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| Prem Anton Résumé  I.C. No: 741015-14-5041  Mobile: 016-4265028  E-mail: [premanton@gmail.com](mailto:premanton@gmail.com) | No. 19, Jalan Cuepacs 1B,  Taman Cuepacs Kajang,  43000 Kajang, Selangor, Malaysia. |

**SUMMARY**

Passionate design engineer with 18 years of R&D experience from concept to commercialization, including a majority of start-up experience. Possesses vast knowledge in the areas of Analogue Power electronic circuitry, embedded systems, EMS, IC Temperature Characterization, EMI, LED tech and more. Early manufacturing career supplements R&D skills with turnkey capability for employers by not only driving in-house R&D prototyping but also resolving transition issues for mass production. Such expertise includes design optimization and debugging for cost-reduction, reproducibility and reliability with consistent quality.

Prior roles include taking on Technical Leadership and Consultancy over multiple concurrent projects. Experienced with international specification compliance for products slated for international launch (U.S.A, Europe, Japan etc). Strong communication from interfacing with customer and vendors for service support, co-design discussion and various other collaborative scenarios.

**MAJOR CONTRIBUTION TO CURRENTLY SOLD CONSUMER PRODUCTS:**

[RED DOT Award DanFoss Temp Devireg 233](http://www.design-people.com/portfolio/danfoss/), [Devireg 233 Setup](https://fheprod.danfoss.com/PCMPDF/DEVIreg233_X005597_VICKE202.pdf)

[BOSCH GDR 10.8V Cordless Drill](https://www.youtube.com/watch?v=nfbYhsl1EpI)

[CALLOTEC LED Driver SHARP Zenigata](https://www.youtube.com/watch?v=BI9079hP_cs), [LED Drivers](https://www.youtube.com/watch?v=tZ3KlBHg0-A),

[PAR30 and PAR38 LED Driver Initial Development](https://www.youtube.com/user/ledzworldlighting)

[Bang & Olufsen Beotime Flute](https://www.youtube.com/watch?v=qtEkIPQSLV8)

[Mars Flavia Drink Station](https://www.youtube.com/watch?v=q1rFFAP8QbA)

[Actiforce Adjustable Electric Table](https://www.youtube.com/watch?v=gLRGDvcBTI4)

[Motorola Smart Remote Speaker Microphone](https://www.youtube.com/watch?v=75iT0TjZuyU)

**MAJOR RESEARCH CONTRIBUTION:**

[BBC Horizon Multisensory Communication](https://www.youtube.com/watch?v=TXIjIyPiXxE): Scented Vapor Emitting Device, Digital Smell Interface, Olfactometer, Magnetic Levitation, Digital Sweet Taste

[Symmid Corporation Projects](https://www.youtube.com/watch?v=3fuWCSvpd7k): Low Voltage Differential Signaling and Voltage/Current and Low Dropout Regulator

**EXPERIENCE: CALLOTEC SDN. BHD. (4th January 2010 – 21st June 2016)**

**Chief Technical Officer**

Lead 12 R&D Engineers and 5 Research Fellows for development and commercialization of conceptual ideas and new technologies by assessing customer’s needs, design-prototyping and driving EMS off production transition issues. This included design improvements for cost and reliability as well as supplier management. Developed or resolved IC Thermal Characterization, EMC test plans, EMC anomalies, product specification negotiation (UL, CE, IEC, SIRIM) and prototype testing while managing overall product deadlines and budget for these:

* [BBC Horizon Multisensory Communication](https://www.youtube.com/watch?v=TXIjIyPiXxE) – Feasibility studies for Human Multi-Sensory conversion from Touch / Magnetic Levitation, Taste and Smell to digital signals and transmission to the cloud.
* TOYOTA Thailand and KERRY’S Shah Alam Energy Management Systems using Eniscope, ACES and OPTIDRIVE Variable Speed Drives
* MITSUBISHI, VERBATIM, etc – Switched Mode Power Supply + LED Drivers for SHARP Zenigata LED Bulb with Color Temperature Adjustment (CTA), 75W Street Lamp LED / External LED Driver Japan market, 10W CTA Bulb, 50W Lumotec LED Driver and more.
* ALTIS, FRANCE – IC Thermal Characterization for Low Drop Out Voltage, Phase Lock Loop, Low Voltage Differential Signaling and development of Low Cost Audio Analyzer using THAT1200 and OPA1632 ([Symmid Corporation Projects](https://www.youtube.com/watch?v=3fuWCSvpd7k))

**Cost optimization of ~USD 29K** generated via R&D process (design + retooling of LED Heatsink, drive IC Thermal Characterization tasks within Malaysia, sourcing Isolation Transformer, wiring of Earth Leakage, debugging LED Emissions Test issues).

