2016
Semiconductors

Investment Opportunities In Korea
Semiconductors

Korea ranks second in the global semiconductor market, with 16.2% of the market share. The Korean government strives to enhance the capability of the semiconductor sector.

Global semiconductor market share (2013)

- Source: IHS (2014.04)

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Where to Invest

Location descriptions
1. Eoyeon-Hansan General Industrial Complex
2. Cheongju General Industrial Complex
3. Dongtan City High-tech Industrial Complex
4. Oseong General Industrial Complex (Foreigner)
5. Jangan High-tech(1) General Industrial Complex
6. Jangan High-tech(2) General Industrial Complex
7. Gumi National Industrial Complex
8. Songsan General Industrial Complex 2
One of Korea’s strongest suits lies in memory chips as the country is a major exporter of DRAMs and NAND flashes. Korean companies also export APs, image sensors, and drive ICs to smartphone manufacturers worldwide.

Korea, particularly Seoul, is emerging as Asia’s semiconductor business hub and as a major cluster of the creative and knowledge-based industry.
The Korean semiconductor industry leads the global memory market, occupying 63% and 47.2% of the DRAM and NAND flash markets, respectively, in 2013.

Industrial clusters are formed around Gyeonggi and Chungcheong provinces. Samsung Electronics and SK Hynix made large-scale investments every year in the metropolitan areas, which attracted SMEs to form industrial clusters.
Among all foreign semiconductor companies in Korea, Fairchild Korea Co., LTD. is the only company with a semiconductor fabrication plant (fab) in Korea. It boasts streamlined production / sales systems as well as an outstanding R&D center in Korea.

Established in 1994 with 100% investment from Fairchild USA

- 100% investment
- KRW 700 billion
- Annual sales over KRW 700 billion with over 1,800 employees
- The Bucheon plant accounts for 60% of the total semiconductor output of the entire Fairchild Group worldwide
Where to Invest

Location Descriptions

1. Eoyeon-Hansan General Industrial Complex
   An optimal manufacturing base for world renown semiconductor technology companies as it is the center of electric/electrical and advanced technologies. The world’s biggest semiconductor industrial complex including Samsung Electronics and LG Electronics provides great opportunities for foreign-invested companies.

2. Cheongju General Industrial Complex
   An ideal manufacturing and R&D location for semiconductor companies, especially for information exchange and technology collaboration of advanced industries. A cluster of Korea’s leading semiconductor company SK Hynix and other semiconductor players. Opportunities to work with the nearby Ochang Scientific Industrial Complex and the Osong Bio-Health & Science Technopolis.

3. Dongtan City High-tech Industrial Complex
   A great manufacturing and R&D site with a lot of opportunities for the knowledge-based industry as it has an abundant supply of talented workforce, easy supply of raw materials thanks to advanced infrastructure (i.e. harbor, airport and roads), and an industrial cluster of advanced technologies.

4. Oseong General Industrial Complex
   An optimal manufacturing site for the world’s leading technology companies in the semiconductor industry; the best location for the semiconductor business thanks to the world’s largest state-of-the-art semiconductor cluster as well as a variety of tax incentives such as national and local tax reduction.

5. Jangan High-tech(1) General Industrial Complex
   An optimal manufacturing site for foreign-invested companies and an innovation base for the knowledge industry, where high-tech industries and technologies are converged together. Easy to develop higher value-added products through industry-academia-government collaboration while strong business momentum is provided by the government’s extensive and consistent support.

6. Jangan High-tech(2) General Industrial Complex
   A favorable environment for semiconductor manufacturing and R&D. A hub of trade and logistics in Northeast Asia while being home to global semiconductor and high tech companies such as Samsung and LG Electronics as well as renowned semiconductor institutes from home and abroad.

7. Gumi National Industrial Complex
   The largest high-tech electronic information and communications industrial complex. A hub of the semiconductor and digital industry providing home to Samsung Electronics and LG Display. An ideal manufacturing site for high added value technology development and product manufacturing thanks to collaboration of resident companies.

8. Songsan General Industrial Complex 2
   An optimal site for the world’s leading semiconductor companies. Low logistical costs thanks to the port logistics cluster connecting pier, port hinterland and industrial complex. Opportunities to enhance IT/BT/GT convergence technologies by utilizing the extensive network of and collaborating with Hyundai Steel and Asan-Cheonan Techno Valley.
1. Eoeyeon-Hansan General Industrial Complex

Investment Highlights

Location Description
An optimal manufacturing base for world renown semiconductor companies. The center of electric/electrical and advanced technologies. The world's biggest semiconductor industrial complex including Samsung Electronics and LG Electronics provides great opportunities for foreign-invested companies.

Key Rationale
• The world's largest semiconductor complex connecting Hwaseong-Giheung-Pyeongtaek, where the Samsung Electronics semiconductor industrial complex is under construction, which will be the largest production line of its kind.
• The proximity to Seoul-Busan Expressway and the West Coast Highway reduces logistics costs and enhances the competitiveness of small businesses.
• Being closely located to Pyeongtaek Port, the hub port for international trade in Northeast Asia, facilitates entry into the Chinese market, and the Korea-China FTA is expected to bring a great benefit to the semiconductor industry.

Location Requirements

<table>
<thead>
<tr>
<th>Recommended Business Sector</th>
<th>Manufacturing businesses such as semiconductor parts and materials and equipment manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Pre-sale or Rent</td>
</tr>
<tr>
<td>Land Zoning</td>
<td>Industrial Complex</td>
</tr>
<tr>
<td>Investment Condition</td>
<td>Resident business: fabricated metal and machinery, petrochemical, wooden furniture, food and beverage, textile and clothing, and other manufacturing businesses</td>
</tr>
</tbody>
</table>

The 264,000 ㎡ of the total area is designated as a site exclusive for foreign high-tech companies with a foreign investment amount of at least 1.2 million USD / 3,305 ㎡ (within 5 years)

Target Area
• Total Area: 690,000 ㎡

Location Overview

Related Companies (36)

- Semiconductor Devices: Beun Electronics Co., Ltd. and LS Semicon Co., Ltd.
Case References

ULVAC KOREA, Ltd.

- ULVAC KOREA, Ltd. provides the best-quality products and technology based on the technology accumulated by ULVAC, Inc., the Japanese company that holds the world’s best vacuum technology.
- Amount Invested: About 1.2 billion JPY
- Products: Semiconductor manufacturing equipment, electronics industry-related equipment, industrial equipment, standardized products-related equipment, vacuum apparatus and parts and other mechanical equipment manufacturing industry, vacuum technology research guidance technical advisor services, and offer arrangement services.
- Since signing an MOU regarding foreign investment with Gyeonggi-do Province in 2004, ULVAC KOREA has been manufacturing SUS-based large vacuum chambers and cryo pumps by utilizing its accumulated technology.
- Manufactured products are supplied to Samsung Electronics and LG Philips LCD.
- Since it moved into the industrial complex, ULVAC KOREA has equipped itself with a system that secures an abundant supply of post-7th-generation TFT LCDs, and with the capabilities regarding equipment production, core parts supply, surface treatment and cleaning, and after service, all of which made it possible to provide total solutions to customers in Korea, generating high added value.

Business Considerations

Market Perspective
Semiconductor production: 56.7 billion USD, exports: 57.1 billion USD, imports: 34.7 billion USD (2013)
Korea occupies an unchallenged position in the semiconductor market, with its semiconductor shipments recording 99.09 billion units and 1.1 trillion units in 2016 and 2017 respectively, projected to rise 8.2% for the five years from 2015.

Business Suggestion
With the core technology development and retention and high value-added technology, it can generate profits based on the strategies of supplying products to semiconductor manufacturers or signing licensing agreements.

