



Billion Electric Co., Ltd.  
(Stock Code : 3027)

***BILLION***<sup>®</sup>

# Company Profile

[www.billion.com](http://www.billion.com)





**Group headquarters**  
Taipei, Taiwan

## Founded in 1973

Listed on the Taiwan Stock  
Exchange in 2000 (3027.TW)

Authorized Paid-In Capital: USD 32 million

No. of Employees: 150

Communication Division

PEM Division

### Core Technologies

3GPP LTE Design, RF Development, IP Routing, Failover & Network  
Redundancy, Cloud Device Management , Energy Storage Systems

## Subsidiary



### BEC Technologies

Texas, USA

A leading provider of WAN &  
WWAN devices with 3+ millions of  
units deployed



### Billion Watts Technologies

SolarEdge Taiwan Distributor  
PV Power Plant Monitoring System  
PV Power Plant Professional O&M Service  
Energy Storage Systems



### Billion Sun Power

Solar Power Plant







COMMUNICATION



Outdoor



Enterprise

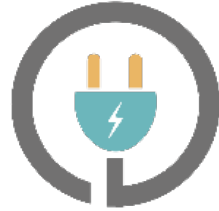


In-Vehicle



Industrial

**Routers**



PEM



Green Energy &  
Energy Storage



LED driver



Power Supply

**Products**



Central Management System



Energy Management



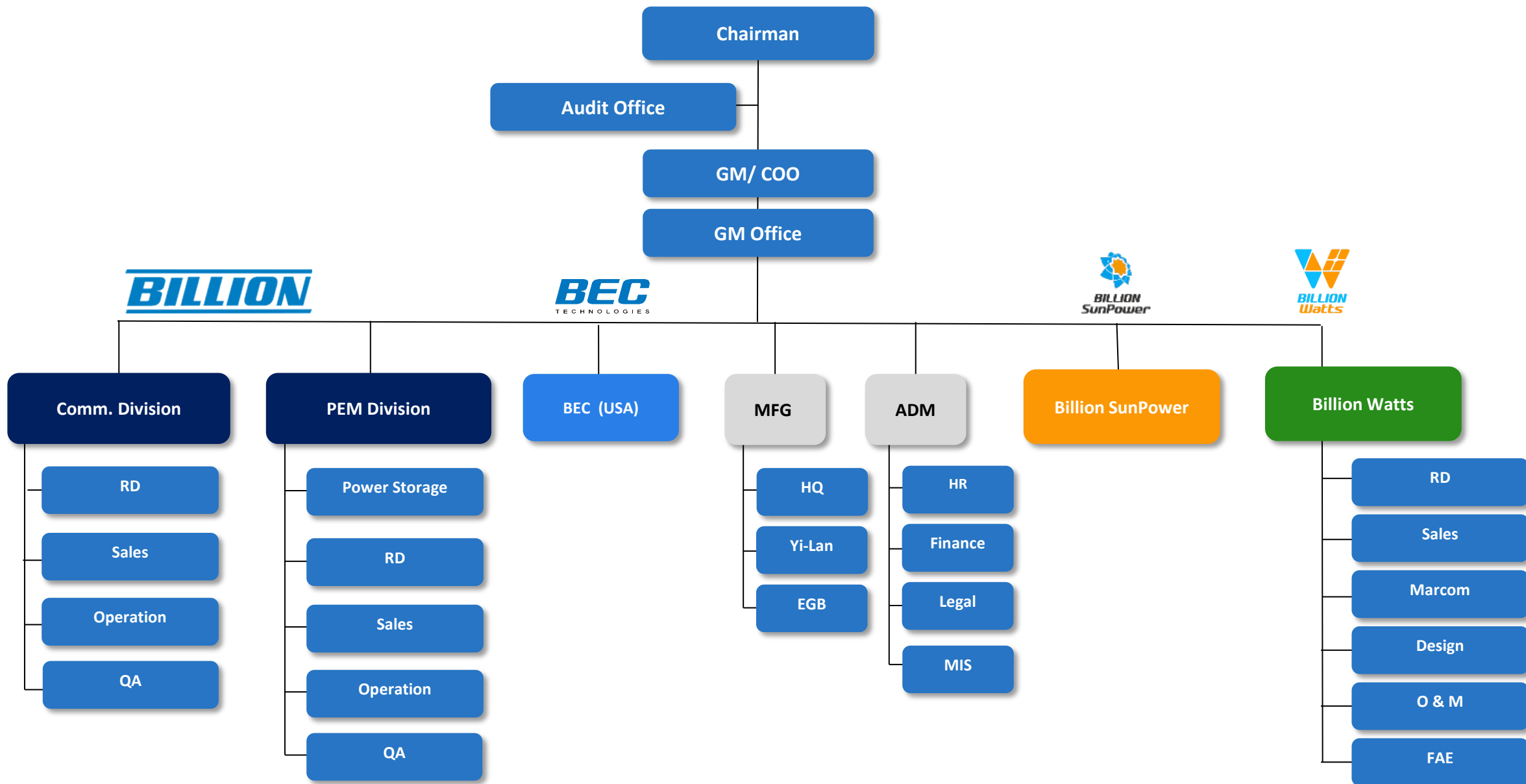
Energy Storage Systems

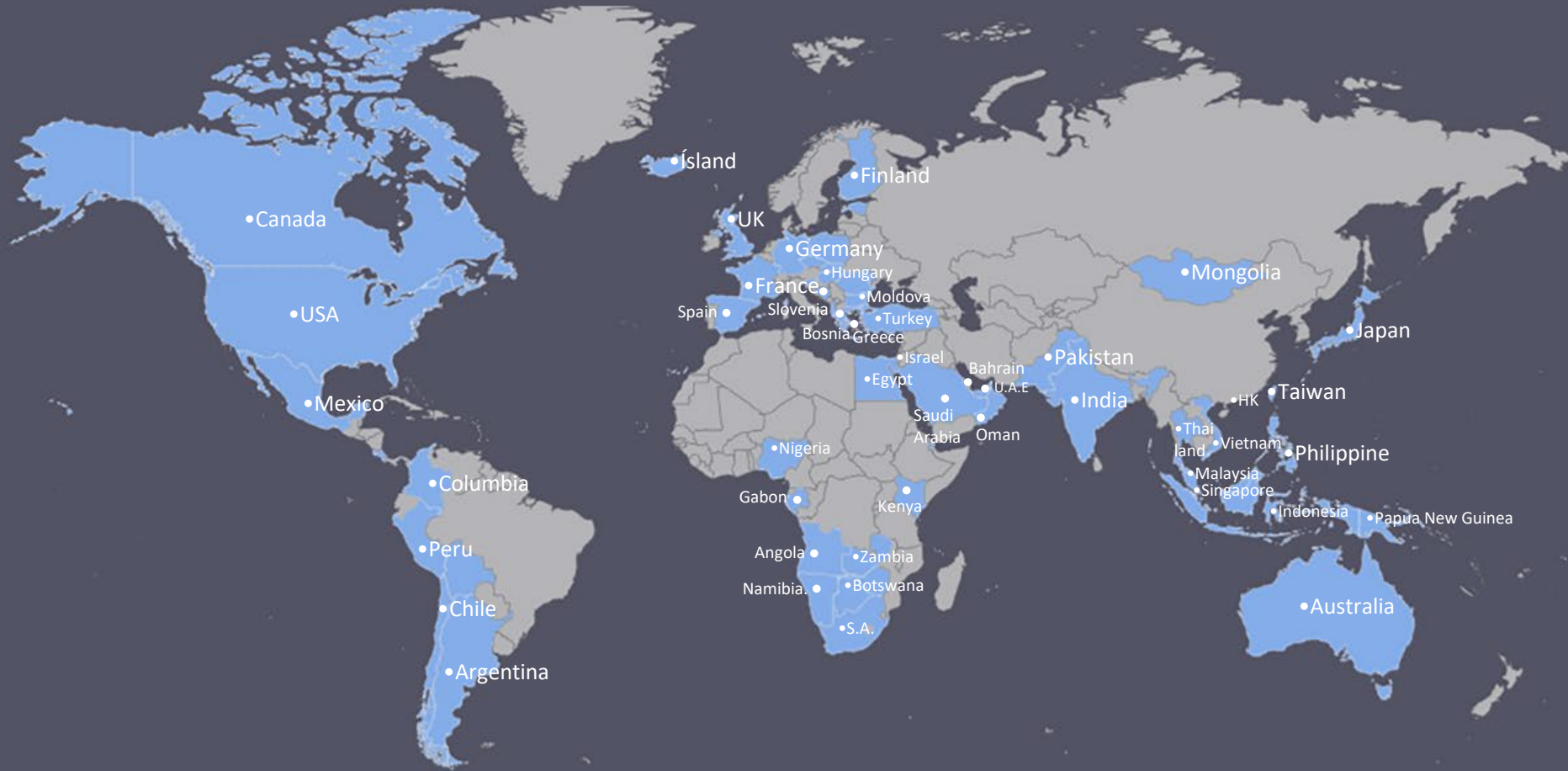


Solar Power Plant



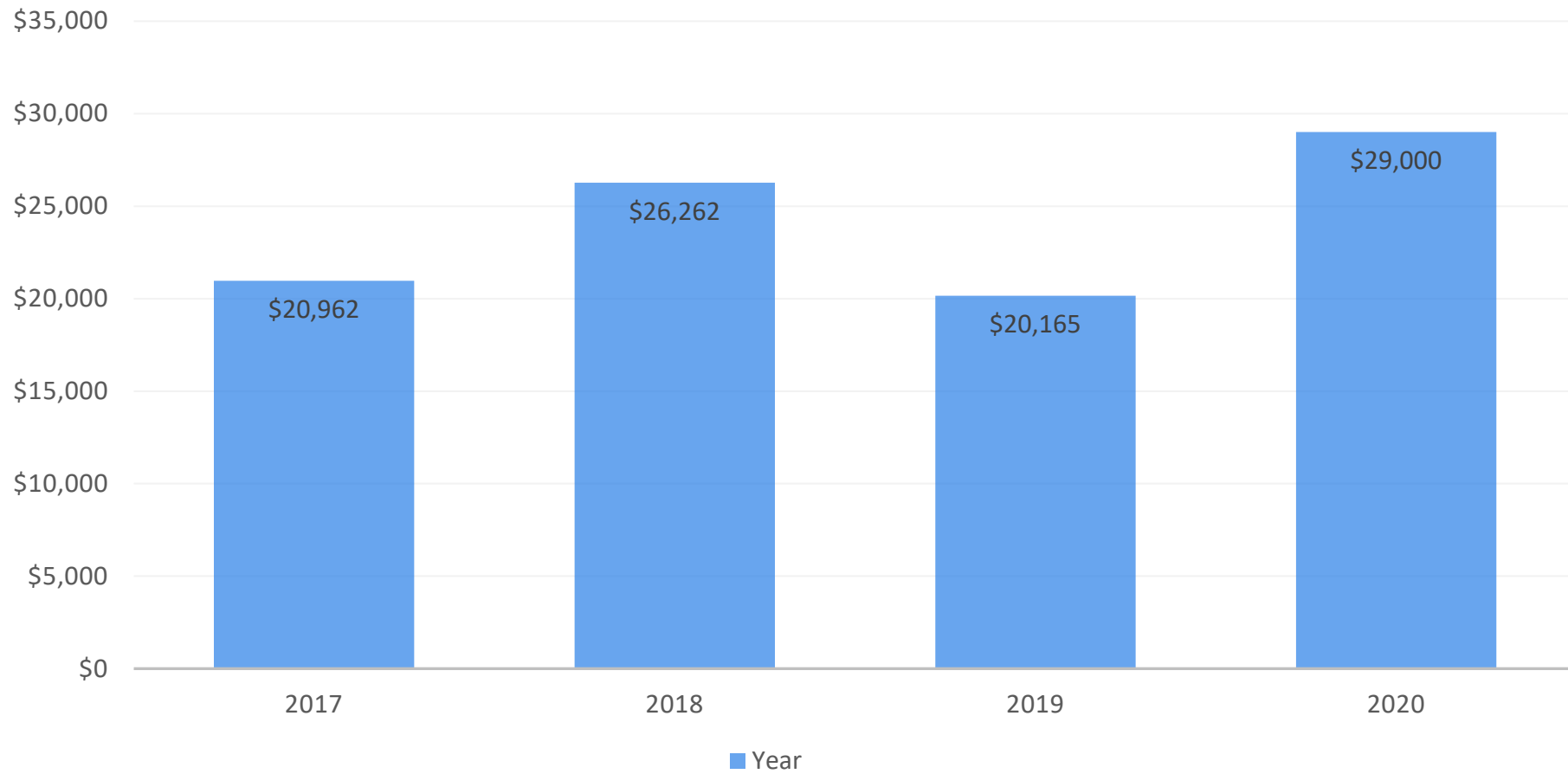
Solar Power Plant  
Operation & Maintenance





