

Amulaire Thermal Technology



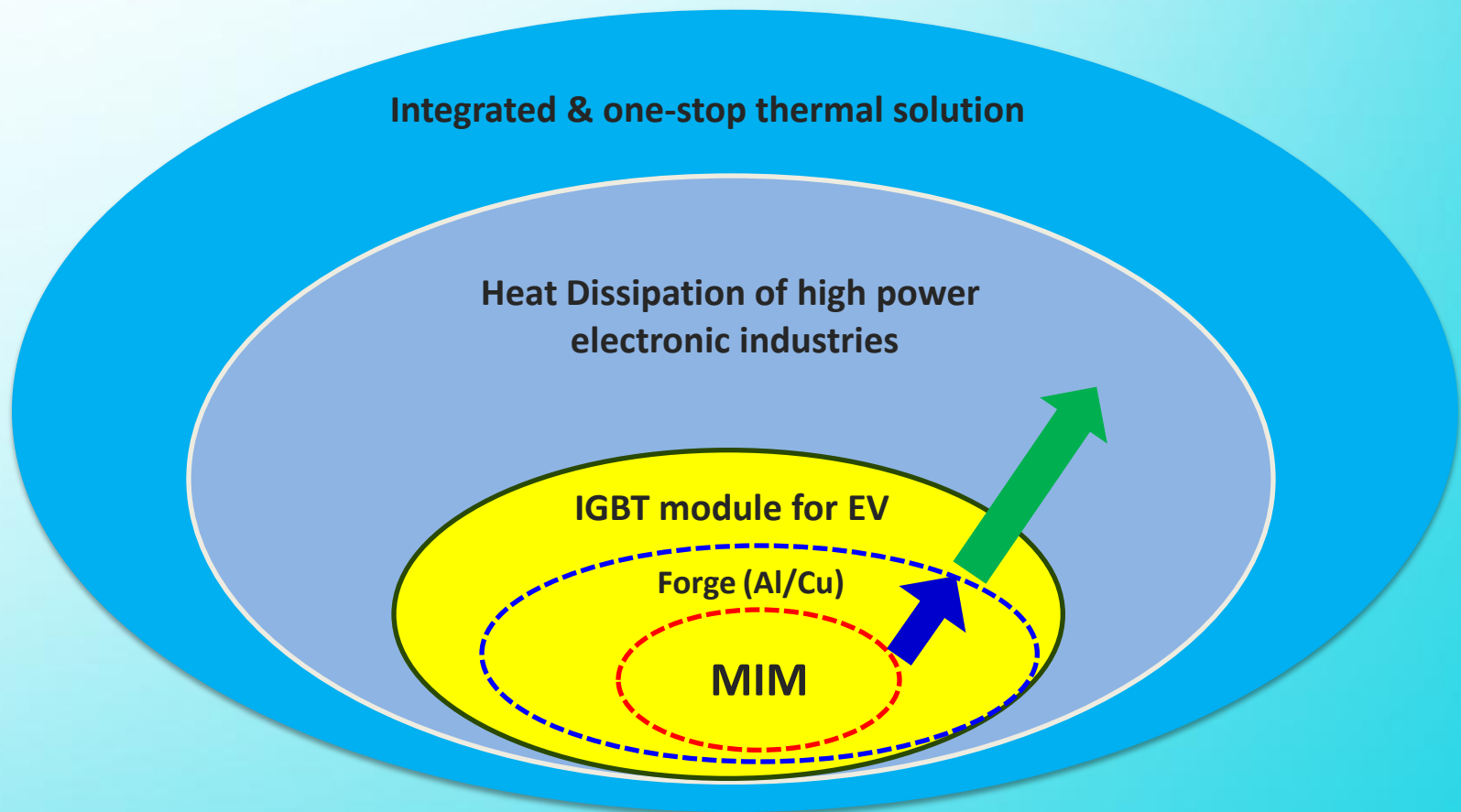
Creating a Green environment !



