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English (C2) • German (B2) • Korean (Native)
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PROFESSIONAL SUMMARY

- Senior semiconductor professional with 30 years of experience **across EMEA and APAC**, spanning **advanced IC design, EDA verification, design-to-mask preparation**, and **complex, high-value B2B engagements**.
- Proven ability to **align customer business priorities with advanced semiconductor and EDA application solutions**, effectively bridging design, verification, and **manufacturing readiness** for **complex, safety-critical programs**, including automotive products.
- **Commercial leadership & APAC sales** combined with **sign-off-level technical credibility**; partner to **senior management**, CAD teams, and **global foundries** to drive adoption, de-risk tape-outs, and deliver sustained revenue growth

KEY ACHIEVEMENTS

- **Enabled production-ready tape-outs for safety-critical automotive and advanced semiconductor products**, including Bosch's 300mm automotive chip, by leading photo-mask preparation, OPC/RET, manufacturability validation, and data integrity assurance
- **Supported PDK development and validation** for leading foundries including TSMC, Intel, GlobalFoundries, Samsung, Infineon, and ST, acting as a trusted technical and commercial advisor to ensure successful customer outcomes across Europe and APAC
- **Developed automation frameworks and verification flows** (SKILL-based PCells, TCL/SVRF/TVF scripts, standard libraries), improving verification throughput, accuracy, and customer sign-off turnaround time
- **Bridged engineering, manufacturing, and customer teams**, translating complex design, sign-off, and yield considerations into clear execution plans that reduced program risk and accelerated adoption
- Recognized with multiple company **awards**, including **SK Hynix Key Talent Award**, Outstanding Achievement Award, Best Product Award, and **GlobalFoundries BestSupport Award**
- **Authored 14 patents (2 U.S., 12 Korean)** in DRAM memory circuit design and physical design, reinforcing technical credibility in customer and executive discussions
- **Drove multi-million-euro semiconductor sales** and business development programs across APAC, securing **Tier-1 customer relationships** in Korea, Japan, China, Taiwan, and Singapore, and supporting long-cycle, high-value B2B engagements

- **Generated €15M in revenue** for automotive ultrasonic parking sensor ICs at ELMOS through direct engagement with OEMs and Tier-1 customers, aligning technical solutions with customer business requirements
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CORE PROFESSIONAL COMPETENCIES

- **Enterprise Sales, Go-To-Market Strategy**, Negotiation and Deal execution
 - Regional Sales Leadership & Cross-Cultural Stakeholder Management
 - **Customer Success & Account Enablement** (technical advisory, EMEA & APAC)
 - **Semiconductor Solution Positioning** (Memory, ASIC, Analog & Mixed-Signal)
 - Foundry Partnership & Ecosystem Collaboration (TSMC, Intel, GF, Samsung, ST)
 - **R&D-Customer Alignment & Cross-Functional Leadership**
 - **EDA / DFM / Verification Expertise** supporting customer evaluations and adoption
 - Tape-Out, Full-Chip Sign-Off & Mask Data Preparation (OPC/RET, Kerf)
 - **Yield, Manufacturability & Reliability Optimization** aligned with business outcomes
 - Design Automation & Workflow Optimization to accelerate customer sign-off
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PROFESSIONAL EXPERIENCE (Expert Track - Semiconductor / Manufacturing / EDA)

Robert Bosch Semiconductor Manufacturing Dresden, Dresden, Germany
Expert, Design-to-Mask Preparation | 2025.04 – 2025.10

- **Led end-to-end tape-out and photomask preparation** for a 300mm automotive semiconductor program, ensuring manufacturability, data integrity, and compliance with automotive quality standards, frame generation, multi-die placement, Optical Proximity Correction (OPC)
- **Identified and mitigated manufacturing-readiness risks** during technology transfer (TI / TSMC 45nm) by implementing reticle, kerf, and alignment optimizations, reducing re-spin exposure, creating alignment, overlay markers, metrology targets, CD-control features, PDM cell
- **Coordinated cross-functional stakeholders** across design, lithography, manufacturing, and mask vendors to deliver a production-ready mask set under strict schedule constraints

Impact: Enabled on-time production release of a **safety-critical automotive semiconductor** by mitigating tape-out and manufacturability risks under strict quality, yield, and schedule constraints.

