Taichung Airport has been steadily boosting its international flight capacity in recent years. International and cross-strait passenger traffic volume rose from 91.4 million in 2012 to 147 million in 2016, according to the Civil Aeronautics Admin-

WILL TAICHUNG’S AIRPORT BE EXPANDED?

Local authorities are pressing for Ching Chuan Kang to be upgraded to international airport status.

The Taichung government would like the city’s airport to be upgraded to become a full-fledged international airport.

*Photo: Wikipedia*

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The salvation for Hengchun Airport may be opening it to international charter flights.

*Photo: Wikipedia*

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By Matthew Fulco
istration (CAA). The airport currently serves 17 international destinations. Eight of those are cross-Strait routes; there is also service to Hong Kong, Macau, Japan, Korea, Vietnam, and Cambodia.

“Based on the passenger traffic volume forecast and long-term development trends, the Taichung metropolitan area has international route needs,” the CAA said by email, adding that Taichung Airport serves as a “good regional international airport” for Northeast and Southeast Asia.

Yet some observers say Taichung Airport’s development could be hampered by its narrow taxiways, insufficient airport apron space, and a restriction on flights between 11 p.m. and 7 a.m. (to avoid noise complaints).

“Not only do we need to consider demand at Taichung Airport, but we also need to look at the actual situation on the ground, and determine if it’s feasible to make major upgrades,” says Chen Ming-ming, chief executive officer of the KKday e-commerce travel platform and a veteran of the tourism industry.

“It’s not uncommon for local officials in Taiwan to press the central government to support their big infrastructure projects for political reasons,” Chen observes. In this case, Taichung’s prestige would be raised if it could have an international airport of its own, as Taipei and Kaohsiung do, he adds.

Also vying for more international flights is Kaohsiung Airport. Last June, Kaohsiung Secretary-General Yang Ming asked the Ministry of Transportation and Communications (MOTC) to consider shifting some international flights from Taoyuan to Kaohsiung. “Southern Taiwan needs more flights to help bring in more tourists and create business opportunities,” he was quoted as saying by the English-language Taipei Times.

The local government has tried and failed to get approval to expand Kaohsiung Airport in the past, observes Paul Lee, head of AmCham Taipei’s Infrastructure Committee and chairman and CEO of Global Construction International. “The city wanted to lengthen the runway to bring in more logistics investment, but they faced restrictions on building because of the airport’s proximity to the city,” he says.

Diverting flights from Taoyuan to Kaohsiung seems unlikely. Like Taichung, Kaohsiung has a longstanding ban on late-night flights (in Kaohsiung’s case the ban is from midnight to 6:30 a.m.). Further, airlines would lose money if flights are diverted from Taoyuan to Kaohsiung, as planes would need to fly at off-peak hours. “The airlines wouldn’t accept that, nor would they accept being diverted to Taichung,” says Chen.

Meanwhile, Taoyuan Airport is undergoing substantial upgrades of its own, which will help it to ease congestion problems. Expansion of Terminal 2 is scheduled to be completed in 2018, and construction of Terminal 3 by the end of 2020. The Taoyuan International Airport Corp. has moved up the completion date of a third runway from 2030 to 2025 to meet rising demand.

Taichung Airport officials are proceeding with plans to expand their airport, whether or not it is ultimately upgraded to international level. The Central News Agency’s July 2016 report noted that construction of a second runway has begun and that seven overnight parking bays will be completed by 2018.

“There is sufficient land for the development and use of the airport in the vicinity of Taichung Airport,” the CAA said, adding that future development will be contingent on growth of airport passenger traffic and the surrounding metropolitan area.

The local government has also put together a NT$64 billion (over US$2 billion) plan to build a 36-kilometer MRT system that would connect Taichung’s airport and seaport to the city’s downtown. The MOTC will review the plan this year.

Based on current cargo flights, facilities, capacity, and future growth projections, “Taichung Airport can serve as a solid alternative airport to the Taoyuan and Kaohsiung airports,” Paul Lee concludes.

— By Matthew Fulco
For Taiwan’s erstwhile No. 3 carrier, TransAsia Airways, the end came mercifully. For nearly two years before it declared bankruptcy last November, TransAsia had struggled to fill flights, its load capacity falling to 60%. Even slashing prices to as little as NT$1,500 (about US$50) for certain domestic flights, such as the Taipei-Hualien route, failed to attract business.

Chairman Vincent Lin blamed falling Chinese visitor numbers, high fuel prices, and a resurgent U.S. dollar for the company’s losses, which totaled NT$2.2 billion (US$72 million) in the first three quarters of 2016. Speaking at a news conference at the Taiwan Stock Exchange, chief executive officer Liu Tung-ming said, “Despite our best efforts to devise a new business model, the company could not produce an effective turnaround plan to repair its deteriorating finances.”

It was an unfortunate turn of events for TransAsia, Taiwan’s first private civil carrier. The firm had previously thrived on a somewhat innocuous reputation. It lacked the resources and scale of its competitors EVA Airways and China Airlines, but was less expensive – and until its last two years of operation, nearly as safe.

That changed when two fatal crashes claiming 91 lives occurred within seven months of each other (July 2014 and February 2015), sapping consumer confidence in TransAsia. Investigators ruled that pilot error caused both crashes, rather than engine failure or inclement weather conditions.