Vision



Global leader in High Power Thermal Solution





Agenda



- 1. Company Highlights**
- 2. Operation and Market Status**
- 3. Competitive Edge**
- 4. New Development**



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Basic Information



Name	Amulaire Thermal Technology Inc.
Established Date	June, 2011
Capital	NTD 704,693,060
Chairman	Ken Lin
Employees	372 (Direct:263, Indirect:109. Feb 2019)
Main Business	Thermal Solution for High Power Device



Corporate Milestone



- 1998 Established and started to develop MIM technology
- 2002 Certified by famous IT companies (Apple, Intel, Nvidia, etc.)
- 2010 Qualified supplier for Tier 1 automotive companies.
- 2011 Expanded manufacturing capacity and relocated to Linkou
- 2014 Started mass production
- 2015 Develops forging products in new plant of Miaoli.
- 2016 Stock listed in Emerging market.
- 2018 New Forge product certified by Tier 1 customer.
- 2018 Established R&D Center & subsidized by the MOEA

Corporate Philosophy



Vision

Become a leading thermal solution provider in green industry

Mission

Provide innovative solution through continuous R&D process and fast customer response.

Principle

Discipline, Openness, Participation, Growth & Sharing.

Core Value

1. Offer state-of-the-art level of product to customers.
2. Provide friendly working environment and career development opportunity for employees.
3. Optimize shareholders' benefits
4. Enhance CSR (Corporate Social Responsibility) activities



Locations

Tonglou Factory

Headquarters & Linkou Factory



Land: 4,220M² (45,424 ft²)
Floor: 4,835M² (52,044 ft²)

Land: 7,043M² (75,810 ft²)
Floor: 12,308M² (132,482 ft²)

Address: No.16, Sec2, Fenliao RD., Linkou Dist, New Taipei City, Taiwan

Address: No.10, Minsheng Rd., Tongluo Township, Miaoli County, Taiwan



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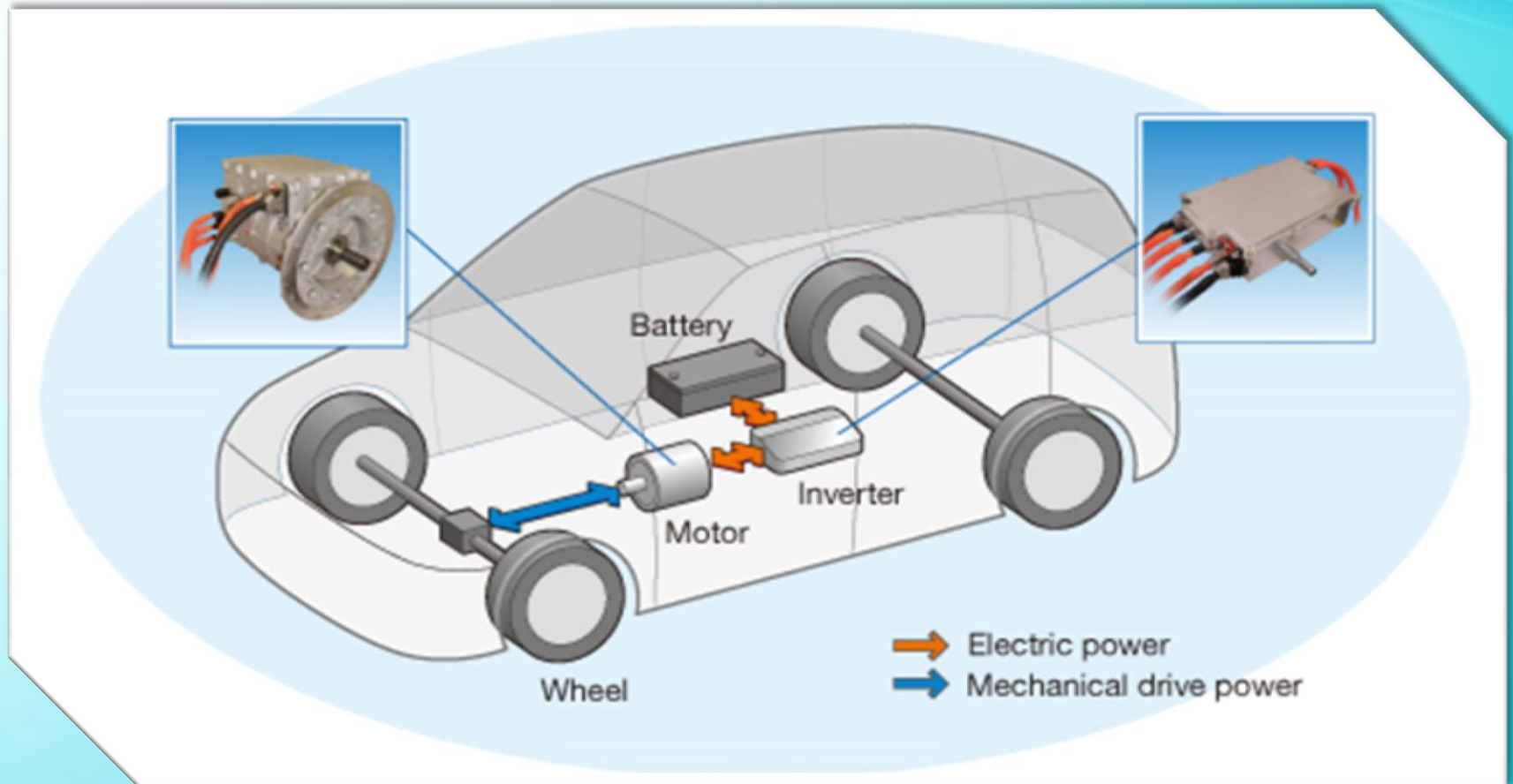
Main Business