Siemens EDA (Electronic Design Automation, Mentor Graphics), Munich, Germany
Senior Customer Application Engineer (Calibre Portfolio) | 2014.06 – 2025.03

- Served as a **trusted technical advisor** to Tier-1 semiconductor companies (Intel, TSMC, GlobalFoundries, ST, Infineon, Apple), supporting **strategic decisions** across verification, manufacturability, and sign-off
- Led **customer engagements end-to-end** from **problem framing and solution benchmarking** to **implementation, automation, and tape-out readiness**, directly influencing

project outcomes and schedules

- Designed and deployed **custom verification and automation flows** (DRC/LVS/DFM/PERC/OPC), eliminating recurring bottlenecks and reducing late-stage design and manufacturing risk
- **OPC & lithography enablement:** ILT-based OPC simulation, OPC-Verify, **multi-patterning, SRAF, ModelFlow, LithoView, jobdeck; scribe-street optimization**, yield & manufacturability
- Delivered leadership-level briefings and technical workshops, and **enablement sessions**, aligning engineering teams and decision-makers on adoption of advanced verification and manufacturability solutions

Impact: Drove adoption contributing to multi-year enterprise agreements of **Calibre verification and DFM solutions** across multiple Tier-1 customers, strengthening long-term strategic partnerships and accelerating customer time-to-market.

DSP-Weuffen GmbH, Amtzell, Germany

Consultant Sales Engineer (Asia Market) | 2013.02 – 2013.11

- **Led technical sales engagements** for ADAS, multi-camera, MCU, and DSP platforms across China and Korea, supporting customer evaluations and design-in decisions
- **Developed and managed Tier-1 automotive accounts** including Delphi, Mando, Hyundai Mobis, and Desay, acting as the primary technical and commercial interface
- **Delivered system-level HW/SW demonstrations** (surround-view and vision systems) and supported customer benchmarking and feasibility assessments

Impact: Accelerated evaluations shortening sales cycles and design-in discussions for automotive electronics platforms across **APAC** by translating system-level capabilities into customer-specific value.

Infineon Technologies AG, Munich, Germany

Consultant – IC Package / PDK Engineer | 2012.12 – 2013.09

- Developed **Calibre-based DRC rule decks** for **wire-bond BGA, TSSOP, and MQFP LF packages**, supporting standardized package verification flows
- Created **test cases and validation frameworks** to ensure rule-deck accuracy, production readiness, and proper documentation
- Coordinated **OSAT alignment** with **Amkor Technology and ASE**, ensuring consistency between design rules, package implementation, and manufacturing constraints

Impact: Enabled production-ready package verification flows and smoother OSAT integration, reducing risk during package qualification and manufacturing ramp-up.

ELMOS Semiconductor SE, Dortmund, Germany

Senior Sales Representative (APAC) | 2010.01 – 2012.09

- Managed **sales operations and distributor networks** across Singapore, Korea, China, Japan, and Taiwan, serving as the primary interface for OEM / Tier-1 automotive customers

- Generated **€15M in revenue** for **ultrasonic parking sensor ICs** by driving customer engagement, design-in activities, and long-term account development
- Led **contract and pricing negotiations** with major customers including **Hyundai Mobis**, Panasonic, Delphi, and Alpine, balancing technical requirements with commercial objectives
- Delivered **end-to-end technical and commercial design-in support** for automotive ASIC projects spanning sensing, power management, motor control, and in-vehicle networking (CAN, LIN-SBC, FlexRay)

Impact: Secured multiple **long-term automotive design wins** and €15M in revenue by aligning customer technical requirements with commercial strategy across APAC Tier-1 accounts.

Qimonda AG / Infineon Technologies AG, Munich, Germany

Senior IC Physical Designer – DRAM (DDR2/DDR3) & Mixed-Signal | 2004.09 – 2009.07

- Led **full-custom physical design and sign-off** for **DDR2/DDR3 DRAM and mixed-signal products**, covering **DRC/LVS compliance** and tape-out readiness
- Executed **analog, mixed-signal, and power layout** across **90nm → 45nm CMOS nodes**, ensuring manufacturability, yield optimization, and device-matching precision
- Performed **digital P&R (ICC2)**, parasitic extraction, and **IR-drop / EM / antenna checks**, supporting robust timing and reliability sign-off
- Improved **design-cycle efficiency** by integrating digital blocks through **PCell-based methodologies and Virtuoso XL**, reducing manual layout effort
- Authored **technical guidelines** and contributed to **global analog layout methodologies (Leading global teams)**, enabling consistency and reuse across design teams

Impact: Delivered **tape-out-ready DDR memory and mixed-signal silicon on schedule** while improving layout robustness, yield, and design-cycle efficiency across multiple technology nodes.

Integrated Silicon Solution Inc. (ISSI), Hsinchu, Taiwan

Senior IC Design Engineer | 2004.01 – 2004.07

- Executed **mask revisions and layout optimization** for a **256Mb LP-SDRAM** product, covering RTL-to-GDS implementation and verification
- Supported **manufacturability improvements and sign-off quality**, ensuring alignment with **TSMC PRRM** requirements

Impact: Enabled tape-out-ready LP-SDRAM design with improved verification robustness and manufacturability, reducing risk during foundry sign-off.