**With more than 48 years good reputation in Power and ICT field.**  
**Dedicated in developing Networking equipment, PSU, Solar, and ESS Solutions.**  
**Aim to establish Win-Win Partnership with distributors, SI, and ISP around the world.**

USD (Thousand)



## The best quality products with the most advanced technology



Recruit the most professional engineers and technical experts from all over Taiwan



R&D center has more than 60 experienced R & D personnel



Committed to the design and innovation of network communication products and power products





Emphasis on the excellence of R & D (Research and Development)  
and the perfection of QC (Quality Control)

High-volume manufacturing capacity for contract manufacturing,  
and OEM and ODM business



Transnational strategic alliances and global partnerships



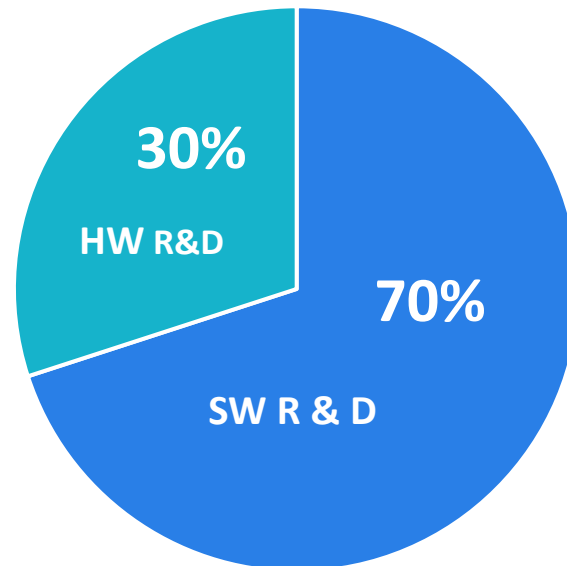
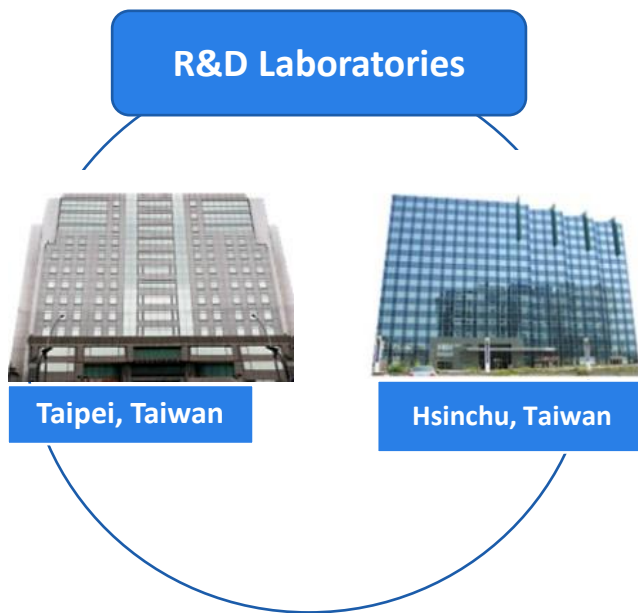
Highly motivated and empowered employees



Customized and cost-effective solutions with an  
appealing price-to-performance ratio



# Advanced Technologies and High-Quality Products



Billion has a solid R & D team and owns many outstanding professional engineers

Perfect R & D management and promotion system

Provide complete equipment

Encourage R & D personnel to develop innovation and stimulate creativity

Teamwork, training and learning



**Ted Ho**  
CTO

- Over 37 years experiences in the field of networking and communication
- Tulane University EMBA



**Ben Chen**  
Product Director

- Over 33 years experiences in the field of networking and communication
- Master of Computer Management Decision Office, Tsing Hua University



**George Wei**  
R&D Assistant Manager

- Over 25 years experiences in the field of networking and communication
- Master of National Taiwan University of Science and Technology