Main Costs
Pre-sale: 99 USD /㎡
Average Wage: 2,660 USD/month (the total per-capita average wage of Gyeonggi-do Province in 2015)

Financial Benchmark
Since it moved in the complex in 1999, ULVAC KOREA Ltd. has achieved a steady growth in sales and operating profits.
Sales: 162.8 billion USD (2013) → 187.8 billion USD (2014)
Operating profits: -5.8 million USD (2013) → 16.8 million USD (2014)

Business Cluster

Major Corporations in the region
- Korean: ILJIN Diamond, Yeongchang Precision, Hicel, Epiplus, Microscale, Yuhan Plotech, Fine Platech, Baos Corporation, and Daihan Ink

Potential Customers
- Related companies such as fabricated metal and machinery, and petro chemistry businesses

Related Organization
- Korea Semiconductor Industry Association
- Gyeonggi-do Province: www.gg.go.kr
- Pyeongtaek-si City: www.pyeongtaek.go.kr
- Industry-University Integrated Information Network: www.e-cluster.net
**Infrastructure**

**Utilities**
- Water supply: 7,586 tons/day, residential water: 1,001 tons/day
- Waste water treatment: 7,000 tons/day
- Electricity: Voltage 154 kV, Capacity: 29 MVA
- Communications: Pyeongtaek Telephone Office provides 1,067 lines
- Industrial waste: All amounts are disposed in landfill at the landfill facility in the complex. Amount of waste: 45,717 tons/year, Amount of waste landfill: 7,441 tons/year

**Environment & Regulation**
- Regulations for businesses unqualified for residence in the industrial complex, such as a great amount of water or land-consuming businesses

**Transportation**
- Airport: Gimpo Airport (100 km), Cheongiu Airport (73 km)
- Railroad: Gyeongbu Line, Pyeongtaek Station, Songtan Station (4 km), Metropolitan subway (Suwon ~ Pyeongtaek - Cheonan), Pyeongtaek Port ~ Pyeongtaek Station (planned)
- Road: Pyeongtaek - Eumseong Expressway, Songtan (1.5 km), Gyeongbu Expressway, Anseong IC (8 km), Osan IC (17 km) - Seoul (66 km), Osan (17 km), National Highway Route 1 (Mokpo ~ Pyeongtaek ~ Sinuju), National Highway Route 38 (Seosan ~ Pyeongtaek ~ Donghae), Local Road 940 (Cheongbuk ~ Wongok)
- Port: Pyeongtaek (Asan) Port (23 km), cargo handling capacity 100 million tons, cargo berthing capacity 62 ships

**Labor & Material**

**Labor Condition**
- Regional population:

<table>
<thead>
<tr>
<th>Items</th>
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<td>Gyeonggi-do</td>
<td>Population 11,196,553</td>
<td>7,379,687</td>
<td>2,275,656</td>
<td>317,557</td>
<td>66.177</td>
</tr>
<tr>
<td>Ratio</td>
<td>65.9</td>
<td>20.3</td>
<td>2.8</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Pyeongtaek-si</td>
<td>Population 381,731</td>
<td>254,521</td>
<td>53,972</td>
<td>6,061</td>
<td>790</td>
</tr>
<tr>
<td>Ratio</td>
<td>66.7</td>
<td>14.1</td>
<td>1.6</td>
<td>0.2</td>
<td></td>
</tr>
</tbody>
</table>

- Gyeonggi-do’s economically active population: 6,597,000 persons
- Average wage: 2,660 USD/month (the average per-capita wage of Gyeonggi-do Province in 2015)

**Core Resource Supply**
- Easy to secure high-quality human resources from universities in Gyeonggi-do Province and other metropolitan cities, which train and produce a number of technical professionals.

**Environment**

**Living Conditions**
- Education: 1 university, 2 colleges / 15 high schools and 5 vocational high schools / 24 middle schools
- Medical Facilities: 2 general hospitals, 14 hospitals, 194 clinics, 101 dental clinics, and 75 Chinese medicine clinics
- Others: 15 tourist hotels, 3 performance facilities, 2 indoor stadiums, 2 sports complexes, etc.

**Government Support**

- **<Tax reductions and exemptions for foreign investment companies>**
  - A 50% reduction on acquisition tax and a 35% reduction on property tax

- **<Gyeonggi Province’s Support Fund for Small and Medium-sized Enterprises>**
  - Eligibility for support: Automation, informatization, technology development, conversion of business, business transferred from large companies to SMEs, general startups, nurturing of small companies, and promising new business
  - Property eligible for support: Any registered factory in service, with its manufacturing business accounting for at least 30% of the total sales; any person who engages in a promising new business
  - Terms of support: 4.2 to 6.3 million USD per business, interest rates: 4.45% to 5.7% per year
  - Loan period: Repayment at maturity with a 1-year grace period or monthly installments over 5 years with a 1-year grace period
2. Cheongju General Industrial Complex

Investment Highlights

Location Description
An ideal manufacturing and R&D location for semiconductor companies, especially for information exchange and technology collaboration of advanced industries. A cluster of Korea’s leading semiconductor company SK Hynix and other semiconductor players. Opportunities to work with the nearby Ochang Scientific Industrial Complex and the Osong Bio-Health & Science Technopolis.

Key Rationale
- With the opening of Jungbu Expressway, a number of factories in the metropolitan area and start-up factories have been moving in the adjacent Ochang Scientific Industrial Complex, Cheongwon, Jincheon, and Eumseong, which makes it easier to systematize businesses.
- The major resident companies of the complex include Hynix Semiconductor and Magna Chip; It serves as a hub of cutting-edge technology through cooperation with the neighboring Ochang Scientific Industrial Complex and the Osong Bio-Health & Science Technopolis.

Location Requirements

<table>
<thead>
<tr>
<th>Recommended Business Sector</th>
<th>Manufacturing business of semiconductor parts and materials and equipment, and research and development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Pre-sale or Rent</td>
</tr>
<tr>
<td>Land Zoning</td>
<td>General Industrial Complex</td>
</tr>
<tr>
<td>Investment Condition</td>
<td>Resident business : Manufacturing business, information industry, telecommunications industry, etc.</td>
</tr>
</tbody>
</table>

Location Overview

Target Area
- Total Area: 4,099,000 m²

Related Companies (21)
Case References

SK Hynix

- SK Hynix plays a leading role in the development and production of DRAM, such as its next-generation product DDR/Rambus, with the world's largest DRAM production capacity, technological innovation, and best product quality.

- Products: SK Hynix is a manufacturer and supplier of semiconductor DRAM, SRAM, and Flash.

- In 2015, SK Hynix recorded all-time high annual results: Revenues increased by 10% from a year earlier to 15.7 billion USD, operating profits by 4% to 4.4 billion USD, and net income during the term by 3% to 3.58 billion USD.

- SK Hynix plans to enlarge the equipment for the purpose of strengthening cost and product competitiveness, to secure additional production capacity and space for semiconductor production, and to invest in expanding the foundation of production with a view to maintaining a lead in the semiconductor industry.

  - SK Hynix has a plan to establish an additional semiconductor factory in Cheongju and to inject 38.8 billion USD into new investment (Cheongju and Icheon) for the following 10 years.

Business Considerations

<table>
<thead>
<tr>
<th>Market Perspective</th>
<th>Semiconductor production: 56.7 billion USD, exports: 57.1 billion USD, imports: 34.7 billion USD (2013) Korea occupies an unchallenged position in the semiconductor market, with its semiconductor shipments recording 99.09 billion units and 1,102.45 billion units in 2016 and 2017 respectively, projected to rise 8.2% for the five years from 2015.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Suggestion</td>
<td>The semiconductor market has maintained a solid growth, and along with an increased demand of mobile devices such as smart phones/tablets, the size of the semiconductor market is getting wider, which brings a variety of opportunities to the state-of-the-art semiconductor-related companies and manufacturing enterprises.</td>
</tr>
<tr>
<td>Main Costs</td>
<td>Pre-sale Price: 125 USD/m², Wage: 2,520 USD/month (the total per-capita average wage of Chungcheongbuk-do Province in 2015)</td>
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</tbody>
</table>

Business Cluster

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<tbody>
<tr>
<td>Potential Customers</td>
<td>Related companies in the manufacturing industry and knowledge industry</td>
</tr>
</tbody>
</table>
**Infrastructure**

**Utilities**
- Water supply: Industrial water supply capacity 196,000 tons/day, usage 55,000 tons/day, residential water supply capacity - no limit, usage 85,000 tons/day
- Waste water treatment: 31,000 tons/day, current facility 31,000 tons/day
- Electricity: Voltage 154 KV, capacity 176 MW
- Communications: KT provides more than 1,700 lines.
- Energy Supply: Chungcheong Energy Service (Pyeongtaek LNG receiving terminal → Chungcheong Energy Service)

