## I. Company Overview

<table>
<thead>
<tr>
<th>Name</th>
<th>IK Semicon Co., Ltd.</th>
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<tbody>
<tr>
<td>Website</td>
<td><a href="http://www.iksemi.com">www.iksemi.com</a></td>
</tr>
<tr>
<td>Foundation</td>
<td>June, 1997</td>
</tr>
<tr>
<td>CEO</td>
<td>KD Yoon</td>
</tr>
<tr>
<td>Head Office</td>
<td>Rm.503, DMC Hi-Tech Industry Center, 330, SeongAm-ro, Mapo-gu, Seoul 121-912 South Korea</td>
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<tr>
<td>Location</td>
<td>Design Center: Office 503, 24A Volodko str., Minsk, 220007, Republic of Belarus</td>
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<tr>
<td>Business</td>
<td>Semiconductor Design &amp; Manufacture</td>
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<tr>
<td>Capital</td>
<td>$1.9M</td>
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<tr>
<td>Personnel</td>
<td>32 Employees (including 15 engineers in R&amp;D)</td>
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</table>
II. Identity

Development aiming at customized semiconductor by own advanced IPs.

◆ Products Line up
  - Automotive (Standard & ASIC)
  - Power Management
  - Customized ASIC Development
  - LED Display & Lighting for Home Appliance etc.
  - Interface
  - Analog & Mixed Signal
  - Standard Logic
III. Milestone

**Build Up (2000~2004)**
- 97.06. Foundation
- 03.08. Join in Government Project for Interface IC (RS-232)
- 04.04. Export U$5M Achieve

**Stability (2005~2009)**
- 05.07. R&D House Foundation
- 06.04. Certification for Innovation Business & ISO 9001
- 07.01. Certification for Special Company of Component & Materials
- 07.03. Certification for TS16949
- 08.01. Award for SVD TOP 100 CEO

**Jump Up (2010~Now)**
- 10.08. IC Design Eco-Partner by DB-HiTek
- 10.10. Minsk Design Center Foundation (Belarus)
- 15.2Q. Development Automotive Alternative Voltage Regulator Chip with Delphi
- 15.2Q. Development Automotive for Power Folding Driver IC with HSL
- 15.4Q. Join in Government Project for Automotive Active MOSFET Rectifier of Alternator
- 16.1Q. Development HID Lamp Ballast ASIC with LS Automotive
- 16.4Q. Contract with Future Elec.
- 17.1Q. Under development Fluxgate sensor ASIC

Supply of Analog Standard Product
Activity for Full-scale R&D Establish Independent-Technology Stable & Continuous Sales-Growth
ASIC Development for Automotive & Home Application System in (on) Package Biz Penetration
IV. Performance

- **Sales Revenues** increase 25~45% annually backboned by **Automotive IC business**

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<tbody>
<tr>
<td>Total Sales (U$, Million)</td>
<td>0.3M</td>
<td>0.6M</td>
<td>0.8M</td>
<td>1.4M</td>
<td>1.6M</td>
<td>1.8M</td>
<td>2.0M</td>
<td>3.8M</td>
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<tr>
<td>Automotive</td>
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<tr>
<td>Volume (U$ M/Y)</td>
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18.7M
Organizational values

- Harmonize all the vectors for customer satisfaction
- Enhanced value-focused performance
- Effective communication to find the solution
- Within 24Hrs feedback to the customers
VI. Manufacturing Sites

● Foundry Site

- **DB HiTek**
  - Business Area: IC for Automotive
  - Technology: 90nm~0.35um
  - Capacity: 96K wfrs (8")/M
  - Location: Fab1 (Bucheon), Fab2 (Eumsung)

- **INTEGRAL**
  - Business Area: Bipolar, CMOS, BiCMOS
  - Technology: 4"(1.2~3.0um), 6"(0.8~1.2um)
  - Capacity: 535K wfrs (4")/M, 120K wfrs (6")/M