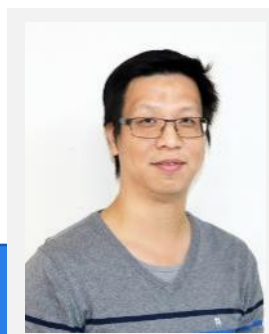
**Mulder Chou**  
R&D Manager

- Over 28 years experiences in the field of networking and communication
- Master of Communication, Institute of Electrical Engineering, Taiwan University



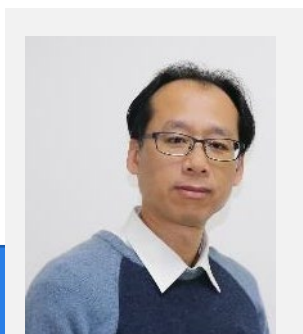
**Chen Cheng Lee**  
R&D Manager

- Over 18 years experiences in the power field
- Master of Electrical Engineering, Tatung University



**Howard Hsuen**  
Senior Product Manager

- Over 7 years experiences in the field of Li-ion Battery
- Master of Institute of Management of Technology, Chiao Tung University





EG-Billion  
China



Billion HQ  
Taipei, Taiwan



Yi-Lan Factory  
Taiwan



Billion HQ  
Taiwan

1 x SMT  
1 x DIP  
1 x Assembly



EG-Billion  
China

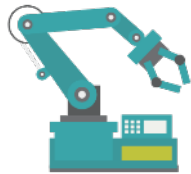
4 x SMT  
5 x DIP  
7 x Assembly



**Flexible production** strategy with high quality and high efficiency Provide customers with high quality and efficient manufacturing services

Factory

**Billion HQ**  
Taiwan



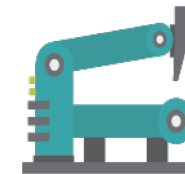
### SMT Production Line

- High Speed Mounter
- Multi Purpose Mounter
- Nitrogen generator
- Nitrogen Reflow OVEN
- Stencil Printer EKRA



### Testing Equipment

- AOI
- 4G/5G Testing Equipment
- ODU Shielding Box



### DIP Production Line

- Manual insertion line
- Manual insertion line
- Touch Up & Visual inspection
- Testing & PK line