**Environment & Regulation**
- A great amount of water or land-consuming businesses

**Transportation**
- Airport: Cheongju Airport (7 km)
- Railroad: Chungbuk Line Cheongju Station (4 km), Osong KTX Station (16 km)
- Road: Gyeongbu Expressway - Cheongju IC(6 km), Jungbu Expressway - Seocheongju IC → Cheongju ↔ Yongin, National Highway Route 17 (Yecheon ↔ Cheongju ↔ Yongin), Local Road 594 (Cheongju ↔ Jochiwon)
- Port: Gunsan Port (150 km - berthing of ships in the 2~50,000-ton class, cargo handling capacity 17.34 million tons, cargo berthing capacity 23 ships)

**Labor & Material**

**Labor Condition**
- Regional population:
  - Chungcheongbuk-do: Population 1,495,984, Available labor force 916,277, Bachelor's 244,711, Master's 28,822, Ph.D. 6,541
  - Cheongju-si: Population 662,102, Available labor force 407,496, Bachelor's 134,030, Master's 16,874, Ph.D. 4,013
- Chungcheongbuk-do's economically active population: 839,000 persons
- Average wage: 2,520 USD/month (the average per-capita wage of Chungcheongbuk-do Province in 2015)

**Core Resource Supply Environment**
- Equipped with a system to foster human resources for the locally specialized industry, the region’s specialized colleges such as Korea Polytechnic IV Colleges provide tailored talent for the semiconductor companies in Chungcheongbuk-do Province as well as for local industries near the industrial complex.

**Living Conditions**
- Education: 3 universities / 22 high schools / 32 middle schools
- Medical Facilities: 7 general hospitals, 380 hospitals & clinics, 149 dental clinics, 153 Chinese medicine clinics, and 2 community health centers
- Others: 7 tourist hotels, 5 indoor stadiums, 1 sports stadium, 7 public libraries, 56 performance facilities, 7 exhibition facilities, and 8 regional culture & welfare facilities

**Government Support**

**<Tax reductions and exemptions for foreign-invested companies>**
- 100% exemption of acquisition tax (In case of pre-sale or vacant land acquisition)
- 50% reduction of property tax for five years (up to five years since the first acquisition)

**<Chungcheongbuk-do Province’s Support Fund for Small and Medium-sized Enterprises>**
- Support Fund: Loan for facility investment, loan for operation
- Limit of Loan: 833 million USD in case of facility investment, 417 million USD in case of operation
- Loan for Facility: up to 8 years (monthly constant repayment over 5 years with a 3-year grace period)
- Loan for Operation: Repayment at maturity with a 2-year grace period
  - In case of a start-up business, the maximum amount of loan for operation is 83 million USD
3. Dongtan City High-tech Industrial Complex

**Investment Highlights**

**Location Description**
A great manufacturing and R&D site with a lot of opportunities for knowledge-based industry. The region has an abundant talented workforce, easy supply of raw materials thanks to advanced infrastructure (i.e. harbor, airport and road) and an industrial cluster of advanced technologies.

**Key Rationale**
- Able to secure high-quality human resources through the invigoration of networks with the country’s major universities and to vitalize research projects through industry-academia collaboration clusters.
- Located adjacent to Suwon, Yongin, and Osan, Dongtan is a central city in the metropolitan economy, which makes it easy to secure workforce and supply raw and subsidiary materials.
- As a hub of high-tech industries such as semiconductor and display, where a multitude of global enterprises like Samsung Electronics and LG companies located, Gyeonggi-do Province provides the best opportunities for foreign-invested companies engaging in the related fields.

**Location Requirements**

<table>
<thead>
<tr>
<th>Recommended Business Sector</th>
<th>Manufacturing business such as semiconductor parts and materials and equipment manufacturing</th>
</tr>
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<tr>
<td>Type</td>
<td>Pre-sale</td>
</tr>
<tr>
<td>Land Zoning</td>
<td>General Industrial Complex</td>
</tr>
<tr>
<td>Investment Condition</td>
<td>Resident businesses: Printing business, record reproduction services, metal processing products, electronic components, computers, video and audio equipment, communications equipment manufacturing, electrical equipment manufacturing, and other machinery and equipment manufacturing, etc.</td>
</tr>
</tbody>
</table>

**Location Overview**

*Target Area*
- Total Area: 149,000 m²
Case References

ASM International

- Based in the Netherlands, ASM International is one of the Netherlands’ major semiconductor equipment manufacturers, having overseas production plants in four countries including the US, Japan, and the Netherlands, along with local subsidiaries in 11 countries.
- Products: Semiconductor deposition equipment manufacturing (a holder of 1,266 relevant technologies / an investment of 63 million USD in research (2014))
- Sales: EUR 546 million (As of 2014)
- In September 2015, Gyeonggi-do and ASM International signed the business cooperation agreement regarding a 50 million USD-worth investment including the company’s moving into the Dongtan City High-tech Industrial Complex.
- ASM International plans to build a new semiconductor equipment assembly plant to manufacture and assemble Low-Pressure Chemical Vapor Deposition (LPCVD) devices used for D-RAM production, Plasma-Enhanced Chemical Vapor Deposition (PECVD) devices, and EPI equipment, which is non-memory semiconductor manufacturing-related equipment.
- As a result, the monopolistic and oligopolistic nature of the semiconductor equipment industry occupied by American companies will be mitigated while the price of the related equipment is projected to go down.

Business Considerations

Market Perspective
Semiconductor production: 56.7 billion USD, exports: 57.1 billion USD, imports: 34.7 billion USD (2013)
Korea occupies an unchallenged position in the semiconductor market, with its semiconductor shipments recording 99.09 billion units and 1.1 trillion units in 2016 and 2017 respectively, projected to rise 8.2% for the five years from 2015.

Business Suggestion
It is a technologically advanced area, where IT, semiconductor, and mechatronics industries gather together, providing diverse opportunities for knowledge-based manufacturing companies.

Main Costs
- Pre-sale Price: 1,020 USD /㎡
- Average Wage: 2,660 USD /month (the total per-capita average wage of Gyeonggi-do Province in 2015)

Business Cluster

Major Corporations in the region
- International: FESTO, PLANSEE Korea Co., Ltd., and ASM International

Potential Customers
- Companies related to the high-tech industry, including electronic components, computers, video, communications equipment manufacturing, and electrical equipment manufacturing; as well as businesses related to the knowledge and culture industry, such as publishing and research & development.

Related Organization
- Gyeonggi Technopark (Technology Support Project / Education Project / Collaboration Support Project / Enterprise Support Project)
- Vacuum and Semiconductor Technology Institute (Development of vacuum generation technology, vacuum applied apparatus, vacuum pumps, vacuum measuring machine, etc.)
- Gyeonggi College of Service and Technology Industry-Academia Cooperation Foundation (The establishment of the industry-academia-government collaboration system / Technology development / Support for technical difficulties of small and medium-sized companies / Fostering of venture companies)
- Gyeonggi-do: www.gg.go.kr
- Hwaseong-si: www.hscity.net
- Industry-University Integrated Information Network www.e-cluster.net
Infrastructure

Utilities
- Water Supply: Industrial water 3,590 tons/day, Residential water 2,253 tons/day
- Waste Water Treatment: Waste water is disposed at the sewage treatment plant in the complex and the adjacent Osan Sewage Treatment Plant
- Electricity: 321,475 Mwh
- Communications: 58,563 lines
- Energy Supply: Samchully supplies LNG.