Aggravating matters, local TV stations and social media users constantly replayed footage of the second crash, recorded by a passing car’s dashboard camera and showing the plane careening over an elevated highway in Taipei and into the Keelung River. In Taiwan, “TransAsia Airways” became synonymous with the risks of flying.

“The crashes frightened people,” says Hwang Tay-lin, an associate professor of aviation and maritime management at Chang Jung Christian University. “They felt TransAsia couldn’t guarantee their safety on flights.”

From its inception in 1951 under the name Foshing Airlines through 2007, TransAsia chiefly flew domestic routes. One of the most important of those was Taipei-Kaohsiung. At the zenith of Taiwan’s domestic aviation market in the mid-1990s, that route was served by 3,000 flights a year. Competition was fierce. Some carriers offered a package of 10 pre-paid tickets for frequent travelers, with a one-way ticket costing about NT$800.

But over the next decade, the Taiwan economy decelerated, and many factories in the South moved their operations to China, decreasing domestic business travel. Then the high-speed rail arrived in 2007, dealing a crushing blow to the domestic aviation industry. That year, Taipei-Taichung and Taipei-Chiayi service were canceled. The following year brought an end to the Taipei-Tainan route. Finally in 2012, the once-lucrative Taipei-Kaohsiung route was terminated.

The high-speed rail affected all of Taiwan’s carriers adversely, but it hit TransAsia especially hard. Compared to China Airlines and EVA, “TransAsia was much smaller, so it was harder for the company to absorb the losses,” says Chang Jung Christian University’s Hwang.

Had things continued that way, TransAsia might not have lasted much longer. Indeed, its counterpart Far Eastern Air Transport (FAT) collapsed in early 2008. What saved TransAsia was the launch of direct cross-Strait flights and
the opening of Taiwan to Chinese tourists in the first year of former President Ma Ying-jeou’s administration. Between 2009 and 2013, TransAsia’s revenue doubled on the back of cross-Strait flights. The company went public in 2011.

“The cross-Strait routes were very profitable,” says Chen Ming-ming, chief executive officer of the KKday e-commerce travel platform and a veteran of the tourism industry. “In terms of distance, Taipei-Shanghai isn’t much farther than Taipei-Kaohsiung, but TransAsia could charge three or four times as much (NT$12,000-NT$16,000 compared to NT$4,000).

Vicious cycle

As TransAsia’s fortunes improved, the company embarked on an aggressive expansion effort. Its fleet of aircraft grew to 27, flying to 27 destinations, 13 of which were in China. TransAsia also flew to six cities in Japan, and launched flights to Singapore, Thailand, and Vietnam.

In the throes of that expansion, the company made a critical mistake in purchasing four costly Airbus A330 aircraft, says Hwang Tay-lin. The planes, which were part of a total plan worth US$480 million and required a down payment of roughly US$38 million, put significant fiscal pressure on the company at a time when revenue was already suffering following the July 2014 Penghu crash.

With the new equipment, TransAsia began flying to Singapore, Seoul, and Tokyo – cities that attract lots of business travelers, KKday’s Chen notes. “Business travelers drive revenue for airlines, but TransAsia didn’t have enough flights,” he says. “Business travelers often buy tickets at the last minute, and they need an airline to have a number of options.”

Yet chairman Vincent Lin reportedly believed TransAsia’s future lay in further international expansion. Following the company’s announcement in December 2014 that it would purchase four more new Airbus planes, it set its sights on U.S. territories in the Pacific. TransAsia said it expected to launch a chartered flight service to the Northern Mariana Islands in 2015.

The company also launched V Air, Taiwan’s first low-budget carrier, in December 2014. Lin estimated the cost of that venture to be NT$2 billion NT$3 billion (US$65.6 million to US$98.4 million). V Air flopped, carrying just 500,000 passengers before bowing out in September 2016. In a research note at the time, the Australian-based Centre of Aviation (CAPA) said: “V Air’s collapse is not self-inflicted but rather, a failure of TransAsia.” Given TransAsia’s “small size and undefined market position, instead of the sum of the two airlines being greater than the individual parts, having two sub-scale airlines fragmented both,” CAPA said.

Meanwhile, the situation worsened. A steady personnel exodus robbed TransAsia of its top talent, as Chinese carriers lured away pilots with higher pay and the chance to fly a larger variety of routes. Morale among employees lagged as the company struggled to restore its reputation.

In July 2016, Taiwan’s Aviation Safety Council (ASC) published a devastating report that found negligence on the part of TransAsia Airways played a role in the fatal February 2015 crash. Investigators found that the captain of Flight GE235 had been unable to smoothly handle emergency situations such as engine failure during training sessions, but TransAsia failed to address the problem. The captain failed a flight simulator test in May 2014 as he could not manage an engine flameout occurring during takeoff.

The 16.2% drop in Chinese visitors
to Taiwan last year hastened TransAsia’s demise. The most profitable routes for the company started to lose money from mid-2016 when the inauguration of President Tsai Ing-wen caused Beijing to put a damper on cross-Strait relations.

There was still a chance to save TransAsia from bankruptcy. But the Lin family feared that continued poor performance by the airline would hurt other companies in the group to which TransAsia belonged (The Goldsun Development & Construction Co.), says KKday’s Chen.