PCB Loader



SMT line



Nitrogen Reflow



PCB unloader



Process line



Wave solder



Test line



Assembling and Packing

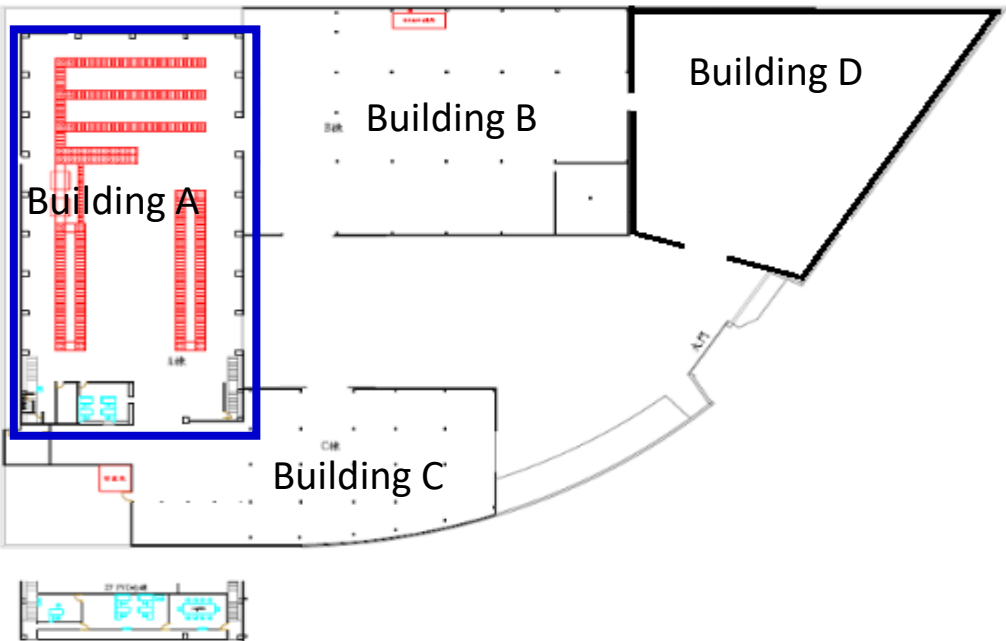
# Yi-Lan Factory

Factory

Total area of factory and land is 6,600 m<sup>2</sup>

## Factory area

Building A	Battery & Stack Assembly	Area A	1,563m <sup>2</sup> (16,823ft <sup>2</sup> )
Building B	Stack Burn in testing	Area B	1,210m <sup>2</sup> (13,024ft <sup>2</sup> )
Building C	Warehouse	Area C	911m <sup>2</sup> (9,805ft <sup>2</sup> )
Building D	Lab experiment & Validation	Area D	1,322m <sup>2</sup> (14,230ft <sup>2</sup> )



## EG-Billion China

3F  
2F

## Management Department

SMT, Power & Communication product  
production line, potting line, Burn-in rooms,  
reliability test, QC (IPQC, OQC)

- 1 ICT, 16 ATE, 5 Hi-pot, 5 Burn-in rooms
- Power on/off test, Thermal shock test (chamber),  
Temperature and humidity test
- Vibration test, Drop test, Solder whisker/slice test
- Reliability/MTBF (Mean Time Between Failures) test

1F

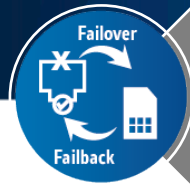
## Warehouse

Incoming & Outgoing Material  
Finished Goods Dock





5G Router



Failover and Failback



SIP



4G Router



Load Balance



VRRP



M2M Router



QoS



Hotspot



xDSL Router



Firewall



Dynamic Routing



Fiber Router



VPN



CMS



### Green Power & Power Storage

#### Control Mode

- Constant Power Factor control
- Voltage – active/reactive power control
- Frequency-active power control
- Smoothing control

#### Protect & Monitoring

- Indoor/Outdoor Temperature & Humidity
- Fire/Air conditioning/Lighting/Access control
- Gas/Leakage monitoring
- Cell/Module/Pack/Rack data collection and warning



### LED Driver

#### Safety

- UL8750/IEC/EN 61347-1/61347-2-13

#### EMI

- EN55015/EN61547/Part 15B

#### Surge Protection

- IEC 61000-4-5 (10KV)