Transportation
- Airport: Incheon International Airport 100 km, Gimpo Airport 102 km
- Railroad: Gyeongbu Line, Osan Station 5 km; With the construction of the metropolitan high-speed railway (Suseo ~ Dongtan ~ Pyeongtaek), all parts of the country are accessible within 2 hours; With the implementation of the project to construct the intercity express railway (Dongtan ~ Yongin ~ Seongnam ~ Samsung) (2014~2021), accessibility to Seoul is going to be improved.
- Road: Gyeongbu Expressway, Osan IC (0.2 km), Local Road 317 (0.1 km)
- Port: Incheon Port 80 km, Pyeongtaek Port 10 km

Labor & Material

Labor Condition
- Regional population: (Unit: persons, %)

<table>
<thead>
<tr>
<th>Items</th>
<th>Total Population</th>
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<th>Bachelor's</th>
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<td>Ratio</td>
<td>-</td>
<td>65.9</td>
<td>20.3</td>
<td>2.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Hwaseong-si</td>
<td>474,180</td>
<td>309,994</td>
<td>86,619</td>
<td>13,081</td>
<td>2,599</td>
</tr>
<tr>
<td>Ratio</td>
<td>-</td>
<td>65.4</td>
<td>18.3</td>
<td>2.8</td>
<td>0.5</td>
</tr>
</tbody>
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- Gyeonggi-do’s economically active population: 6,597,000 persons
- Average wage: 2,660 USD/month (the average per-capita wage of Gyeonggi-do Province in 2015)

Core Resource Supply Environment
- Central city in the southern part of the metropolitan area and a hub of the high-tech knowledge industry, with an easy access to idle workforce thanks to being closely located to Suwon, Yongin, and Osan
- Pivotal city in the metropolitan economy with an easy supply of raw materials and parts through a well-established infrastructure including harbors, airports, and roads

Living Conditions
- Education: 4 universities / 19 high schools and 2 vocational high schools /29 middle schools and 72 elementary schools
- Medical Facilities: 2 general hospitals, 8 hospitals, 10 convalescent hospitals, 212 clinics, 141 dental hospitals, and 94 oriental medical clinics

Government Support

<Tax reductions and exemptions for foreign-invested companies>
- Up to 75% reduction on acquisition tax and up to 35% reduction on property tax for the five years

<Gyeonggi Province’s Support Fund for Small and Medium-sized Enterprises>
- Eligibility for support: Automation, informatization, technology development, conversion of business, business transferred from large companies to SMEs, general startups, nurturing of small companies, and promising new business
- Property eligible for support: Any registered factory in operation, with its manufacturing business accounting for at least 30% of the total sales; any person who engages in a promising new business
- Terms of support: 417 to 833 million USD per business, interest rates 4.45%~5.7% per year
- Loan period: Repayment at maturity with a 1-year grace period or monthly installments over 5 years with a 1-year grace period
4. Oseong General Industrial Complex

Investment Highlights

Location Description
An optimal manufacturing site for the world’s leading technology companies in the semiconductor industry: the best location for the semiconductor business thanks to the world’s largest state-of-the-art semiconductor cluster as well as a variety of tax incentives such as national and local tax reduction.

Key Rationale
- Gyeonggi-do Province is the best place for foreign investment, as a hub for the Seoul Metropolitan City’s 25 million population market as well as Northeast Asia’s 1.5 billion population consumer market.
- The largest semiconductor industrial complex, which Samsung Electronics Co. and LG Electronics are going to move into, is under construction in the adjacent area; It is a suitable site to lower logistics costs and enhance the competitiveness of small and medium-sized companies, thanks to the adjoining Gyeongbu Expressway and West Coast Expressway and the manufacturing businesses of electronic parts and auto parts in the complex that are suppliers to large companies.

Location Requirements

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</tr>
<tr>
<td>Investment Condition</td>
<td>Enterprises with a foreign investment ownership of at least 30% and a foreign investment amount of at least 83,330 USD. A foreign investment amount of at least 1.5 mil USD per 3,000 m² is required. Resident businesses: Manufacturing business of electronic components, computers, cars and trailers, other machinery and equipment, chemical products (excluding medicines), non-metallic minerals, electrical equipment, and metal processing products (excluding machinery and furniture)</td>
</tr>
</tbody>
</table>

Target Area
- Total Area: 600,000 m²
In 2011, Valqua Korea signed an investment agreement with a view to manufacturing seal products for semiconductors in Korea, which was entirely dependent on imports, and in 2012 constructed a production plant in the Oseong Industrial Complex.

Valqua Korea's average annual growth rate has recently declined, but it is a steadily growing and job-creating company, which was awarded Top Capital Enterprise for two consecutive years (2013) and has generated profits for four consecutive years (2014).

Valqua Korea signed the business cooperation agreement with Pyeongtaek-si, Gyeonggi-do Province to invest 6.7 million USD (about 7.4 billion KRW) in the surrounding area of the factory. Such an investment decision was affected by the increased investment in Pyeongtaek made by domestic companies related to semiconductor, such as Samsung Electronics' investment in the Godeok Industrial Complex and LG Electronics' investment in the Jinwi Industrial Complex 2.

According to the agreement, Valqua Korea has a plan to build an additional factory in a site of 5,723.9 ㎡ near to its existing factory in the Oseong Industrial Complex, for the purpose of producing elastomer seal used for semiconductor equipment.

**Case References**

**Valqua Korea Co., LTD**

- Business : Trading business relating to machinery and equipment plumbing (seal) of semiconductor, optics, and LCD industries
- Scale : 6318㎡, Approx. 10 million USD invested

- In 2011, Valqua Korea signed an investment agreement with a view to manufacturing seal products for semiconductors in Korea, which was entirely dependent on imports, and in 2012 constructed a production plant in the Oseong Industrial Complex.
- Valqua Korea’s average annual growth rate has recently declined, but it is a steadily growing and job-creating company, which was awarded Top Capital Enterprise for two consecutive years (2013) and has generated profits for four consecutive years (2014).
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- According to the agreement, Valqua Korea has a plan to build an additional factory in a site of 5,723.9 ㎡ near to its existing factory in the Oseong Industrial Complex, for the purpose of producing elastomer seal used for semiconductor equipment

**Business Considerations**

<table>
<thead>
<tr>
<th>Market Perspective</th>
<th>Semiconductor production : 56.7 billion USD, exports : 57.1 billion USD, imports : 34.7 billion USD (2013) Korea occupies an unchallenged position in the semiconductor market, with its semiconductor shipments recording 99.09 billion units and 1.1 trillion units in 2016 and 2017 respectively, projected to rise 8.2% for the five years from 2015.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Suggestion</td>
<td>Along with the growth of the high-tech knowledge-based industry, the semiconductor industry is on a steady growth as well, and Pyeongtaek, where semiconductor-related companies cluster, serves as a production base through cooperation of businesses.</td>
</tr>
<tr>
<td>Main Costs</td>
<td>Period : (up to) 50 years (updated every 10 years) 3 USD /㎡/year (Security deposit required as an 1-year advance payment of rent) Average Wage : 2,660 USD/month (the total per-capita average wage of Gyeonggi-do Province in 2015)</td>
</tr>
<tr>
<td>Financial Benchmark</td>
<td>Valqua Korea, despite its average annual growth rate on a decline, is a steadily growing company, which turned a profit and is hiring more employers Sales : 19.6 million USD (2012) → 16.8 million USD (2013) Operating Profits Ratio : 14.5% (2012) → 14.4% (2013)</td>
</tr>
</tbody>
</table>

**Business Cluster**

<table>
<thead>
<tr>
<th>Major Corporations in the region</th>
<th>• International Enterprises : Bow Motors Korea, Cabot Microelectronics Korea Co., Ltd., Valqua Korea, V-tex Korea, and Walvoil Fluid Power Korea Co., Ltd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Customers</td>
<td>• Companies related to the manufacturing of computers, cars and trailers, other machinery and equipment, electrical equipment, metal processing products, etc.</td>
</tr>
</tbody>
</table>
| Related Organization | • Gyeonggi Technopark (Technology Support Project / Education Project / Collaboration Support Project / Enterprise Support Project)  
• Gyeonggi College of Service and Technology Industry-Academic Cooperation Foundation (The establishment of the industry-academia-government collaboration system / Technology development / Support for technical difficulties of small and medium-sized companies / Fostering of venture companies)  
• Gyeonggi-do www.gg.go.kr  
• Pyeongtaek-si www.pyeongtaek.go.kr  
• Industry-University Integrated Information Network www.e-cluster.net |
Infrastructure

Utilities
• Water supply: 3,511 tons/day (Industrial water: 2,948, residential water: 563)
• Waste Water Treatment: (Waste water is sent out to the sewage treatment plant in the Hyeongok complex)
(2,164 tons/day)
• Electricity: Power is supplied through the 154 kV steel transmission tower in the industrial complex and through the distribution lines nearby.
• Communications: 365 lines
• Waste: 0 m³ (Waste is sent out to the waste disposal plant in the adjacent Eoyeon-Hansan Industrial Complex)
• Energy Supply: Samchully supplies LNG.