From December 1, the Civil Aeronautics Administration (CAA) suspended all TransAsia flights, temporarily designating China Airlines to take over the flights through January 20. The CAA further supervised the use of an NT$600 million trust fund for severance payments to TransAsia’s employees, while an additional NT$600 million was earmarked for refunds to customers and travel agencies, observes Lin Kuo-shian, director-general of the CAA. “We have done our best to ensure that travelers and employees’ rights are protected,” he says.

Ultimately, the bankruptcy proceeded smoothly, says Hwang Tay-lin, adding that TransAsia’s employees were able to find jobs with other Taiwanese airlines.

Given the extent of the company’s fiscal distress, “bankruptcy was the most reasonable option for TransAsia,” Hwang concludes.

— By Matthew Fulco

UBER’S ON THE ROAD AGAIN

The ride-hailing app is now partnering with licensed car-rental companies in Taiwan.

Ride-hailing app Uber returned to Taiwan in April after a two-month suspension of its services, this time in partnership with licensed car-rental companies. In a break with Uber’s standard business model, drivers’ companies set the fares – and non-professional drivers are barred from taking Uber assignments.

The revised business model solves Uber’s insurance and registration travails in Taiwan. Previously, Uber was unable to insure its drivers or passengers as the drivers were unlicensed. Secondly, since it is registered as a technology company, Uber is forbidden by law from hiring its own drivers in Taiwan. Now, drivers working with the ride-hailing giant are hired by their respective car-rental firms.

At an April press conference in Taipei, Uber Asia-Pacific regional general manager Mike Brown said that the company is “happy to bring Uber back in Taiwan,” adding that it is important for Uber to adhere to local regulations.

Uber’s newfound interest in compliance comes after a protracted battle with regulators that saw it get slapped with NT$830 million (about US$27 million) in fines. Regulators say the company must also pay NT$50 million (US$1.64 million) in taxes for 2015.

“As far as the regulations are concerned, the Taiwanese government seems to be okay with Uber’s change in service operations,” observes Nephy Hu, an industry analyst at the state-backed Market Intelligence & Consulting Institute (MIC). But to ensure that its business runs smoothly in Taiwan, Uber must pay its fines in full, he says.

Uber has appealed the fines and is in discussion with the government about its tax bill, company executives say.

Given Taiwan’s strict ride-hailing operation rules, Hu cautions that Uber may still face headwinds in Taiwan. “The chance for Uber to be shut down [again] cannot yet be completely ruled out, as there is potential for it to violate public transportation regulations,” he says.

Meanwhile, Uber’s UberEats food-delivery service remains a point of contention with local authorities. In a February statement, the Director-General of Highways (DGH) said the meal-delivery app was an illegal business. But by utilizing “legal loopholes to evade government inspections,” UberEats had prevented the government from collecting sufficient evidence to “confirm their business operations.”

At present, it is unclear how the continued operation of UberEats will affect Uber’s new venture here with car rental firms. Still, “if Uber is able to survive and flourish in compliance with the rules set by the Taiwanese government, the diversification brought by Uber will be a positive thing for the Taiwanese licensed rental-car market and may force taxi operators or individual taxi drivers to upgrade their services,” says MIC’s Hu.

— By Matthew Fulco
When I arrived in a vibrant Taipei at the end of 1990, the young professionals I met were upwardly mobile and full of hope. Learning English was all the rage, and they diligently studied English in their spare time.

Since arriving in Taiwan, I have been a teacher, trainer, coach, and consultant. These jobs have given me a front-row view on employment and employability, especially in multinational corporations. All in all, I have spent more than 30,000 hours training professionals in entry-level jobs and coaching CEOs in charge of thousands of people. I have watched these professionals move up or be squeezed out – some unable to find a job again.

The optimism and prosperity that I initially found so attractive about Taipei now seems to be under threat – a threat coming from the nature of the jobs available in Taiwan and the competence needed to do those jobs. In this article, I will point out the source of the problem with employability and then offer modest suggestions for what can be done about it.

Let’s begin by looking at the nature of available jobs. As Taiwan’s prosperity rose during the 70s, 80s, and 90s, so did the wages of its workers. When wages reached a tipping point, businesses in Taiwan found it more cost-effective to gradually move the work to China, Vietnam, Indonesia, Thailand, Cambodia, and other places with cheaper labor. There was nothing unusual about that decision. To stay competitive, businesses always look for ways to lower costs, and as Taiwan’s labor cost went up, companies here inevitably sought cheaper labor elsewhere.

For labor-intensive jobs that could not be offshored – jobs such as taking care of the elderly, doing housework, and waiting on tables – Taiwan began importing labor, mainly from the Philippines, Indonesia, and Vietnam. That these jobs are largely performed by people from less prosperous countries is also a reflection of how the global economy works. Those who grew up in prosperous times in Taiwan find such labor-intensive work unappealing. As a result, there are now fewer labor-intensive jobs in Taiwan, and for social and economic reasons, the few labor-intensive jobs that are available are deemed unattractive and unacceptable by most of the local population.