Amulaire is a company that focuses on design, development, and manufacturing of the key thermal solutions for EV/HEV and Autonomous Driving (ADAS).



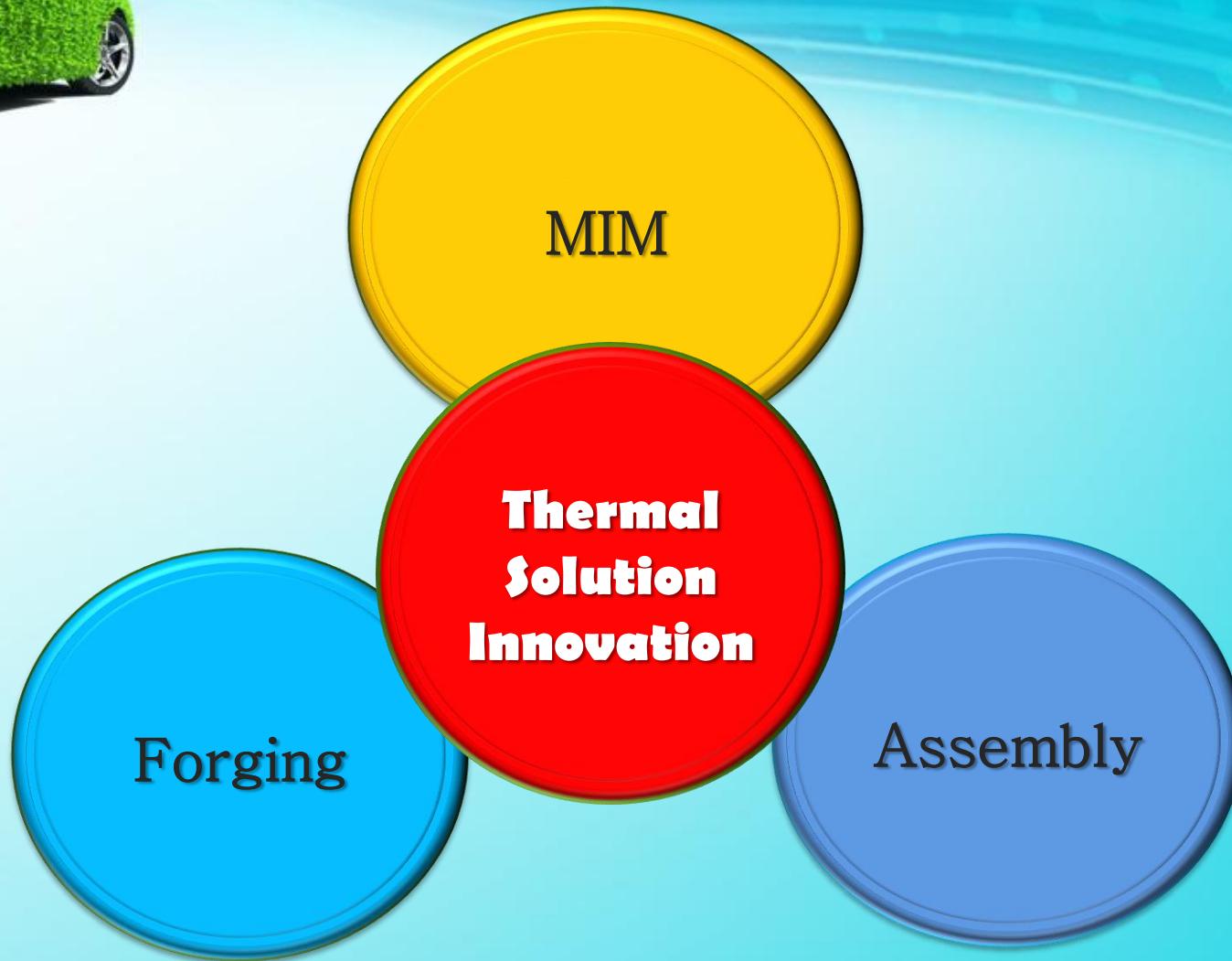


Product Application





Technology & Core Competence





Technical Strategy



- Thermal, Mechanical, Mold Design
- Thermal, Stress, Mold Flow Simulation
- Thermal, Material, Reliability Test Lab.