**Cost savings of ~USD 31K** by pioneering in house process improvements and trouble-shooting (salvaging customer rejects replacing Schottky diodes, conducting UL + CE pre-certification in-house, Equipment vs Software feasibility)

**Generated Sales of ~RM95K** (Nusajaya Smart City, Gelang Patah, Johor, Property Mgt Office Modernization, and ~RM 15 000 other regional design-wins including street lamps and Variable Frequency Drivesfor Energy Mgt. Project)

**EXPERIENCE: ESCATEC ELECTRONICS SDN. BHD. (17th October 2005 – 4th January 2010)**

**R&D Hardware Design Engineer**

Individual Contributor in Research and Design of Consumer Products that spanned full product lifecycle from concept to commercialization. Knowledge skills used include Analogue Power Electronics circuit design innovation, system analysis, product requirements analysis, market segment studies (UL, CE, IEC) and customer specification definition:

* [RED DOT Award Devireg 233](http://www.design-people.com/portfolio/danfoss/), [Devireg 233 Setup](https://fheprod.danfoss.com/PCMPDF/DEVIreg233_X005597_VICKE202.pdf), [BOSCH GDR 10.8V Cordless Drill](https://www.youtube.com/watch?v=nfbYhsl1EpI), [Bang & Olufsen Beotime Flute](https://www.youtube.com/watch?v=qtEkIPQSLV8), [Mars Flavia Drink Station](https://www.youtube.com/watch?v=q1rFFAP8QbA), [Actiforce Adjustable Electric Table](https://www.youtube.com/watch?v=gLRGDvcBTI4), Danfoss Steam Vacuum Valve Actuator
* Projects from concept to commercialization monetary value:

Manufacturing Contracts won and Cost Saving on commercialized consumer products:

* USD 250,000 Manufacturing Contract from Danfoss for [RED DOT Award Devireg 233](http://www.design-people.com/portfolio/danfoss/)
* USD 180,000 Manufacturing Contract from BOSCH for [BOSCH GDR 10.8V Cordless Drill](https://www.youtube.com/watch?v=nfbYhsl1EpI)
* USD 12,000 saved (Danfoss Vacuum Valve Electronic Control Module and [Actiforce Adjustable Electric Table](https://www.youtube.com/watch?v=gLRGDvcBTI4))

**EXPERIENCE: MOTOROLA TECHNOLOGY SDN. BHD. (22nd September 2003 – 17th October 2005)**

**Senior Electronics Engineer**

Lead a total of 5 R&D Engineers (3 R&D Motorola and 2 R&D BCM) to complete [Motorola Smart Remote Speaker Microphone](https://www.youtube.com/watch?v=75iT0TjZuyU) Accessory for Two-Way Motorola Legacy and New Radios from GCAI (Global Core Accessory Interface Connector) specification, this includes 1-Wire Device DS2433 for Original Battery and Condition monitoring. To innovate a new electronic circuit and PCB design to meet ATEX, CENELEC and FM standards (safety of electronic equipment in gaseous or hazardous environments).

Cost Savings from Development of Accessory and commercialization ahead of schedule:

* USD 150,000 saved commercialization of [Motorola Smart Remote Speaker Microphone](https://www.youtube.com/watch?v=75iT0TjZuyU) 2 years AHEAD OF SCHEDULE
* USD 12,500 saved by making Generic Accessory meet FM, ATEX and CENELEC

**EXPERIENCE: INTEL MICROELECTRONICS SDN. BHD. (17th March 2003 – 5th September 2003)**

**Equipment Engineer Level 4**

Lead 5 Technicians and Line Engineers for Creating New Golden Units for Co-planarity Values, to obtain less than 3% tolerances between 21 RVSI and 4 ICOS machines for FCBGA. Custom make mechanical and modify electronic parts because main RVSI supplier closed down. Correlation of RVSI, ICOS and RVSI (Intel China), completed in 6 months.