● Assembly & Test Site

- **SFA Semicon (Suzhou)**
  - Business Area: Assembly & Test
  - Capacity: QFN/SMD/DIP (116MP/M)

- **天水华华天微电子股份有限公司**
  - Business Area: Assembly & Test
  - Capacity: SMD/DIP (5BP/M)

- **KODENSHI AUK**
  - Business Area: Assembly & Test
  - Capacity: SOT/TO (11,197MP/M)

- **红光微电子**
  - Business Area: Assembly & Test
  - Capacity: SOT/TO (5BP/M)
VII. Product Line-up

**Automotive**
- AVR (Alternator Voltage Regulator)
- MFR (Multi Function Regulator)
- AMR (Active MOSFET Rectifier)
- Power Folding Driver
- HID Lamp Ballast IC
- Fluxgate Sensor Driver
- LDO (Low-Drop Voltage Regulator)
- CAN (Controller Area Network) Transceiver
- Room Lamp Driver Module

**LED Display & Lighting**
- LED Display Driver
- LED Constant Current Driver

**Analog and mixed signal**
- OP Amp & Comparators
- Fire Detectors
- Telephone ICs
- Audio Systems & Melody ICs
- Timers & Real Time Clock ICs

**Power management**
- Ground fault interrupter
- Motor controller / Driver
- Power factor controller
- Transistor Array ICs
- DC-DC Converter
- DC-DC Switching Voltage Regulator
- Voltage Regulators
- Voltage Detector & Reset ICs

**Interface & Standard Logic**
- RS-232, RS-485
- IW4000B Series & IN74HC/HCT/LS Series

www.iksemi.com
VIII. ASIC Business Process

- **Design & Layout**
- **Specication**
- **Concept**
- **Study for ASIC development request**
- **Decision of agreement for ASIC specification**
- **Wafer Fabrication**
- **Packaging**
- **Bench Testing**
- **Yield Optimization**
- **ATE H/W & S/W for ASIC**
- **ATest**
  - Subsidiary Company of IK Semicon ⇒ Test House
- **ASIC Supply**
- **ISO9001:2015 ASIC design and supply**
  - By Kodenshi, SFA, TSHT, Gelite
  - By DB HiTek, Integral
  - Wafer Fabrication for ASIC

- **① MPW**
- **② Single Mask**

MPW : Multi Project Wafer
ATE : Automatic Test Equipment
IX. Quality

◆ Quality Policy

**We will do**
our best to present the best vision to all valued customers as your best companion based on “Basic for process” “Benefit to Customer” “Belief in people”

- **Design**
  - Basic for Design Process
  - Perfect Reliability
  - Securing Design Quality

- **Production**
  - Basic for Process
  - Observing SPEC
  - Qualified Materials

- **Management**
  - Providing High Quality Products
  - Quick Response
  - 8D Analysis

Customer Satisfaction

◆ Quality System

**We will always**
pay attention to the need of the customers and take a historic step forward with you.
IK’s automotive products are satisfied with reliability standard of AEC-Q100.

AEC-Q100 is a failure mechanism-based stress test qualification created by the Automotive Electronics Council (AEC) for integrated circuits (IC). Qualified ICs are built to meet the intense reliability, quality and temperature demands of harsh environments. Specifications that must be met include a series of electrical, lifetime and reliability stress tests, as well as testing in various temperature ranges.

[ AEC Q100 Qualification Test Flow ]
XI. Major Customers

- **Automotive:** Hyundai, Kia Motors, General Motors, SsangYong, erae, S&T Motiv, Sedyon Electronics, Unick, Komtec, Woody, Omron
- **Home Appliance:** Samsung, LG, Dongbu Daewoo Electronics, Dayou, Dayou Winia
- **Consumer & Industrial:** LG U+, LS 산전, Humax, novita, Kumho, Woongjin, Thinkware, Naiven, Kocom
- **Oversea:** Panasonic, Hitachi, Toshiba, Sharp, Hisense, ABB, Philips, ABB, Tata Motors, Sony Vaio, JCB
Thank you