Design & Verification

- Cu MIM (Metal Injection Molding)
- Cu, Al Forging
- Other Forming Technologies

Forming Technology

- Brazing & Soldering
- Thermal or Cold Spray
- Dielectric Thermal Structure

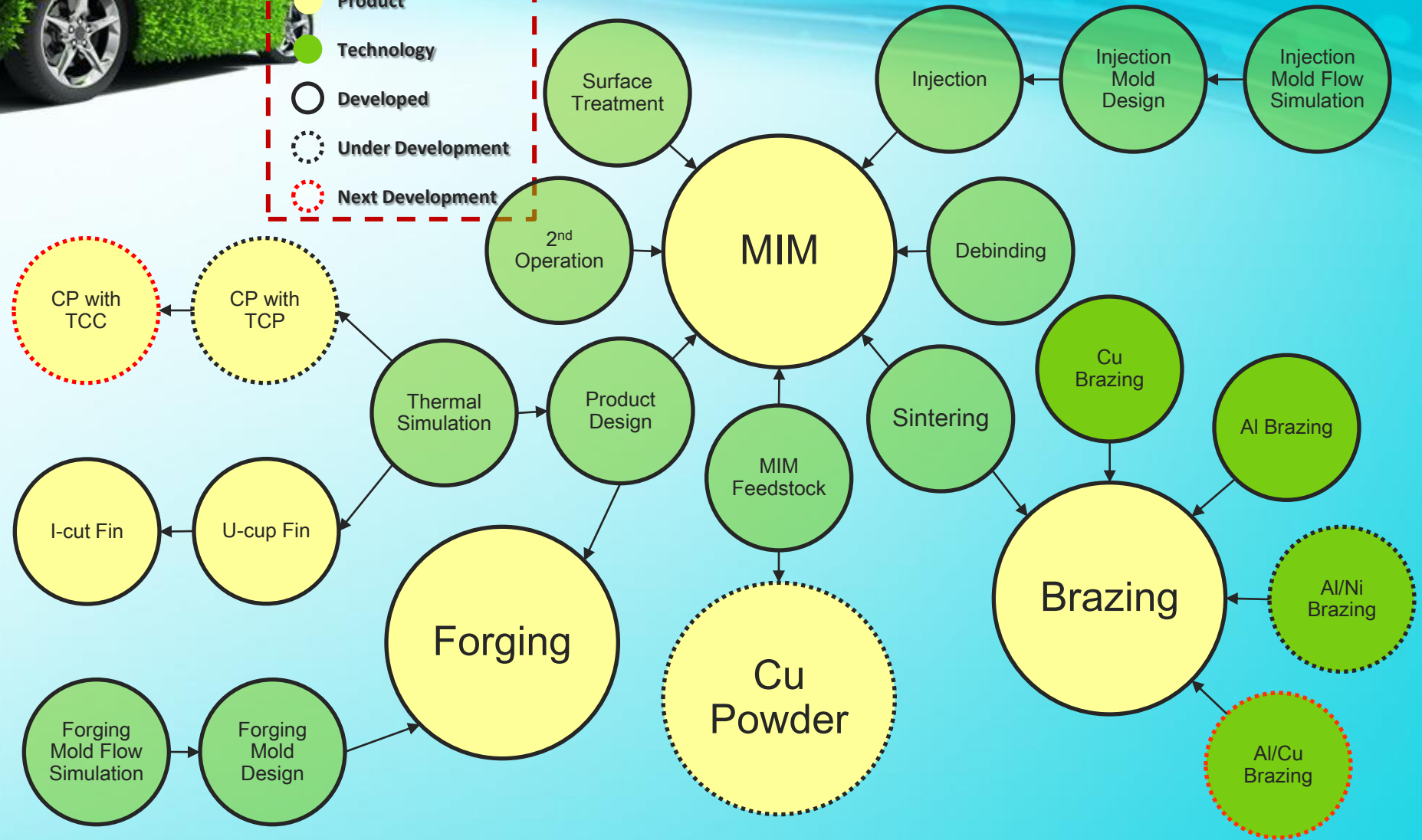
Assembly Technology

Surface Treatment

- Chemical Method
- Physical Method
- Partial Plating Process

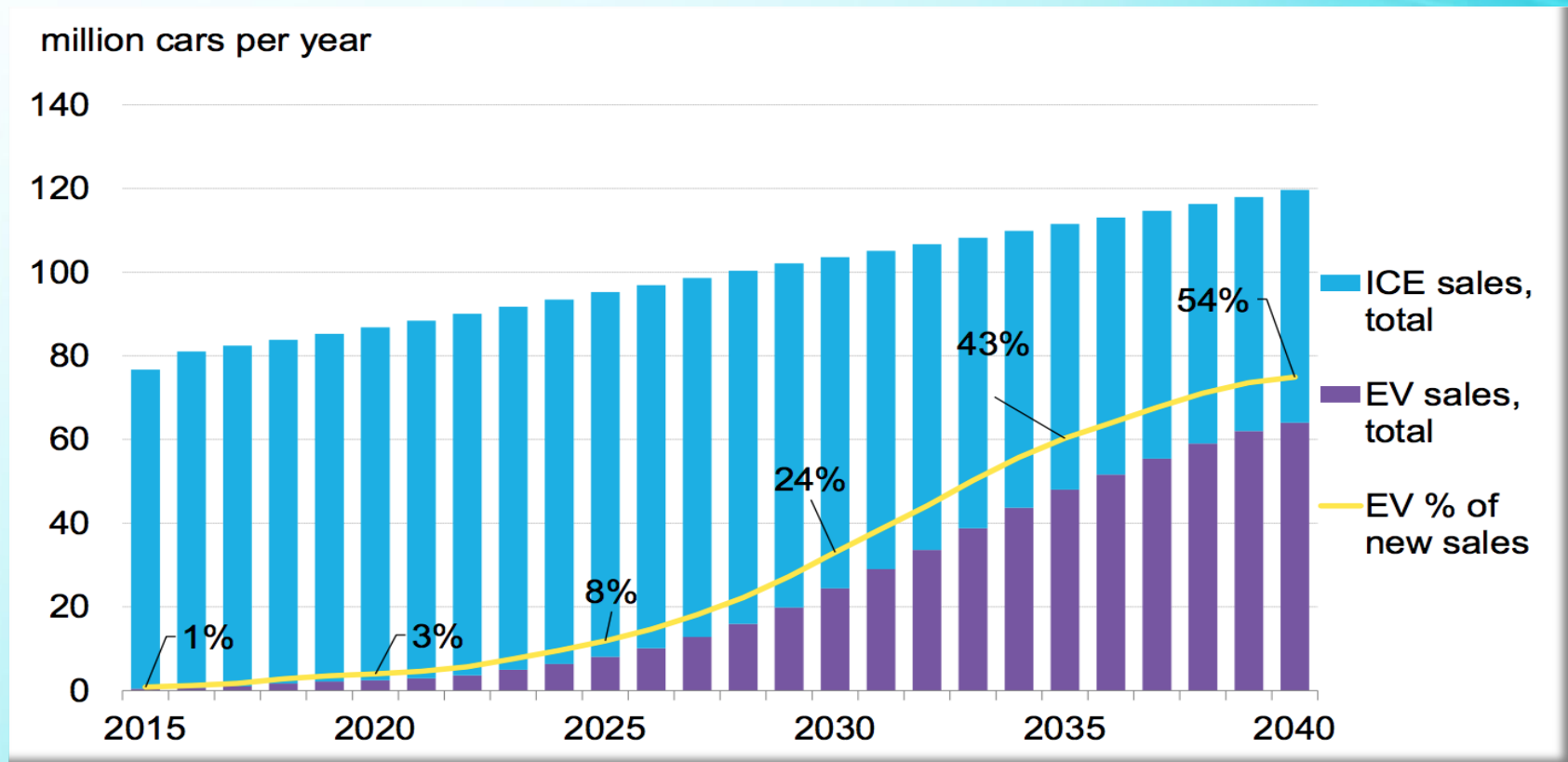


Technical Strategy