For domestic job-seekers that leaves office work as the main option for employment. Nearly all these jobs, however, require specialized knowledge, training, or certification – jobs such as accounting, law, medicine, and software programming. Depending on the nature of the job they aspire to, people may spend between four and ten years acquiring the necessary knowledge, experience, and certification. I have grouped these specializations in Figure 1 under three broad categories: economic, scientific, and humanities.

**Fig. 1 Examples of specializations universities provide**

- **ECONOMY-RELATED**: Business administration, Accounting, Finance, Human resources, Marketing, Sales, Logistics, Information technology, Law
- **PEOPLE-RELATED**: Philosophy, Psychology, Literature, Art and design, Sociology, Anthropology, Religion
- **SCIENCE-RELATED**: Programming, Medicine, Mechanical engineering, Chemical engineering, Mathematics
Given how the nature of office jobs has changed in recent decades, changes are also needed in the way we educate and otherwise prepare people for those jobs. Think about how most subjects are taught in school. If you are from Taiwan, for example, reflect on how you learned English in class. Most likely you were asked to memorize vocabulary and grammar rules, listen to recorded conversations (if you were lucky), and then take standardized tests based on what you read, heard, and memorized – instead of demonstrating that you could use English to solve real problems in real situations, which is what English is needed for at work.

That’s the first problem with how students are being prepared to perform office jobs. Instead of being prepared to perform the tasks they will face at work, they are being prepared to pass standardized tests.

Secondly, Taiwan students are using the same books, same learning methods, and same tests as their counterparts in other countries. When these students graduate, they find that office jobs tend to go to qualified workers in places where the labor cost is the cheapest. For example, many multinational companies in Taiwan offshore their call-center jobs to China. The same is true with accounting, customer support, coding, and other jobs that do not need to be performed locally.

The third problem, which is still nascent, is the automation of well-defined, routine cognitive tasks. As machine-learning algorithms mature, many well-defined, routine cognitive jobs that people perform today will be taken over by software at a fraction of the cost. In fact, it is happening already. Most Taiwan citizens prefer using eGate instead of dealing with human immigration officers, and consumers increasingly prefer going online for booking flights, reservation hotel rooms, and buying products.

Consequently, the majority of the office jobs available in Taiwan will be undefined and non-routine in nature. What has been happening in the United States will most likely transpire in Taiwan as well. A study conducted by the Massachusetts Institute of Technology (MIT) in 2013 found that (as shown in Figure 2) among the five types of tasks performed by workers – routine manual, routine cognitive, non-routine manual, non-routine interpersonal, and non-routine analytical,
and non-routine interpersonal – growth between 1960 and 2009 occurred in only two categories: non-routine analytical and non-routine interpersonal.

A separate study by McKinsey & Company, published in January 2017, concludes that jobs that are least likely to be automated are 1) Managing and developing people, 2) Applying expertise in planning, decision-making, and creative tasks, and 3) Interfacing with stakeholders.

In other words, the McKinsey & Company report reaches the same conclusion as the MIT study. Managing and developing people and interfacing with stakeholders means the same as “non-routine interpersonal tasks,” and applying expertise in planning, decision-making, and creative tasks, in essence, means the same as “non-routine analytical tasks.”

That gives us a fairly reasonable idea of the kinds of employment available to people residing in Taiwan. Labor-intensive jobs are fewer and fewer, and those that are available will be unappealing in nature. Among office work, jobs that can be offshored will move to cheaper labor markets, and in time other well-defined, routine jobs will be automated.

Among the remaining office jobs, the majority will be non-routine in nature. They will require creativity and innovation as well as emotional and social intelligence – areas in which the Taiwan workforce tends to be the weakest, as shown in the annual Business Climate Survey conducted by AmCham Taipei. Over many years, the survey has consistently shown that managers find Taiwan’s human resources lacking in the competencies most needed for performing non-routine analytical and non-routine interpersonal tasks, including creativity and innovation, showing initiative, and being able to compete at an international level.

As seen in the survey results shown in Figure 3, despite being highly educated, trustworthy, and hard-working, Taiwanese people lack the very competencies the available jobs require.

**So what can be done?**

First of all, as most work will be non-routine, analytical, and interpersonal in nature, we need to prepare our children early for these jobs. Schools will need to shift their focus from individual learning to peer-based learning, and the way we evaluate students will need to be changed. Instead of giving each individual student a score, evaluations will become team-based, and knowledge-based evaluations will become learning-based.

As an example, the teacher could divide the students randomly into groups, asking each group to research a particular subject as a team and then present the findings to the class. Each team should be evaluated based not only on what they accomplished but also what they learned from others and their feedback. Peer-based learning will foster the development of non-routine, interpersonal learning – something that is missing in the way learning is currently structured in the schools.

For university students, in addition to each person acquiring specialized knowledge, a “design-thinking”-based framework can be used to encourage collaboration between different disciplines. Stanford University already has a successful program that has been tried and tested. What universities in Taiwan need is to find a way to implement it locally. Design-thinking-based learning will allow us to address the three major concerns that businesspeople have related to Taiwan human resources: lack of initiative, innovation, and creativity. Design thinking fosters collaboration – as shown in Figure 4. You can find more information about design thinking at https://dschool.stanford.edu.