SK-Hynix Semiconductor, Icheon, South Korea

Senior IC Design Engineer – DRAM Circuit & Physical Design | 1996.02 – 2003.12

- Led **DRAM and SRAM circuit design and chip architecture definition**, covering high-

speed clocks, sense amplifiers, power management, I/O, refresh, and control logic, with full-chip simulation and **JEDEC-compliant timing sign-off**

- Executed **HSPICE/HSIM simulations**, first-silicon debug, failure analysis, and **timing closure**, supporting reliable transition from design to volume production
- Coordinated **physical design teams** through floor-planning, tape-out, and full-chip sign-off, ensuring alignment across circuit, layout, and manufacturing interfaces
- Designed and verified **critical layout blocks** (I/O, ESD/latch-up protection, core arrays, power routing), performing **RC extraction, IR-drop, DRC/LVS/ERC/OPC sign-off**, and implementing **dummy-fill and CMP-aware optimizations** to improve wafer yield
- Led development of **design automation and P&R flows**, writing **Hercules and Assura rule decks** and supporting post-layout **SI and static timing analysis sign-off** using StarRC
- Authored **2 U.S. and 12 Korean patents** in DRAM design and received multiple internal innovation awards

Impact: Supported multiple **high-volume DRAM product launches** by integrating circuit design, physical implementation, and automation flows, improving yield, sign-off robustness, and scalability in production.

EDUACTION

Bachelor of Science, Electronics Engineering

University of Ulsan, South Korea (1989.03 – 1996.02)

Completed 29 months of mandatory **military service** with the Republic of Korea Army Infantry while pursuing degree studies (1991.01 – 1993.06)

German Language Training (Professional Integration Track)

Completed a series of certified German language programs supporting professional integration, technical communication, and customer-facing responsibilities in Germany:

- **B2 Level** (2013.12–2014.05), CBZ München | **Berlitz Level 4** (2010.11–2011.04), Berlitz Dortmund | **B1 Level** (2009.08–2009.12), Münchener Volkshochschule

Japanese Language Course in Dortmund (2010.02~ 2011.05), in KOR(1996.03~ 1996.08)

Additional Training:

- Advanced IC Physical Design & ICC P&R (Synopsys, Munich) (2018.03)
- Calibre SVRF / PERC / OPC Training (Siemens EDA, Munich) (2014.09), and Trainer
- Microcontroller with infrared optical sensor (ELMOS, Karlsruhe) (2010.06 & 2011.09)

Interests

Machine Learning/AI, cloud-based EDA innovation, and European historical studies

Hobbies

Long-distance running, hiking, cycling to support a balanced and healthy daily routine

TECHNICAL HIGHLIGHTS (Selected – Supporting Application & Customer Engagement)

Foundry Technology Coverage

Practical exposure to advanced semiconductor process nodes (**≈45nm to 3nm-class**) across **major foundries** including TSMC, GlobalFoundries, Intel, and STMicroelectronics
TSMC (N28, N16, N7, N3E), **GlobalFoundries** (45nm, 22nm, 14nm), **Intel Foundry** (i1278, i1276, i1226), **STMicroelectronics** (45nm, 40nm, 28nm), **Samsung Foundry** (S16N, S14N)

Manufacturing & Mask Data Preparation

- Hands-on **lithography simulation**, SRAF / RET evaluation, **OPC**, Multi-patterning strategies
- End-to-end **mask data preparation** pipelines, sign-off-level expertise in **FinFET**, spanning **MEMS, optical, and CMOS** technologies

CRM & Enterprise Systems

- Salesforce • SAP CRM • JIRA

Data & Markup Formats

- JSON • HTML • XML • CSV

Design Data & Configuration Management

- Git • GitHub • Bitbucket • Visual Studio Code

Programming & Automation

- Python • Tcl • Perl • awk • Shell scripts (bash/csh) • Java • C++

Operating Systems

- High-performance computing (AWS cloud-enabled) • Linux(RHEL, SLES) • Windows

Selected EDA & Semiconductor Tools

Analog / Mixed-Signal Circuit Design & Simulation (TCAD)

- HSPICE, Spectre, FastSpice (HSIM / NanoSim), Oscilloscope

Physical Design, Verification & Full-Chip Sign-Off

- Cadence Virtuoso XL, SKILL Pcell, Assura, Pegasus and Innovus
- Synopsys ICC2, StarRC, PrimeTime, STA, IC Validation, Hercules (DRC / LVS / ERC / FILL)

Siemens EDA / Mentor Calibre – Deep Expertise

- PERC (ESD, latch-up), **OPC simulation & verification**, advanced DFM & yield analysis
- Smart-Fill/ECO-Fill, antenna, pattern matching, auto-waivers, FastXOR, RealTime

Advanced debug & integration: photonic DRC (**curvilinear geometries**), 2.5D/3D IC

- Chiplet & **3D stack**, Xpedition (IC package), GUI, DESIGNrev / Workbench, Tanner
- **SVRF, TCL/TVF**, Parasitic Extraction, xACT, mPower, DBDIFF, and database automation