Growth in EV industry



Demand of EV in 2028 would be over ten times compared to 2018.



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Competitive Edge



S

Service

Professional service

M

Multiformity

A Variety of Production Technologies

A

Ability

Design, Development, Manufacturing, & Quality Assurance

R

Responsibility

Continuous Improvement & Customer Satisfaction

T

Technology

Innovative and Advanced Thermal Solution



Competitiveness: Thermal Simulation and Design



S Service

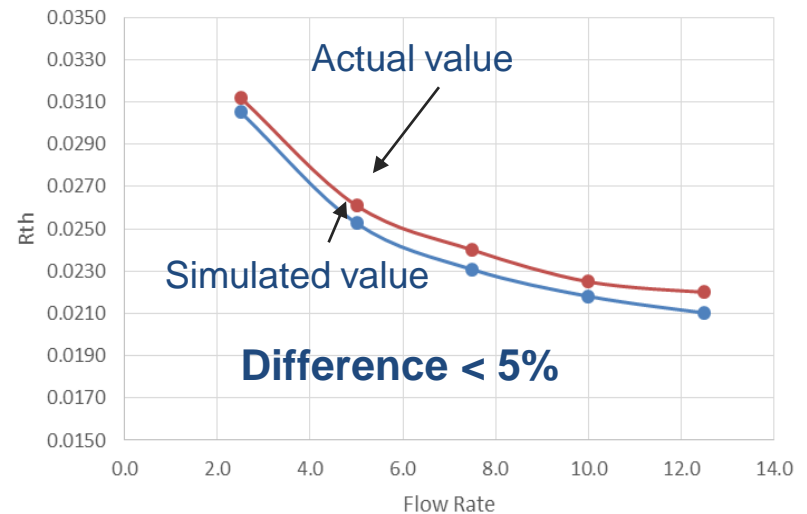
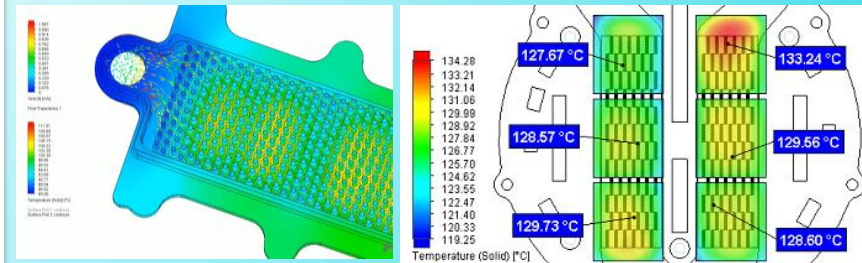
We have focused on thermal R&D for a long time and acquired the expertise in CFD (Computational Fluid Dynamics) & FEA (Finite Elements Analysis) to assist our customers in improving thermal efficiency and provide full solution.