Finally, learning should be seen as a life-long process, the way breathing is a process. We are not done with breathing in the morning and then head off to work. Just as we keep breathing throughout the day, we need to create systems and processes at work where we are continuously learning. The very nature of non-routine jobs demands continuous learning. The best way to accomplish it is to gradually change the organizational management framework from the current command-and-control to a coach-and-collaborate framework that relies on continuous feedback, learning, and adjustment.

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Steady Promotion of Taoyuan Aerotropolis Project

As a flurry of announced major infrastructure projects, the Taoyuan Aerotropolis stands out for its scale and boldness. Touted as the largest national infrastructure project since the Ten Major Infrastructure Projects of the 1970s that catapulted Taiwan into the ranks of major industrial economies, the Aerotropolis is a planned transportation, logistics, industrial, and residential city that will take up 4,687 hectares, surrounding and encompassing the existing 1,223-hectare Taiwan Taoyuan International Airport.

The Aerotropolis project was originally conceived nearly three decades ago, and was formally announced in 2012 with the launch of the Aerotropolis Action Plan by the Executive Yuan. The plan was formally accepted by the Ministry of the Interior in 2014, and currently is undergoing a review of its urban-planning arrangements and land acquisition by sections.

Chairman Huang, the project’s new chairman, says that during the administration of the previous county government the Aerotropolis suffered from adverse publicity regarding forced relocations, the prospect of added pollution, and allegations of corruption in land acquisition. To overcome these criticisms, incumbent Taoyuan City Mayor Cheng Wen-tsan has vowed that the Aerotropolis will be developed according to the following 5 Principles: “Public Transparency,” “Democratic Participation,” “Eco Development,” “Public Interest,” and “Introduction of Industries.”

Transparency is vital to safeguarding the Public Interest. Noting that transparency and open communication are the keys to gaining public trust, Chairman Huang adds that transparency regarding all aspects of the project, including land deals and investment approvals, will reduce unnecessary disputes and eliminate allegations of abuse of power, illegal land speculation, and insider trading.

Because of the project’s vast scale, it will have broad impact on numerous stakeholders. Mayor Cheng has therefore stressed that the principle of Democratic Participation is an integral part of the decision-making process for the Aerotropolis. The door has been open for both technical experts and average citizens to participate in what the Aerotropolis project organizers call “whole community public hearings” designed to allow opinions on all sides to be fully expressed and discussed.

The Aerotropolis will also employ the most technologically advanced green energy and smart city solutions to ensure that the project meets the principle of Eco-Development under the guidelines of “three lows and one high” – low energy consumption, low pollution, and low water usage, along with high added value. “Low carbon and the use of fewer resources will be the foundation for an eco-friendly Aerotropolis,” says Huang.

In addition, the Aerotropolis will play a key role in the Asia-Silicon Valley Development plan, one of the 5+2 Innovative Industries being promoted in cooperation between by the Taoyuan authorities and Taiwan’s central government. The program aims to foster an innovation and entrepreneurship ecosystem particularly related to the Internet of Things (IoT), and Taoyuan Aerotropolis, in coordination with Taoyuan, is planning to build the “Asia Innovation R & D Talent Exchange Center.” This center will provide research and test beds for budding entrepreneurs from Taiwan and around Asia, in close contact and coordination with Silicon Valley, enabling technology testing, fundraising, and eventually, the “Asian Youth Innovation IPO Center” as the goal.

In accordance with the principle of Introduction of Industries, the Aerotropolis will seek to leverage the island’s geographic advantages and industrial and technological capabilities to create a logistics, commercial, residential, and technological hub for the Asia Pacific region. Upon completion, the Aerotropolis is expected to create 200,000 to 300,000 new jobs, generate annual revenues of NT$2.3 trillion (US$75.4 billion), accommodate 60 million passengers and 4.5 million TEUs of container cargo a year, and register total investment of NT$500 billion (US$16.4 billion) in aviation and non-aviation related industries.

The Aerotropolis will consist of five dedicated zones: an Administration and Business Service Zone, which will include the provision of international financial services; a Passenger Transportation and Retail Zone that will include areas for MICE facilities, Integrated Recreation, and International Medical Services; a Green Innovation Zone featuring areas for Aircraft and Aviation, Biotechnology, Cloud Computing, Green Energy, and Cultural and Creative Industries; a LOHAS Residential Zone with areas for Research, Exhibition and Living Facilities; and a Logistics and Trading Zone that includes areas for International Logistics.

The Aerotropolis project is not only ambitious in concept, but enjoys a strategic location that brings some clear advantages. Taiwan is on average less than three hours away by air from nearly all major East and Southeast Asian cities, making it a natural choice for international shipping and logistics as well as international conferences and events across the Asia Pacific region. The airport’s Third Terminal
and Third Runway projects, which have been approved and absorbed into the Aerotropolis project, will tremendously expand the capacity of the airport from today’s 40-plus million passengers annually to well over 60 million by 2025.

In addition, the Aerotropolis in the future will include multiple tourist facilities, such as hotels, conference centers, shopping malls, and even a theme park, to attract both casual visitors and MICE-related (meetings, incentive, conferences, and exhibitions) travelers. The cargo and logistics zones, as well as easy access to the Port of Taipei, will make the Aerotropolis well-suited to be a major logistics and transshipment hub, including Free Trade areas where light manufacturing can be performed, enabling the Aerotropolis to become a high-added-value industrial zone.