### Power Supply

#### Safety

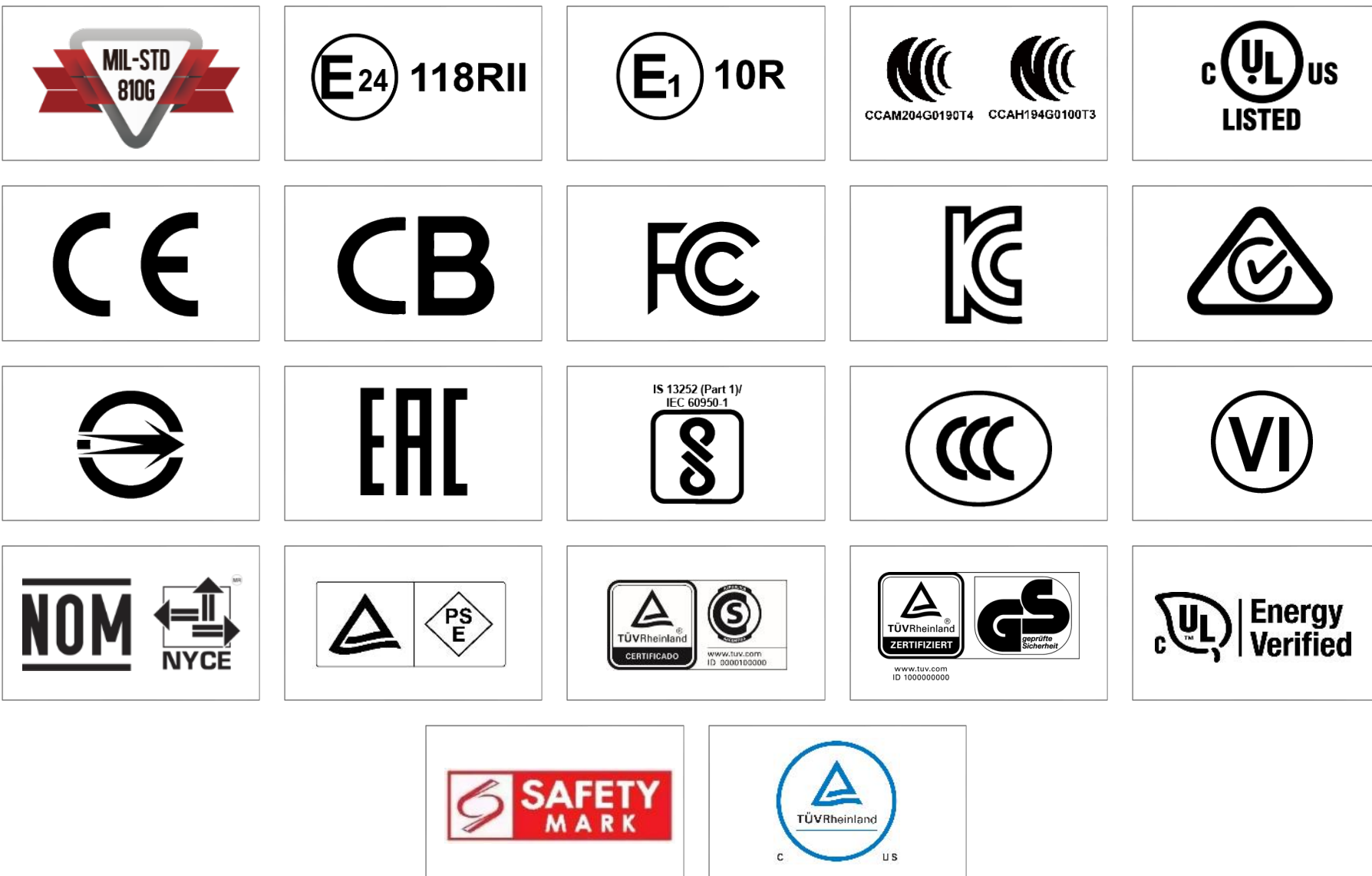
- UL62368-1/IEC/EN62368-1

#### EMI

- EN55032/EN55024/EN55035/Part 15B

#### Surge Protection

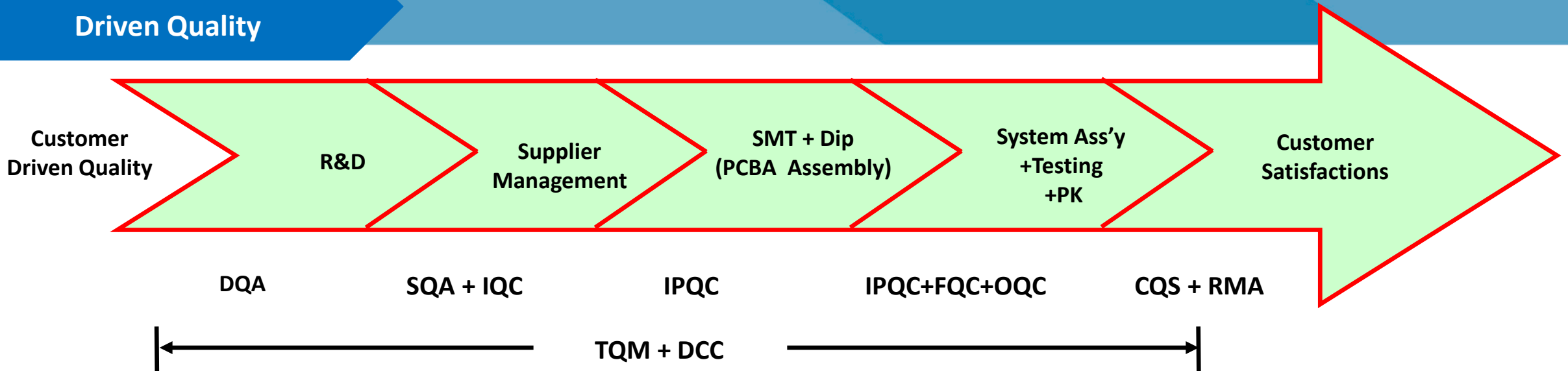
- DOE/CEC/ErP/CoC/  
NRCan/Ontario/Australian





Billion quality management system provides quality improvement for the whole company, design quality management and verification from R & D, quality management of supply chain, level by level control of production and manufacturing, customer quality problem response and technical support.