M Multiformity

A Ability

R Responsibility

T Technology





Competitiveness : MIM Mfg and Tooling



S Service

M Multiformity

A Ability

R Responsibility

T Technology

We are the only supplier in the world with the capability of providing large-size MIM cold-plate of 40,000 sq.mm.



Competitiveness: Forging and Tooling Development

S Service

M Multiformity

A Ability

R Responsibility

T Technology

- * Provide one-stop solution to address different design needs and options.
- * Enhanced the services for our customers.



Competitiveness: High-efficiency Thermal Technology

S Service

M Multiformity

A Ability

R Responsibility

T Technology

We offer high-efficiency thermal solution with unique pin-fin design to tackle various production difficulties



Competitiveness: Brazing Capabilities

S Service

M Multiformity

A Ability

R Responsibility

T Technology

We have developed various metal brazing technologies in-house to address various customer needs.



Competitiveness: Qualified System and Premier Customer



S Service

M Multiformity

A Ability

R Responsibility

T Technology

Amulaire has been certified by the major institutions in Automotive industry, including IATF16949, ISO14001, ISO45001, etc. and become the approved vendor of international Tier 1 players.



Competitiveness:

Innovative and Advanced and Thermal Solution

S Service

M Multiformity

A Ability

R Responsibility

T Technology

TCC Technology / TCCP Technology

- Replace DBC substrate
- Integrated substrate for next generation application.
- Value-add solution for customers



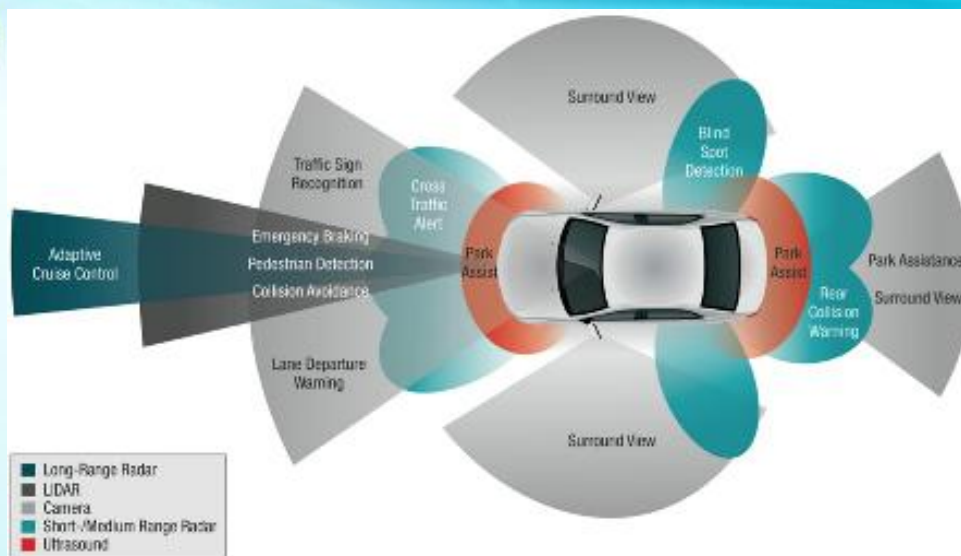
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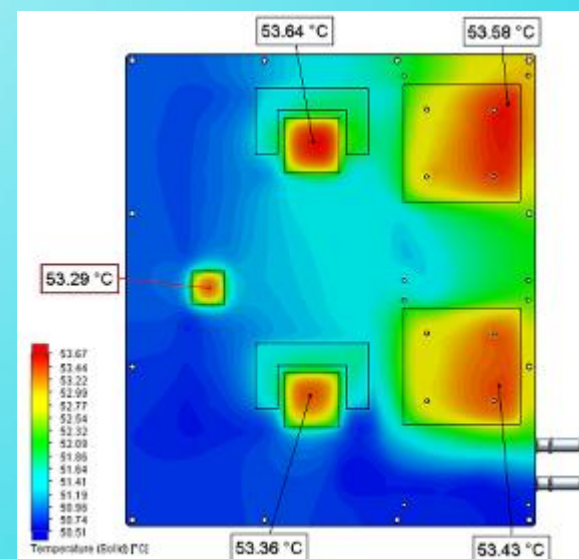
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New Development