Cost Savings Maintenance Activities for RVSI and ICOS:

* USD 70,000 saved on RVSI Motor Stepper Control Circuit and Tape & Reel Sealing Shoes for 12 RVSI Laser Inspection Machines

**EXPERIENCE: ERICSSON MOBILE COMMUNICATIONS SDN. BHD. (15th May 2000 – 15th May 2002)**

**Maintenance/Production Engineer (Final Flash DPY)**

Lead 12 Final Flash DRY Technicians on Rotating Shifts for Maintenance of Final Flash Testers for 5 different models of Ericsson Mobile Phones. Improved Yield to an average of 99% for T-28 with Maintenance Schedule and UPS implementation and connector replacements. JIT (Just In Time), FMEA (Failure Mode Effect Analysis), ECN /ECR (Engineering Change Note or Request) and DOE (Design Of Experiment). Conducting PM (Preventive Maintenance) and implementing CAPA (Corrective Action / Preventive Action) increase Yield, MTBF (Mean Time Between Failure)

* + - * USD 97,000 saved, controlling Production Torque Air Screwdrivers on T-28 Magnesium Frames [T28 Ericsson Mobile Phone](https://www.youtube.com/watch?v=oYg3yGwNFng)

**EXPERIENCE: DIAGRAPH CORPORATION SDN. BHD. (29th September 1998 – 15th May 2000)**

**Technical Service Engineer**

To service and train customers on Linx and Diagraph Industrial Printers. Carlsberg Pallet Identification for Production and Shipment Date. Commissioning new Linx and Diagraph Industrial Printers before setup at customer’s factory or office site. Overhaul of Linx and Diagraph Industrial Printers which have been traded in for new printers.

**QUALIFICATIONS:**

**B.Eng(Hons) Communications and Electronics Engineering -** University of Notrhumbria at Newcastle, United Kingdom (1996 to 1998)

**Diploma in Electronics Engineering -** Federal Institute of Technology Kuala Lumpur (1992 to 1995)

**CERTIFICATIONS:**

Embedded System Design- C++ Programming for Engineers by Dream Catcher Consulting (2015)

ISO Internal Auditor by Llyod’s Register Quality Assurance (2014)

ISO 9001:2008 Awareness Training by Novo Quality Services (2012)

Failure Mode Effect Analysis by SIRIM (2012)

Creating a Culture of Customer Excellence by ITD Penang (2007)

IS95/CDMA 2000 Technology Fundamentals by Agilent Technologies (2001)

**REFERENCES:**

Henry Gaier, Chief Marketing Officer, Callotec Sdn. Bhd. ([henrygaier@gmail.com](mailto:henrygaier@gmail.com))

Alan Previn, Graphics Developer, Intel Folsom United States. ([alan\_previn@hotmail.com](mailto:alan_previn@hotmail.com))

Khairunnizam Munip, Solutions Manager, Intel Microelectronics Penang Sdn. Bhd. (012-4387173)

Chee Aun Kok, Regional Sales Manager, Asia Pacific, SIEMENS Malaysia Sdn. Bhd. (016-2111113)

**ADDRESSES & CONTACT NUMBERS OF PREVIOUS EMPLOYERS:**

Callotec Sdn. Bhd. B-2-12, IOI Boulevard, Jalan Kenari 5, Bandar Puchong Jaya, 47170 Puching, Selangor TEL: 03 8071 8639

Escatec Electronics Sdn. Bhd. F12, Pintasan Kampung Jawa 2, Kawasan Perindustrian Bayan Lepas, 11900 Bayan Lepas, Penang TEL: 04 643 2554

Motorola Technology Sdn. Bhd. Plot 2, Bayan Lepas Technoplex Industrial Park, Mukim 12 SWD, 11900 Penang TEL: 04 643 2511

Intel Microelectronics Sdn. Bhd. Phase 3, Kawasan Perusahaan Bayan Lepas, Bayan Lepas, 11900 Penang TEL: 04 832021