Environment & Regulation
• A great amount of water or land-consuming businesses are unqualified for residence in the industrial complex.

Transportation
• Airport: Incheon International Airport (63 km), Gimpo Airport (59 km), Cheongju Airport (60 km)
• Railroad: Gyeongbu Line, Pyeongtaek Station (13 km), Songtan Station (10 km), Cheonan / Asan KTX Station (30 km)
• Road: Seohaean Expressway (5 km away from Seopyeongtaek JC), Pyeongtaek - Eumseong Expressway (2 km away from Cheongbuk JC), Pyeongtaek - Hwaseong Expressway (4 km away from Oseong IC), National Highway Route 38 & 39 and Local Road 302 are located nearby
• Port: Incheon International Airport (63 km), Gimpo Airport (59 km), Cheongju Airport (60 km), Incheon Port (cargo handling capacity: 39.08 million tons, cargo berthing capacity: 58 ships) (55 km, 1 hour)

Labor & Material

Labor Condition
• Regional population:

<table>
<thead>
<tr>
<th></th>
<th>Total Population</th>
<th>Available labor force</th>
<th>Bachelor's</th>
<th>Master's</th>
<th>Ph.D.</th>
</tr>
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<td>Gyeonggi-do</td>
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<td>7,379,687</td>
<td>2,275,656</td>
<td>317,557</td>
<td>66,177</td>
</tr>
<tr>
<td>Ratio</td>
<td>-</td>
<td>65.9</td>
<td>20.3</td>
<td>2.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Pyeongtaek-si</td>
<td>381,731</td>
<td>254,521</td>
<td>53,972</td>
<td>6,061</td>
<td>790</td>
</tr>
<tr>
<td>Ratio</td>
<td>-</td>
<td>66.7</td>
<td>14.1</td>
<td>1.6</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Core Resource Supply Environment
• Gyeonggi-do’s economically active population: 6,597,000 persons
• Average wage: 2,660 USD/month (the average per-capita wage of Gyeonggi-do Province in 2015)

Living Conditions
• Education: 1 university and 2 colleges / 15 high schools and 5 vocational high schools / 24 middle schools
• Medical Facilities: 2 general hospitals, 14 hospitals, 194 clinics, 101 dental hospitals, and 75 oriental medical clinics
• Others: 15 tourist hotels, 3 performance facilities, 2 indoor stadiums, 2 sports stadiums, etc.

Government Support

<Tax reductions and exemptions for foreign investment companies>
• 100% exemption of acquisition tax, if the acquisition occurred less than two years ago
• 50% reduction of property tax for five years (up to five years since the first acquisition)

<Gyeonggi Province’s Support Fund for Small and Medium-sized Enterprises>
• Eligibility for support: Automation, informatization, technology development, conversion of business, business transferred from large companies to SMEs, general startups, nurturing of small companies, and promising new business
• Property eligible for support: Any registered factory in operation, with its manufacturing business accounting for at least 30% of the total sales; anyone who engages in a promising new business
• Terms of support: 4.2 to 8.3 million USD per business, interest rates: 4.45% to 5.7% per year
• Loan period: Repayment at maturity with a 1-year grace period or monthly installments over 5 years with a 1-year grace period
5. Jangan High-tech(1) General Industrial Complex

Investment Highlights

Location Description
An optimal manufacturing site for foreign-invested companies. An innovation base for the knowledge industry, where high-tech industries and technologies are converged together. Easy to develop higher value-added products through industry-academia-government collaboration. Strong business momentum provided by the government’s extensive and consistent support.

Key Rationale
• The clustering of knowledge-based industry formed by high-tech businesses that moved into the industrial complex makes it as a suitable site to run technology businesses, based on information exchange and technological collaboration in the high technology-related fields.
• Situated in the metropolitan area, Jangan provides geographical benefits with excellent transportation and easy access to idle workforce, and its proximity to West Coast Highway and Asan Port makes it a suitable site for industrial activities.

Location Requirements

| Recommended Business Sector | Manufacturing business such as semiconductor parts and materials and equipment manufacturing |
| Type | Rent |
| Land Zoning | Foreign Investment Zone |
| Investment Condition | A foreign investment amount of at least 1.5 million USD per 3,000㎡ is required. Resident businesses: Grocery manufacturing, textile manufacturing, compounds and chemical products, electronic components, computers, video and audio equipment, communications equipment, medical instruments, precision and optical instruments, electrical equipment, other machinery and equipment, vehicles and trailers |

Target Area
• Total Area: 602,000 m²

Location Overview

Related Companies (36)
• Diode, Transistor and Semiconductor devices: Banex Electronics Co., Ltd. and LG Service Inc.
Case References

**Tsukatani Korea Co., Ltd.**

- **Products**: Manufacturing of pinnacle dies (precision mold)
- **Employees**: 500 persons
- **Sales**: 5.4 million USD
- **Capital**: 5.6 million USD
- **Net profit during the term**: 1.6 million USD
- **Amount invested**: 6.36 million USD

- It plans to manufacture pinnacle dies at a factory with a floor area of about 3,300 m² and sell them at home and abroad
- Pinnacle dies are a sort of molds that are used for the manufacturing of thin sheets such as paper and films. They are utilized in a variety of fields, ranging from seals, labels, and slips to IT components that require a high degree of precision including LCD films.
- The Jangan Advanced Regional Industrial Complex is growing into a center of advanced foreign companies in the LCD industry - A multitude of companies including Tokyo Electron Korea Solution have already built factories in the complex and the clustering of related industries is expected to be accelerated.

### Business Considerations

<table>
<thead>
<tr>
<th><strong>Market Perspective</strong></th>
<th>Semiconductor production: 56.7 billion USD, exports: 57.1 billion USD, imports: 34.7 billion USD (2013)</th>
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<tbody>
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<td></td>
<td>Korea occupies an unchallenged position in the semiconductor market, with its semiconductor shipments recording 99.08 billion units and 1.1 trillion units in 2016 and 2017 respectively, projected to rise 8.2% for the five years from 2015.</td>
</tr>
</tbody>
</table>

| **Business Suggestion** | Being a mecca for global companies, Gyeonggi-do has an industrial cluster of basic industries and knowledge-based industries such as semiconductors. Accordingly, it possesses accumulated advanced technology, thanks to which products are developed and manufactured within the province. |

<table>
<thead>
<tr>
<th><strong>Main Costs</strong></th>
<th>Pre-sale Price: 2 USD/m²/year (Rent fee in 2013, VAT excluded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Wage:</td>
<td>2,660 USD/month (the total per-capita average wage of Gyeonggi-do Province in 2015)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Financial Benchmark</strong></th>
<th>Tsukatani Korea has an increasingly growing sales and operating profits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales: 4.8 million USD (2013) → 5.4 million USD (2014)</td>
<td></td>
</tr>
<tr>
<td>Operating Profits: 666.7 thousand USD (2013) → 1 million USD (2014)</td>
<td></td>
</tr>
</tbody>
</table>

### Business Cluster


| **Potential Customers** | Electronic components, computers, video and audio equipment, communications equipment, medical instruments, precision and optical instruments, electrical equipment, other machinery and equipment, vehicles and trailers |

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</tr>
<tr>
<td></td>
<td><strong>Industry-University Integrated Information Network <a href="http://www.e-cluster.net">www.e-cluster.net</a></strong></td>
</tr>
</tbody>
</table>
Infrastructure

Utilities
- Water supply: Industrial water 1,686.4 m³/day, residential 708 m³/day
- Waste Water Treatment: 2,000 m³/day
- Electricity: 7,954 KVA
- Communications: KT Baran branch provides 511 lines.
- Energy Supply: Samchully supplies LNG.