ADAS Solution: Large Size, High-performance solution for multi-source thermal, supporting L3 to L5 requirement.





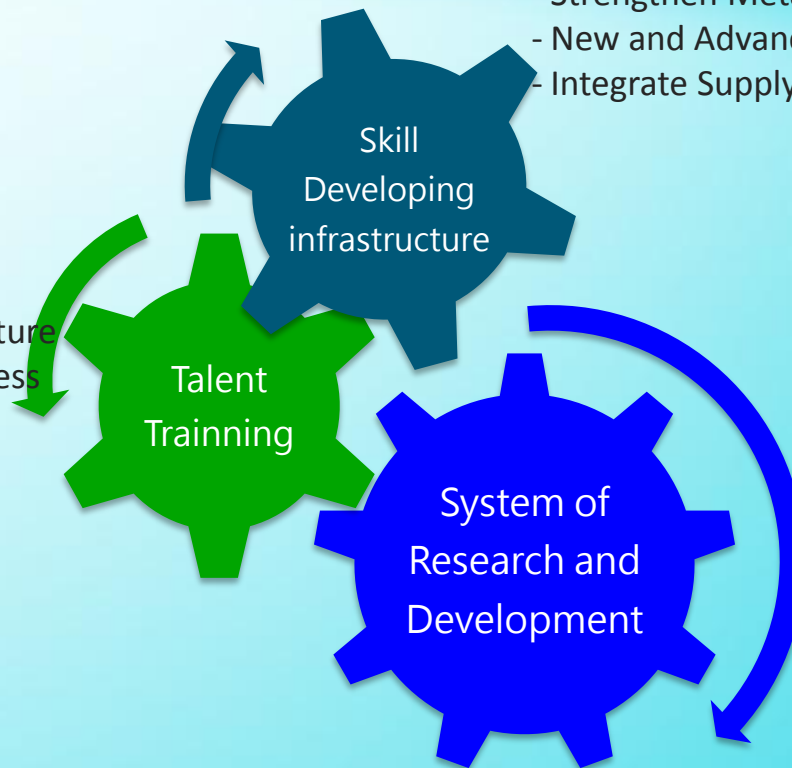
New Development



- Upgrade from OEM to ODM
- Strengthen MIM technology
- Strengthen Metal assembling and brazing skill
- New and Advanced technology development
- Integrate Supply Chain

R&D Center

- Build up Training System
- Build up knowledge sharing infrastructure
- Build up Performance Evaluation Process
- Build up Incentive policy



- Build up R&D Organization and Infrastructure
- Build up the developing process of product and skill
- Build up R&D quality management infrastructure
- Build up R&D analysis laboratory
- Build up R&D Roadmap 、 KPI 、 Action



Q & A