## Customer Driven Quality



QSM : Quality System Management  
DQA : Design Quality Assurance  
SQA : Supplier Quality Assurance  
CQS : Customer Quality Service  
DCC: Document Control Center

IQC : Incoming Quality Control  
IPQC : In Process Quality Control  
FQC : Final Quality Control  
OQC: Outgoing Quality Control

# Quality/Environment Policy

The quality objective of Billion Electric is to achieve Eco quality and strong competitiveness to ensure customer satisfaction.

International  
Certification



## Quality Management System

- ISO 9001 : 2015



## Environmental Management System

- ISO 14001 : 2015



## Quality Assessment System for Electronic Components

- IECQ QC080000 : 2017



## Occupational Health and Safety Management Systems

- ISO45001 : 2018



1973

Founded by Mr. C. F. Chen and  
launched power products

1993

Established Communication  
Division

2002

Went public in Taiwan  
stock market (3027.TW)

2004

Launched BILLION brand

2014

Launched ADSL+ and 3G/4G  
LTE networking CPE for  
enterprise and outdoor  
connectivity

2015

- BiPAC 4700 series is IP67 Grade, and specially for extreme weather and harshest outdoor environment
- M2M series M500/M100 – designed for Vertical Market in-vehicle and critical application products
- BiPAC 4700 series was adopted to provide 4G/LTE connectivity in Amazon jungle by Telefonica Peru

2016

- BEC 4G/LTE M2M routers have received AT&T and Verizon Wireless partner certifications for its 4500VNPZ, MX-200, and MX-1000
- Launched Central Management System (CMS) that can remotely manage Billion CPE devices

2017

- Rolled out 4700AZ - 4G/LTE Outdoor Router with Dual-Band Wi-Fi Hotspot, and received Sprint certification
- Launched Smart Universal IoT Gateway - SG6300NZL & SG6300NXL

2018

- Introduced new LTE VDSL2/ADSL2+ VoIP VPN Hybrid Router BiPAC 8700VAZ, which can fulfill with Triple-play user's demand

2019

- BEC 6900 R21 obtained the first FCC Part 96 CBSD certification in North America
- BEC MX-210NP & MX-221P received AT&T, Verizon, T-Mobile certifications
- Introduced BiPAC 8206AZ LTE VDSL2/ADSL2+ VPN Hybrid Router, suitable for enterprises and SOHO

2020

- Launched BiPAC 5700 - 5G NR VPN Outdoor Router
- Introduced BiPAC 5500A - 5G NR 11ac Wireless VPN Router

2021

- Developing 5G Sub-6GHz Indoor Router which supports 2.5Gbit/s Ethernet interface and Wi-Fi 6 (802.11ax)
- Developing LTE PV Gateway SG6400NXL



1973

Founded by Mr. C. F. Chen and launched power products

1984

Invest resources in the development of switching power supply products

1997

Launched DVD Player Transformer

2000

Went public in Taiwan stock market (3027.TW)

2003

Introduced LCD TV Transformer

2006

Established EG-Billion

2008

Developing indoor LED Driver

2010

- Renamed Power Division to Power & Energy Management Division
- Launched outdoor LED Driver series
- Invest in smart grid and energy management products development

2011

- Introduce Lighting Control Management Solution (Billion LCMS)
- Developed 100W / 150W high voltage LED driver series

2012

Billion LED drivers are installed in large numbers around the world

2014

- Completed field trials of light control in Taiwan
- Launch of DoE/ErP Level VI Switching Power Supply series

2015

- Cooperate with Taiwanese lamp manufacturers and develop multiple smart lighting installation sites
- In cooperation with the Ministry of Economic Affairs of Taiwan, became the first manufacturer to install smart street light control on the Central Riverside Expressway

2017

Billion LCMS receives Taiwan Excellence Award

2018

Launched LED Driver 10KV surge-protection

2019

Introduced Surge Protective Device meets 20KV surge-protection standard EN 61643-11

2020

- Engaged in Energy Storage solution development.
- Established Yi-Lan factory for energy storage cabinet assembly in September 2020
- Launched power products which comply with USB Power Delivery specifications

2021

Developing GaN power products

# Thank You!

Please visit [www.billion.com](http://www.billion.com) or  
email to us at [sales@billion.com](mailto:sales@billion.com) for more information!

***BILLION***®