The Aerotropolis will also include huge investments in ground transportation, such as an extension of green line to the existing Airport MRT and roadways that will one day cater to automated electric vehicles. In keeping with the ideals of LOHAS, the region will serve as a launching pad into the Forward Looking Infrastructure Development program, the Aerotropolis will be a major logistics and transshipment center, as easy access to the Port of Taipei, will make the Aerotropolis well-suited to be a major logistics and transshipment hub, including Free Trade areas where light manufacturing can be performed, enabling the Aerotropolis to become a high-added-value industrial zone.

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Rarely does Taiwan have a moment to bask in the international spotlight, but a major such opportunity is coming this summer. From August 19 to 30, Taipei and neighboring cities will host the 29th Summer Universiade. Given that Taiwan inhabits a diplomatic no-man’s-land, this will be the biggest international event it has ever hosted, offering a chance to raise Taipei’s profile as a global city and enhance Taiwan’s reputation as a tourist destination.

To appreciate how rarely Taiwan gets to host such occasions, consider that previous contenders for the biggest international events held here include the 2010 Taipei International Flora Expo, the 1948 Taiwan Province Expo, and – going back to the Japanese colonial era when Taipei was known as Taihoku – the Taiwan Exhibition of 1935.

Universiade, a name coined by combining the words “university” and “Olympiad,” has been organized by the Swiss-based International University Sports Federation (FISU) every other year since 1959. The Summer Universiade, which ranks as the second-largest multisport event in the world, exceeded only by only the Summer Olympics, will be the first large-scale international athletic competition that Taiwan has ever hosted.

When Taipei Mayor Ko Wen-je opens the games in August, over 12,000 athletes, coaches, and staff from 145 countries are expected to be on hand for competition in 22 sports categories, according to the organizers. That’s even more than the total participants in last year’s Summer Olympics in Rio de Janeiro.

The Universiade will enable spectators in Taiwan to view a high level of athletic competition. Roughly half of Olympic medalists have previously participated in a Universiade, notes You Shih-Ming, deputy finance commissioner of the Taipei city government, who is serving as deputy CEO of Taipei’s Universiade organizing committee.

Speaking at an Amcham Taipei luncheon on March 30, You described the extensive efforts the organizing committee has made to ensure the success of the games, as well as to provide a legacy that will last beyond this year’s event.

In November 2011, FISU announced that its decision to award the 2017 Universiade to Taipei, which was competing against Brasilia, Brazil for hosting rights. Given that another Brazilian city, Rio de Janeiro, was preparing to host the 2016 Summer Olympics, Taipei’s successful candidacy...
Taipei then put together a staff of more than 600 personnel to work on the project, most of them full-time. Their objective is to ensure that this summer’s Universiade goes off without a hitch, in hope that a successful event will lead to similar opportunities in the future. “We want to demonstrate to the world that Taipei has the capability to host large events like this,” You says.

It is no small task. All told, the 2017 Universiade will require 79 venues for competition and training. The majority of these facilities are in Taipei and New Taipei City, but some are as far away as Taoyuan, Hsinchu City, and Hsinchu County. Fourteen universities across northern Taiwan are involved in this collective effort, both as venues and sources of volunteers.

More than US$100 million has been spent on refurbishing and upgrades for the 38 competition venues and 41 training facilities, including work on 10 soccer fields and a revamped Tianmu Baseball Stadium, which received an NT$120 million facelift.

There has also been construction of new facilities that will be available for use after the Universiade. One example is the new Taipei City Tennis Center on Minquan East Road, which was built on the grounds of a closed primary school. The center has a seating capacity of 15,000, and it is hoped that after the curtain falls on this year’s Universiade it will be able to host both ATP and WTA tennis tournaments.

The more than 11,000 athletes will be housed at the Athletes’ Village at Linkou. The location is critical, as FISU rules mandate that the Athletes’ Village be located no more than 60 minutes from all competition venues. You notes that special consideration went into planning the village, including easy-to-overlook details such as the need to provide longer beds for the tall basketball and volleyball players. Various dietary requirements were also given attention when deciding the village’s dining hall menu. In addition to highlighting traditional Taiwanese dishes such as xiaolongbao dumplings, roast duck, and glutinous rice balls in soup, athletes will have a wide selection of international, halal, vegetarian, and vegan eating options from which to choose.

Everything on schedule

This past March, Summer Universiade director Marc Vandenplas led an 11-member delegation to Taiwan to tour the Athletes’ Village and competition venues to ensure that all facilities would be ready for opening day. Also discussed were budgetary matters, plans for the opening and closing ceremonies, and logistical details such as the catering and interpretation services. Vandenplas publicly praised the organizing committee for both its preparation and its candor, which he said exceeded that of previous hosts.

Many other visitors have been in and out of Taiwan in recent months to work on preparations for August’s events. Among them has been Nels Hawkinson, deputy head of delegation for Team USA. This year will be Hawkinson’s fourth Universiade – he previously was in charge of all logistics for the 2011 games in Shenzhen, China, as well as the 2013 games in Kazan, Russia and the 2015 games in Gwangju, South Korea.

Taiwan’s organizing committee has had several opportunities to see first-hand what is involved in hosting a Universiade. It sent delegations to observe the Universiades held two years ago in South Korea and four years ago in Russia.