Transportation
- Airport: Incheon International Airport (102 km)
- Railroad: Gyeongbu Line, Osan Station (30 km)
- Road: Seohaean Expressway Baran IC (4 km) - Seoul (60 km), Osan (30 km), National Express Highway 82 (Busan ↔ Hwaseong ↔ Incheon), Local Road 310
- Port: Pyeongtaek (Asan) Port (12 km) - cargo handling capacity: 2,450 tones, cargo berthing capacity: 21 ships

Labor & Material

Labor Condition

<table>
<thead>
<tr>
<th>Items</th>
<th>Gyeonggi-do Population</th>
<th>Available labor force</th>
<th>Bachelor's</th>
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</table>

- Gyeonggi-do’s economically active population: 6,597,000 persons
- Average wage: 2,660 USD /month (the average per-capita wage of Gyeonggi-do Province in 2015)

Core Resource Supply

Environment
A central city in the southern part of the metropolitan area and a hub of the high-tech knowledge industry, with an easy access to idle workforce thanks to being closely located to Suwon, Yongin, and Osan

Living Conditions

- Education: 4 universities and 4 colleges / 19 high schools and 2 vocational high schools / 29 middle schools and 72 elementary schools
- Medical Facilities: 2 general hospitals, 8 hospitals, 10 convalescent hospitals, 212 clinics, 141 dental hospitals, and 94 oriental medical clinics

Government Support

<Tax reductions and exemptions for foreign investment companies>
- Corporate tax: 100% exemption for the first five years, 50% reduction for the next two years
- Acquisition tax: 100% exemption for the first five years, 50% reduction for the next two years, for up to 15 years
- Custom duties on capital goods, special consumption tax, value added tax: 100% exemption (for up to three years)

<Gyeonggi Province’s Support Fund for Small and Medium-sized Enterprises>
- Eligibility for support: Automation, informatization, technology development, conversion of business, business transferred from large companies to SMEs, general startups, nurturing of small companies, and promising new business
- Property eligible for support: Any registered factory in operation, with its manufacturing business accounting for at least 30% of the total sales; any person who engages in a promising new business
- Terms of support: 4.2 to 8.3 million USD per business, interest rates: 4.45% to 5.7% per year
- Loan period: Repayment at maturity with a 1-year grace period or monthly installments over 5 years with a 1-year grace period
6. Jangan High-tech(2) General Industrial Complex

Investment Highlights

Location Description
A favorable environment for semiconductor manufacturing and R&D. A hub of trade and logistics in Northeast Asia while being home to global semiconductor and high tech companies such as Samsung and LG Electronics as well as renowned semiconductor institutes from home and abroad.

Key Rationale
- It provides the optimal business environment with a variety of benefits for foreign-invested companies, such as temporary suspension of customs duties and tax cuts, and reasonable rent fees.
- The advancement of the state-of-the-art technology and enhancement of competitiveness of resident companies can be achieved through cooperation among high-tech companies and businesses that involve a highly sophisticated technology, the central government, and local governments.
- The center of logistics and transportation, easy supply of raw materials, industrial sites located to meet the consumers’ needs.

Location Requirements

<table>
<thead>
<tr>
<th>Recommended Business Sector</th>
<th>Manufacturing business such as semiconductor parts and materials and equipment manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Rent</td>
</tr>
<tr>
<td>Land Zoning</td>
<td>Foreign Investment Zone</td>
</tr>
<tr>
<td>Investment Condition</td>
<td>A foreign investment amount of at least 3 million USD per 3,000㎡ is required</td>
</tr>
</tbody>
</table>

Resident businesses: Compounds and chemical products, rubber products and plastic products, metal products (excluding machinery and furniture), electrical equipment, other machinery and equipment, cars and trailers.

Target Area
- Total Area: 368,977 m²

Location Overview
Case References

Faurecia Emissions Control Systems Korea Co., Ltd.

- Faurecia Emissions Control Systems Korea was established in 2002 as a limited partnership company. In 2005, it was incorporated into a subsidiary of Faurecia before running exhaust systems, interior materials, and seats businesses until now. Also, Faurecia is in the process of integrating its three subsidiaries in Korea as Faurecia Korea, by establishing the NEW R&D Center in the metropolitan area.
- Faurecia established a manufacturing facility that produces components at a site of about 3,200 m² in the Jangan(2) complex. In 2007, it signed an investment agreement MOU with Gyeonggi-do Province, which, in the contract, promised an extensive, provincial support for the business activities of Faurecia.
- Since Korea is a strategically important country for Faurecia, the corporation has invested in Gyeonggi-do three times with the amount totalling 38 million USD, including the 6 million USD investment made in its research and development center for emissions parts in the Jangan(1) complex.

Business Considerations

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<tr>
<th>Market Perspective</th>
<th>Semiconductor production: 56.7 billion USD, exports: 57.1 billion USD, imports: 34.7 billion USD (2013)</th>
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<tbody>
<tr>
<td>Business Suggestion</td>
<td>Hwaseong-si City is capable of developing technologies and manufacturing products, with the residence of major companies in the semiconductor and high-tech industries, such as Samsung Electronics and LG Electronics, as well as domestic and international organizations specialized in the semiconductor industry.</td>
<td></td>
</tr>
</tbody>
</table>
| Main Costs          | Period: (up to) 50 years                                 | Rent Fee: 3.1 USD/m²/year  
Average Wage: 2,660 USD/month (the total per-capita average wage of Gyeonggi-do Province in 2015) |
| Financial Benchmark | Faurecia Emissions Control Systems Korea Co., Ltd. has seen its sales and operating profits steadily increase.  

Business Cluster

<table>
<thead>
<tr>
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<td>Potential Customers</td>
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Gyeonggi-do www.gg.go.kr  
Hwaseong-si www.hscity.net  
Industry-University Integrated Information Network www.e-cluster.net |

Financial Benchmark

Faurecia Emissions Control Systems Korea Co., Ltd. has seen its sales and operating profits steadily increase.

**Infrastructure**

**Utilities**
- Water supply: Industrial water 1,568 m³/day, residential water 331.1 m³/day
- Waste Water Treatment: Waste water is contracted out to the sewage treatment plant in the Jangan High-tech(1) General Industrial Complex
- Electricity: 3,117 kW
- Waste: Waste is disposed in landfill at the waste disposal facility in the industrial complex
- Communications: 816 lines
- Energy Supply: Samchully supplies LNG.

**Transportation**
- Airport: Incheon International Airport (100 km), Gimpo Airport (102 km)
- Railroad: Gyeongbu Line, Osan Station 30 km
- Road: Seohaean Expressway Baran IC (4 km), National Highway Route 82 or Local Road 332 located 0.1 km away from the complex
- Port: Incheon Port (80 km), Pyeongtaek Port (12 km)

**Labor & Material**

**Labor Condition**
- Regional population: (Unit: persons, %)

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<th>Items</th>
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</tbody>
</table>

- Gyeonggi-do’s economically active population: 6,597,000 persons
- Average wage: 2,660 USD/month (the average per-capita wage of Gyeonggi-do Province in 2015)

**Core Resource Supply**
- Environment: Collaboration with R&D institutes, including Samsung Semiconductor Research Institute, and relevant organizations; and supply of research manpower from nearby universities such as Sungkyunkwan University and Ajou University
- Possible to get a supply of components and finances through cooperation with the industrial complexes in the adjacent area such as Ansan Gyeonggi Techno Valley and Suwon Science Park

**Living Conditions**
- Education: 4 universities and 4 colleges / 19 high schools and 2 vocational high schools / 29 middle schools and 72 elementary schools
- Medical Facilities: 2 general hospitals, 8 hospitals, 10 convalescent hospitals, 212 clinics, 141 dental hospitals, and 94 oriental medical clinics
- Others: 15 tourist hotels, 3 performance facilities, 3 indoor stadiums, and 2 sports stadiums

**Government Support**

**<Tax reductions and exemptions for foreign investment companies>**
- 100% exemption of acquisition tax, if the acquisition occurred less than two years ago
- 50% reduction of property tax for five years (up to five years since the first acquisition)

**<Gyeonggi Province’s Support Fund for Small and Medium-sized Enterprises>**
- Eligibility for support: Automation, informatization, technology development, conversion of business, business transferred from large companies to SMEs, general startups, nurturing of small companies, and promising new business
- Property eligible for support: Any registered factory in operation, with its manufacturing business accounting for at least 30% of the total sales; any person who engages in a promising new business
- Terms of support: 4.2 to 8.3 million USD per business, interest rates: 4.45% to 5.7% per year
- Loan period: Repayment at maturity with a 1-year grace period or monthly installments over 5 years with a 1-year grace period
7. Gumi National Industrial Complex

Investment Highlights

Location Description
The largest high-tech electronic information and communications industrial complex. A hub of the semiconductor and digital industry providing home to Samsung Electronics and LG Display. An ideal manufacturing site for high added value technology development and product manufacturing thanks to collaboration of resident companies.

Key Rationale
- A location suitable for nurturing electronics and semiconductor industries, with a multitude of semiconductor companies, such as LG Electronics, residing in the industrial complex.
- An industrial city located in the middle of Gyeongsangbuk-do Province. The Nakdong Gangbyeon Expressway, which will be established connecting the inland area of Gyeongsangbuk-do Province as well as Busan Port, is expected to lay a firm ground for economic activities.
- The innovation base for the knowledge-based industry, where advanced technologies and industries are converged together, has been established to promote the core and new businesses.

Location Requirements

| Recommended Business Sector | Manufacturing business such as semiconductor parts and materials and equipment manufacturing |
|----------------------------|-------------------------------------------------------------------------------------------------
| Type                       | Pre-sale or Rent                                                                                 |
| Land Zoning                | National Industrial Complex, FIZ (Zone 4) included                                                |
| Investment Condition       | Resident business: Complex 1,2,3 : In accordance with the Korean Standard Industrial Classification (according to 2-digit divisions), all manufacturing business – plating industry (28922) excluded. Complex 4: To be limited to the 15 manufacturing businesses specified by the Korean Standard Industrial Classification |

Location Overview

Target Area
- Total Area: 22,864,000 m²

Related Companies (65)
- Major Companies: NH Vanex, Asahi Glass Fine Techno Korea, Phoenix Materials, Young In Corporation, LG Siltron, Kolektor Simung, Morewa, Seronics, Samsung Thales, Woknik OnC, etc.
- Broadcasting and radio communication equipment manufacturers : Dongjin Communications, KIM Tec, Sea Mechanics, Sina-tec, etc.
- Semiconductor and display manufacturers : LG Siltron, Seronics, etc.
- Electrical and electronic components manufacturers : Samsung Thales, Asahi Glass Fine Techno Korea, Phoenix Materials, EI Vanex, Loures, Kolektor Simung, etc.
- Other components manufacturers : Delico, wonyo, Wornik OnC, etc.

KST
- TCC Steel
- TCC Evergreen
- Pulbus Technology

Seong-An SRL Corporation

kotra
Korea Trade-Investment Promotion Agency

INVEST KOREA

Express Network

Highway

Power Plant

R&D Education Zone

Industrial Area

Map Medical Center
Case References

**Lusem Co., Ltd.**

- **Business**: Semiconductor device manufacturing in the electronic integrated circuits manufacturing sector
  - **Major Businesses**: Manufacturing of Drive IC, which is a key component of FPD
  - **Major Products**: Drive IC
- **Employees**: 680 persons
- **Sales**: 325.8 million USD
- **Capital**: 9 million USD
- Over the past 2 years, Lusem has expanded production by making an additional investment worth of 64.2 million USD in a 16,832 m² site adjacent to the Foreign Investment Zone 23B in the Gumi National Industrial Complex 4.
- This increased investment for production expansion came about six years after Japan's Oki Electric and Korea's LG Group jointly established Lusem in 2004 when they invested approximately 66 million USD.
- With the establishment of a factory in the Gumi National Industrial Complex, Lusem has successfully expanded supply and enhanced competitiveness by swiftly responding to the LCD demand in the global market.
- Gyeongsangbuk-do lent a 25,000m² pluck of land within the Gumi Foreign Business-Only Industrial Complex for fifty years free of charge, along with tax incentives such as national tax reduction for 10 years and regional tax reduction for 15 years.

Business Considerations

<table>
<thead>
<tr>
<th>Market Perspective</th>
<th>Semiconductor production: 56.7 billion USD, exports: 57.1 billion USD, imports: 34.7 billion USD (2013) Korea occupies an unchallenged position in the semiconductor market, with its semiconductor shipments recording 99.09 billion units and 1.1 trillion units in 2016 and 2017 respectively, projected to rise 8.2% for the five years from 2015.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Suggestion</td>
<td>Possible to develop high value added technology through a variety of R&amp;D activities and industrial collaboration, thanks to the establishment of the largest inland industrial complex of high-tech electronics, information, and communications industry.</td>
</tr>
<tr>
<td>Main Costs</td>
<td>Pre-sale Price : 112 USD/m², Average Wage : 2,660 USD/month (the total per-capita average wage of Gyeongsangbuk-do Province in 2015)</td>
</tr>
<tr>
<td>Financial Benchmark</td>
<td>Lusem recorded a decline in sales compared to the previous year, but the growth rate of its operating profit is increasingly growing. Sales : 326 million USD (2013) → 304 million USD (2014) Operating Profits : 4.8 million USD (2013) → 6.7 million USD (2014)</td>
</tr>
</tbody>
</table>

Business Cluster

- **Major Corporations in the region**

- **Potential Customers**: Electronics & semiconductor textile industries and all related manufacturing businesses

- **Related Organization**
  - Kumi information Center for Industrial Technology
  - Gyeongsangbuk-do : www.gyeongbuk.go.kr
  - Gumi-si : www.gumi.go.kr
  - Korea Industrial Complex Corporation : www.kicox.or.kr
  - Industry-University Integrated Information Network : www.e-cluster.net
  - K water : www.kwater.or.kr
Infrastructure

Utilities
- Water supply: Industrial water: Supply capacity 72,327 tons/day
- Waste Water Treatment: 330,000 tons/day
- Electricity: Voltage 22.9 kV, capacity 840 kW/h / voltage 154 kV, capacity 1,200 kW/h
- Communications: 60,400 lines
- Energy Supply: Combined heat and power plants, industrial gas, city gas

Environment & Regulation
- Depending on pollution, water, and other criteria, some businesses can be unqualified for residence in the industrial complex

Transportation
- Airport: Daegu Airport (40 km)
- Railroad: Gyeongbu Line, Gumi Station (3.5 km), KTX Gimcheon Gumi Station (18 km, transfer at Dongdaegu & Daejeon)
- Road: Gyeongbu Expressway, Namgumi IC (1 km), National Highway Route 5 (Masan ↔ Gumi ↔ Junggangjin), Route 25 (Jinhaeng ↔ Gumi ↔ Cheongju), Route 33 (Goseong ↔ Gumi), Route 67 (Chilgok ↔ Gumi), Local Road 33 (Gumi ↔ Pyeongchang), Route 68 (Seocheon ↔ Gumi ↔ Gyeongju)
- Port: Busan Port (150 km) - cargo berthing capacity: 201 ships, cargo handling capacity: 91 million tons/year Pohang Old Port / New Port (130 km) - cargo berthing capacity: 46 ships, cargo handling capacity: 53.41 million tons/year

Labor & Material

Labor Condition
- Regional population:
  - Population: 2,575,370
  - Available labor force: 1,565,022
  - Bachelor’s: 358,674
  - Master’s: 358,674
  - Ph.D.: 8,492
- Gyeongsangbuk-do’s economically active population: 1,432,000 persons
- Average wage: 2,660 USD/month (the average per-capita wage of Gyeongsangbuk-do Province in 2015)

Core Resource Supply Environment
- With Kumoh National Institute of Technology located adjacent to the industrial complex, it is possible to build close industry-academia relationships; it has formed a solid industry-academia-research cluster with the elite sciences and engineering colleges based in Gyeongsangbuk-do.
- An easy supply of raw materials and production are possible, thanks to the establishment of an expansive industrial complex and a long history and tradition.

Living Conditions
- Education: 4 universities / 20 high schools and 2 vocational high schools / 26 middle schools
- Medical Facilities: 3 general hospitals, 8 hospitals, 197 clinics, 5 dental hospitals, 98 dental clinics, 1 eastern hospital, 87 Chinese medicine clinics, 6 convalescent hospitals, 2 community health centers, 14 community health branches, 12 community health clinics
- Others: Labor Welfare Center, Women’s Welfare Center, sports complexes, indoor stadiums, Olympic Center, Culture & Arts Center, Geumot Mountain Ecology Learning Center, 9 movie theaters, etc.