Hawkinson has made four trips to Taiwan in the past year to meet with organizing committee officials, government leaders, and the American Institute in Taiwan. After inspecting the different venues, he says he was highly impressed with the level of organization and preparedness.

“It’s amazing to me that Taiwan has not hosted any major international event before, as it has great infrastructure in place to pull this off successfully,” Hawkinson says. “This will be their greatest challenge ever, and I know they will be prepared and it will be a huge success.”

Hawkinson predicts that Taiwan will also be among the top medal winners this year, along with Team USA and competitors from Russia, China, Japan, and South Korea. He considers Taiwan as likely to excel in baseball, women’s basketball, and martial arts, while Team USA is strongest in swimming and basketball. You adds that he expects Taiwan to be particularly competitive in badminton and weightlifting.

The foreign athletes coming to Taiwan – and their friends, family, and supporters accompanying them – are likely to have many questions regarding food, language, local culture, and places to go and things to see, Hawkinson says. This is where Taiwan’s extensive support preparations will hopefully be helpful.

Taipei Universiade’s main operation center will be located at Taipei Arena, but for athletes the main interface with the organizing committee will be the 18,000 volunteers who have been enlisted to help ensure everything goes smoothly. Among these volunteers are 11,600 Taiwanese students, 6,000 other members of the local community, and nearly 300 international volunteers.
residing in Taiwan.

Health and safety are also important issues for international events such as these, and the organizing committee has worked to make sure that crucial infrastructure and measures are in place for any potential problems that arise, from a sprained ankle to a terrorist attack.

A total of 39 designated hospitals across northern Taiwan will serve the games, offering medical services, sports physiotherapy, and even Traditional Chinese Medicine treatments such as cupping, which received global attention at the Olympics in Rio courtesy of swimmer Michael Phelps.

Besides being a hot month, August also has the potential to bring destructive and disruptive typhoons. While medical staff will be available for athletes exhibiting signs of heat-related problems – and Taipower is working to make sure that there will be sufficient electricity for all the air-conditioning units in the Athletes’ Village – there is little any government can do about the weather. Nevertheless, Mayor Ko visited temples around Taipei in January, making offerings and asking the gods for good weather during the games.

Security planning has been a top priority for the government. On April 15, the Office of Homeland Security under the Executive Yuan said that in the event of a major security breach or terrorist attack during the Universiade, an emergency response mechanism will be activated. A first-tier response center will be headed by the Vice Premier, while a second-tier response center will be led by the Minister of the Interior.

Numerous rehearsals coordinating military, police, and medical units have been held in recent months, including a simulated hostage negotiation situation involving the buses that will be used to transport athletes. Drills have featured the use of hardware ranging in size from flash grenades to Black Hawk helicopters.

“For You, For Youth”

The motto for the Taipei Universiade 2017 is “For You, For Youth,” implying that the benefits of the event will be enjoyed not only by the athletes, but by residents of the host cities. The most immediate of these benefits will be the opportunity to see world-class athletes – including future Olympic champions – compete in Taiwan.

Universiade tickets will go on sale in June, with competition tickets priced at NT$200 to NT$300 for four days of events, You said. Opening ceremony tickets will be priced higher at NT$1,000 for regular seats and NT$10,000 for VIP seating. All told, there will be 750,000 tickets available, he said, expressing his hope that local and foreign businesses operating in Taiwan will purchase tickets in bulk for their employees and encourage attendance to promote the success of the games.

As noted in the international media, Olympic host cities in recent years have lost quite a bit of money in putting on the event, and the expensive stadiums and other facilities that were built often saw little use once the games were over. Universiade’s smaller size and more distributed approach to competition venues are expected not only to avoid those problems but in fact to create new or improved facilities that will benefit universities, schools, and communities for years to come.

An example is Taipei’s Heping Elementary School, which will gain a new gymnasium and basketball court with seating for 7,000. Developed with sustainability in mind, the facility has been equipped with smart green features including a rain-capturing roof.

One of the goals of the organizing committee is transforming Taipei into a greener and more sustainable city, including the provision of increased green space and walking/cycling paths.

“All of these things, in addition to a successful Universiade event, will certainly propel the attitude of living healthy further along,” says the head of operations for Anytime Fitness Taiwan, who goes by the name of Mr. DK. “I love exercise and playing outside, and for those reasons Taiwan is a great place to live.”

An additional benefit for Taiwan from the Universiade will be an increase in the quantity of public housing, which is in short supply here. Public housing currently accounts for only 0.08% percent of Taiwan’s housing supply, compared with 5% in the United States and 29% in Hong Kong. After the Universiade has ended, the Athletes’ Village will be converted into public housing.

The event will leave northern Taiwan more wired than before, as more than 4,900 new Wifi hotspots are being installed in preparation for the games. International tourism to Taiwan – which set a new record with more than 10.7 million visitors last year – is also expected to receive a welcome boost, according to Cheng Ing-hui, deputy director of the Taiwan Tourism Bureau’s international section. Besides the athletes themselves, many of their relatives and classmates will come to Taiwan for the competition.

“We hope these participants and visitors from all over the world will use their time in Taiwan after their competition to explore both northern Taiwan and further afield,” Cheng said. “I’m confident that if they do, they’ll be moved by the friendliness and helpful attitude of the Taiwanese people, and return home with a good impression that makes them want to return again in the future. It should have an all-around positive impact on our country’s international tourism market.”