Government Support

<Tax reductions and exemptions for foreign investment companies>
- 75% reduction of acquisition tax (In case of newly-built or enlarged building)
- 50% reduction of property tax for five years (up to five years in case of the first acquisition)

<Gyeongsangbuk-do Province’s Support Fund for Small and Medium-sized Start-ups and Competitiveness Enhancement>
- Eligibility for support: Manufacturing, manufacturing-related services, knowledge-based business, video business, etc.
- Terms of support: Loan for facility investment – 0.67 million USD, and Loan for operation – 0.25 million USD, with interest rates of 4.3% per year
- Loan period: Loan for facility investment - monthly installments over 5 years with a 3-year grace period, and loan for operation - monthly installments over 2 years with a 1-year grace period
8. Songsan General Industrial Complex 2

Investment Highlights

Location Description
An optimal site for the world’s leading semiconductor companies. Low logistical costs thanks to the port logistics cluster connecting pier, port hinterland and industrial complex. Opportunities to enhance IT/BT/GT convergence technologies by utilizing the extensive network of and collaborating with Hyundai Steel and Asan-Cheonan Techno Valley.

Key Rationale
- The excellent infrastructure as well as the optimal location for industrial economy, along with an abundant supply of water and a stable supply network of power.
- Suitable for industrial activities thanks to a smooth supply of raw materials and logistics through ports and roads, as well as a well-established infrastructure and an ample supply of workforce.

Location Requirements

<table>
<thead>
<tr>
<th>Recommended Business Sector</th>
<th>Manufacturing business such as semiconductor parts and materials and equipment manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Pre-sale or Rent</td>
</tr>
<tr>
<td>Land Zoning</td>
<td>General Industrial Complex</td>
</tr>
<tr>
<td>Investment Condition</td>
<td>Resident businesses: primary metal, cars, other machinery, electrical equipment, non-metal, metal processing, timber tree, rubber, plastic, etc.</td>
</tr>
</tbody>
</table>

Location Overview

Target Area
- Total Area: 5,610,000 m²
Case References

Hyundai Hysco Co., Ltd.

- Business: Steel pipe manufacturing business of cold-rolled and extruded products
- Employees: 360 persons
- Sales: 1.1 billion USD, Capital: 95 million USD

The cold-rolling factory in District B, set to be reborn as Hyundai Hysco's Dangjin Factory, plans to be operated with a full production capacity of 2 million tons/year by May in 2007, by starting to operate the production line with a total of 850,000 tons/year including the production line of Galvanized Steel Sheet (GI) with a production capacity of 350,000 tons per year.

- After Hyundai Hysco began the commercial production of Dangjin 2 cold-rolling factory with an annual production capacity of 1.5 million tons in May 2012, the company has been on a steady growth, producing a total of 600,000 tons of cool-rolling products in 2013.
- In 2013, Hyundai Hysco started the expansion project of the Dangjin 2 cold-rolling factory and overseas steel service centers in an effort to strengthen its competitiveness in the global market.
- The Dangjin 2 cold-rolling factory was built for the purpose of increasing its competitiveness in such areas as product quality, production cost, and production scale, and proper response to the market conditions of the relevant industries including the global auto industry.
- Along with the Dangjin 2 cold-rolling factory, the establishment of the production facility exclusively for high-strength steel plate is expected to bring the quality of "genuinely Korean-made" vehicles to a higher level.

Business Considerations

Market Perspective

Korea occupies an unchallenged position in the semiconductor market, with its semiconductor shipments recording 99.09 billion units and 1.1 trillion units in 2016 and 2017 respectively, projected to rise 8.2% for the five years from 2015.

Business Suggestion

The creation of an innovation stronghold for the IT/BT/GT convergence industry and the enhancement of the cluster competitiveness, through the strengthened metropolitan network and continuous cooperation with Hyundai Steel and Asan-Cheonan Techno Valley.

Main Costs

Pre-sale Price: 250 USD/㎡
Average Wage: 2,800 USD/month (the total per-capita average wage of Chungcheongnam-do Province)

Financial Benchmark

Hyundai Hysco has recorded a decline in sales for the last three years, but its operating profits are on a steady increase.


Business Cluster

Major Corporations in the region

- Korean: Hyundai Glovis, Samwoo, Hyundai Hysco, and Hyundai Motor Company

Potential Customers

- Enterprises related to electrical equipment, cars, other machinery, metal processing, timber tree, rubber, and plastic

Related Organization

- Institute of Nano Science and Technology (Nano technology field · semiconductor process and nano device technology · nano analytical method research of biomolecules)
- KITECH (Technology commercialization of small and medium-sized companies and enhancement of the national technology competitiveness, by performing projects regarding research and development of manufacturing technologies, education and evaluation.)
- Regional Technology Innovation Center (Joint research / education training · equipment use / information circulation · over-all support / star-up support)
- Chungcheongnam-do: www.chungnam.net
- Dangjin-si: www.dangjin.go.kr
- Industry-University Integrated Information Network: www.e-cluster.net
Infrastructure

Utilities
- Water supply: Industrial water Asan industrial water 2,500㎥/day, residential water Asan industrial water 1,082㎥/day
- Waste Water Treatment: 3,582㎥/day
- Electricity: voltage 154kV, 650㎾
- Communications: Dangjin Telephone Office provides 54,200 lines
- Energy Supply: supply of city gas: LNG

Transportation
- Airport: Incheon International Airport (130 km)
- Railroad: Janghang Line, Silleywon Station (35 km), Seohae Tourism Industry Railway to be built.
- Road: Seohaean Expressway, Dangjin IC (8km), Dangjin-Daejeon Expressway, Myeoncheon IC (35km), National Highway Route 32 (Gongju ↔ Dangjin ↔ Seosan ↔ Taean)
- Port: Pyeongtaek Port & Dangjin Port - 24 ships (Oil, containers, steel, cars, etc.), Daesan Port - 20 ships (Oil, containers, miscellaneous goods, etc.)

Labor & Material

Labor Condition
- Regional population: (Unit: persons, %)

<table>
<thead>
<tr>
<th>Items</th>
<th>Total Population</th>
<th>Available labor force</th>
<th>Bachelor’s</th>
<th>Master’s</th>
<th>Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chungcheongnam-do</td>
<td>2,000,473</td>
<td>1,193,274</td>
<td>300,661</td>
<td>36,108</td>
<td>7,673</td>
</tr>
<tr>
<td>Ratio</td>
<td>-</td>
<td>59.6</td>
<td>15.0</td>
<td>1.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Dangjin-si</td>
<td>135,106</td>
<td>82,965</td>
<td>14,406</td>
<td>1,600</td>
<td>266</td>
</tr>
<tr>
<td>Ratio</td>
<td>-</td>
<td>61.4</td>
<td>10.7</td>
<td>1.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

- Chungcheongnam-do’s economically active population: 1,948,000 persons
- Average wage: 2,800 USD/month (the average per-capita wage of Chungcheon Province in 2015)

Core Resource Supply
- A supply of raw materials at a reasonable price is possible, through Dangjin Port (one of the country’s three major ports), port facilities including the public jetty in the Godae District, Dangjin City, and Hyundai Steel located nearby.
- Korea Polytechnic University is capable of educating and producing talent customized for enterprises by providing a specialized curriculum based on the needs of corporations.

Living Conditions
- Education: 2 universities / 6 high schools / 13 middle schools & 31 elementary schools
- Medical Facilities: 1 general hospital, 4 hospitals, 70 clinics, 41 dental clinics, 26 Chinese medicine clinics, 1 convalescent hospital, 1 community health center, 11 community health branches, and 18 community health clinics
- Others: 2 hotels, 1 golf club, convention center, etc.

Government Support

<Tax reductions and exemptions for foreign investment companies>
- 100% exemption of acquisition tax
- 50% reduction of property tax for up to five years since the first acquisition

<Chungcheongnam-do Province’s Support Fund for Small and Medium-sized Enterprises>
- Support Fund: Loan for competitiveness enhancement (Economic Promotion Agency)
- Eligibility for Support: Factory construction, manufacturing facility, purchase and installation of facility, etc.
- Limit of Loan: 2.1 million USD (Loan for facility investment – 1.7 million USD, Loan for operation - 0.4 million USD)
- Grace period / Loan period: Loan for Facility – 3 years / 5 years, Loan for Operation – 1 year / 2 years
- Loan Rates: 3.7% (variable rate)
- Note: More than 3 years must have passed since the beginning of the business