For Taiwan, which has learned to live with being almost invisible internationally, Universiade appears to be a one-of-a-kind opportunity to raise its profile. Noting the unifying power of sport, Hawkinson expresses confidence that Taiwan will rise to the occasion. “Taiwan needs to – and will – take advantage of this special opportunity,” he says.
Taiwan Tour Bus: The Best Way to Explore Taiwan’s Northeast

In their haste to get from the skyscrapers of Taipei to the bucolic backwaters of Hualien and Taitung, many visitors rush through Yilan by train or bus. Yet this county in Taiwan’s northeast offers an intriguing mix of natural and cultural attractions.

Since the completion of Freeway 5 and the world’s fifth-longest road tunnel in 2006, driving time from central Taipei to the county’s principal city – also called Yilan – is seldom more than an hour. Every weekend, thousands of Taipei residents, as well as a good number of international visitors, board buses to Yilan, and head to the hot springs at Jiaoxi, the Lanyang Museum, or the National Center for Traditional Arts.

Some foreign visitors, however, are reluctant to venture beyond Taipei by themselves. It is true, after all, that outside the capital fewer people speak English and public transportation is not quite so convenient. To help tourists who venture outside the Taipei comfort zone, Taiwan’s Tourism Bureau has for several years overseen a selection of foreigner-friendly bus expeditions called Taiwan Tour Bus.

These tours enhance the visitor experience by providing not only transportation (including pick-up from major hotels, railway stations, and other points), but also guides who introduce local sights in English, Japanese, and Chinese. Those who sign up for a tour need not worry about mistakenly buying a ticket for the wrong destination or missing their stop.

The Taiwan Tour Bus system (www.taiwantourbus.com.tw) offers over 100 options, most of which last a full day. In every case, the price includes all admission charges and insurance. Very often, it also covers a delicious lunch featuring local delicacies. Gratuities are entirely optional.

Yilan’s most famous geographical feature is the Lanyang Plain. Named after the Lanyang River, the plain is a fertile flatland where rice, watermelons, and spring onions grow particularly well. But that is not to say the county lacks interesting topography. Well over half of Yilan is mountainous, and in the heart of these wooded uplands lies the 12,631-hectare Taipingshan National Forest Recreation Area.

For decades a key part of Taiwan’s once-mighty lumber industry, Taipingshan is situated between 500 and 2,000 meters above sea level. The plant and tree species here are typical of subtropical, warm-temperate and cool-temperate ecosystems. This rich foliage nurtures a stunning array of birds, beetles, and butterflies.

Much of the logging equipment brought here has been preserved, to the delight of industrial-heritage fanatics. Most visitors take a ride on what is called the “Bong Bong Train,” a
narrow-gauge railroad originally built to transport timber, enabling them to enjoy close-up views of pristine glades as well as mountain panoramas.

Even for tourists willing to drive, getting to Taipingshan can be tiring. It is best, therefore, to let a professional handle the driving by joining the one-day Taiwan Tour Bus Yilan Taipingshan Nature Tour (NT$1,400 per person on weekends and holidays, NT$1,200 per person on weekdays; starts and ends in Taipei). This includes lunch and admission to the forest recreation area (which for adults is between NT$150 and NT$200) but not the Bong Bong Train.

Those who feel Yilan should not be rushed can join the Yilan Cultural Two-Day Tour (NT$5,300 per person on weekends, NT$5,800 on weekdays, including a night’s stay in the three-star Kavalan Hotel in Luodong). The itinerary satisfies gourmands and outdoors types as well as culture vultures. Of special interest are the Luodong Forestry Culture Park and the National Center for Traditional Arts.

The forestry park is where many of the trees logged at Taipingshan were processed. Bilingual information boards around the site go well beyond the history of logging in Taiwan, covering topics such as aquatic plants and the local dragonfly and amphibian populations.

Frogs and insects thrive in the park’s 5.6-hectare log pond, which is where wood was submerged to prevent it from warping or cracking in Taiwan’s hot summers. More than a dozen office and dormitory buildings date from Japan’s 1895-1945 colonial occupation of Taiwan, and exhibits inside these highly photogenic structures depict the tough conditions in which loggers lived.

Luodong Forestry Culture Park is within walking distance of the town’s railway station. A bit further from the heart of Luodong, the sprawling National Center for Traditional Arts introduces a range of local art forms, including Taiwanese opera (which first emerged in Yilan County) and budaixi. The latter literally means “cloth-bag drama” but “hand puppetry” is a better translation.

Elsewhere in the county, but not on any Taiwan Tour Bus itinerary, is Taiwan’s foremost whisky producer, King Car Kavalan Distillery.

Since hitting the market in 2008, Kavalan has astonished whisky aficionados across the globe and scooped numerous accolades. The malt is imported from Scotland and Finland, but every other stage of the production process is done here. The distillery is open to the public, and admission is free. If you are driving, do bear in mind that Taiwan has one of the world’s strictest drunk-driving laws.

For all kinds of travel information about Taiwan, visit the Tourism Bureau’s website (www.taiwan.net.tw), or call the 24-hour tourist information hotline 0800-011-765 (toll free within Taiwan).
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