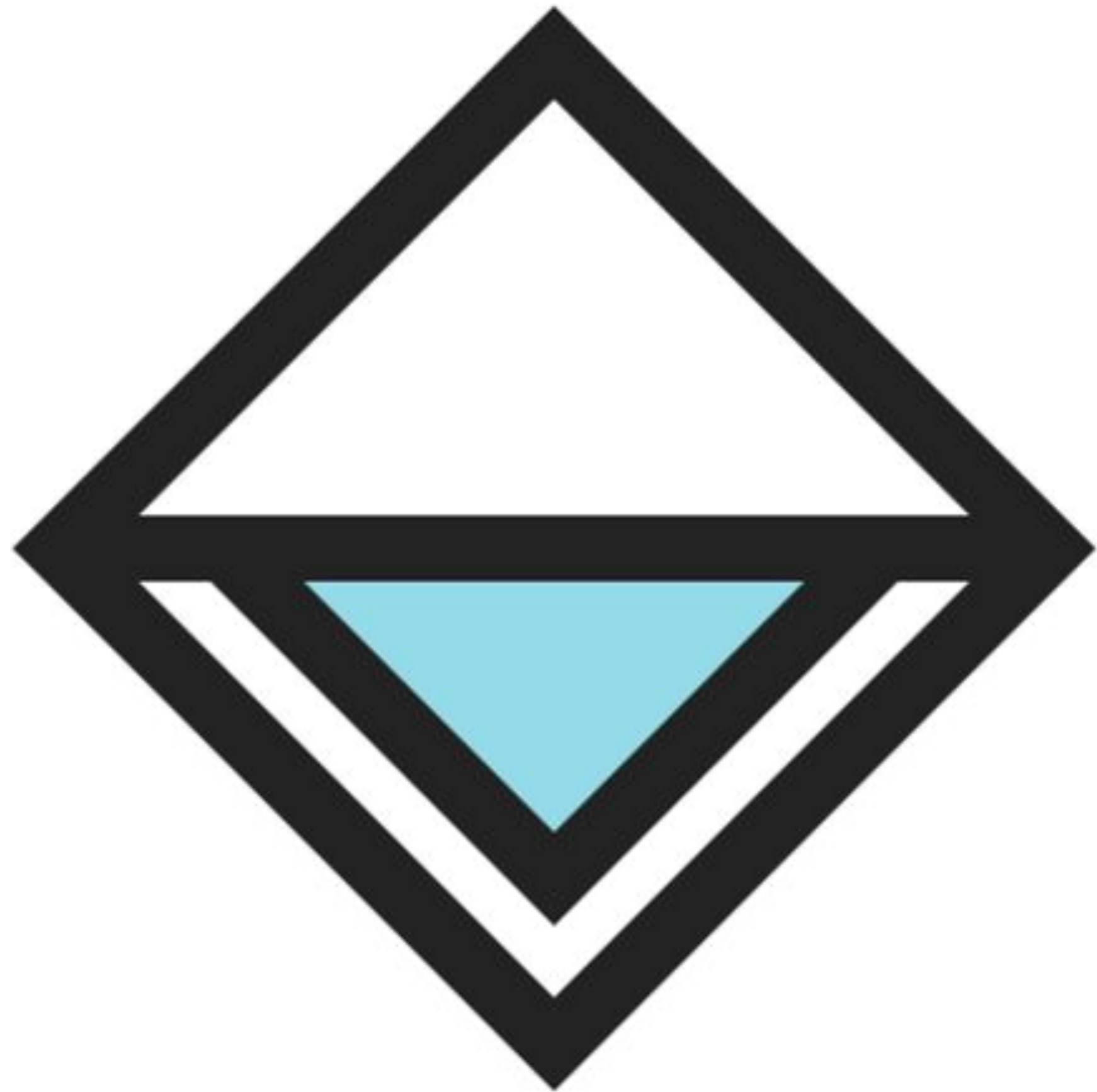


HI DEV HARDWARE

PRODUCT DEVELOPMENT

in partnership with





ABOUT US

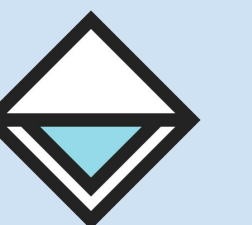
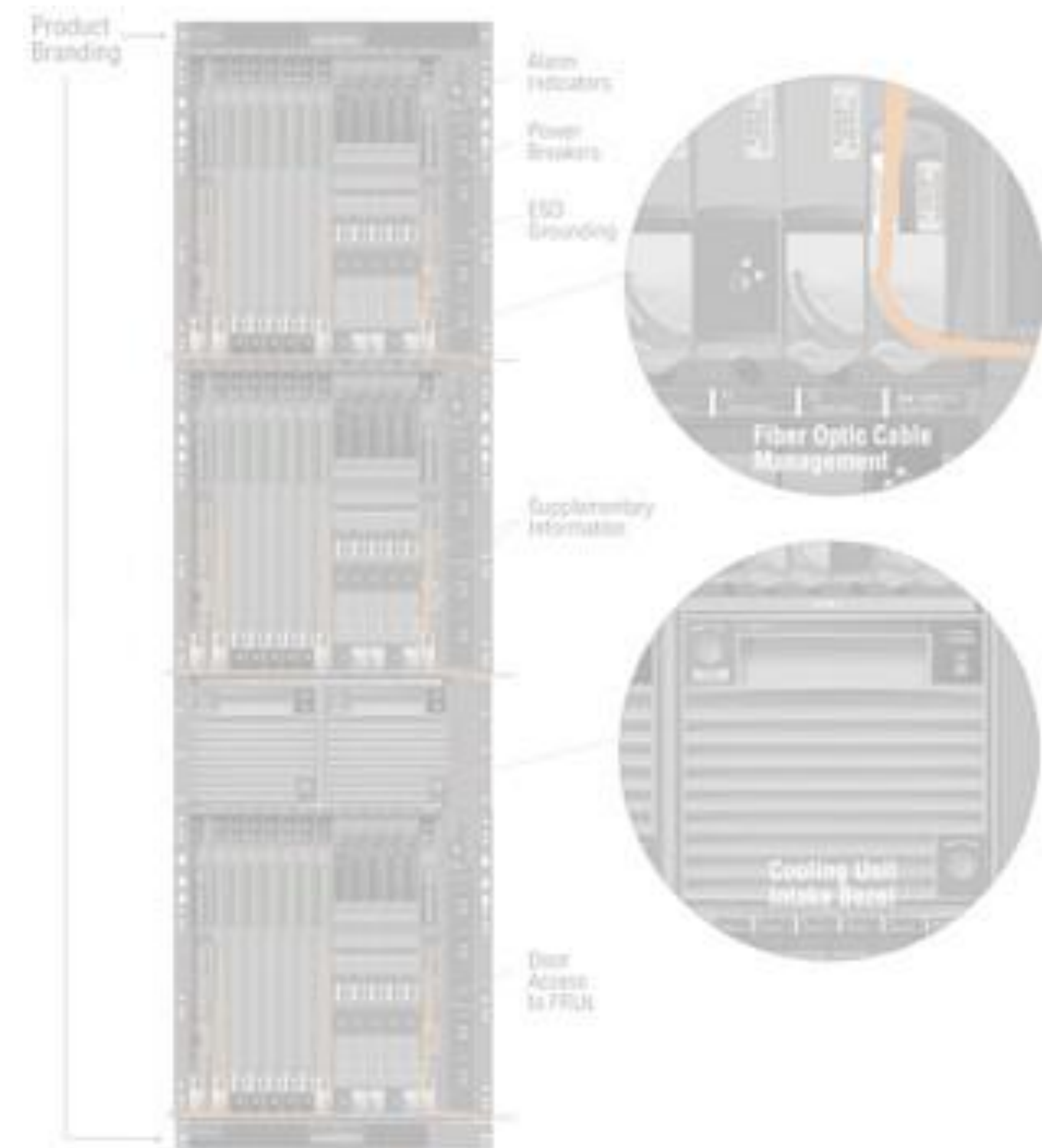
Our international engineering team, with over 60 years of experience, will meet your hardware needs for consumer and industrial products.

We help you develop and manage your product from concept design to manufacturing readiness.

We can do the full 360, connecting hardware to software and vice-versa.

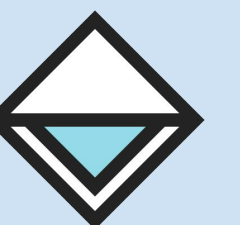
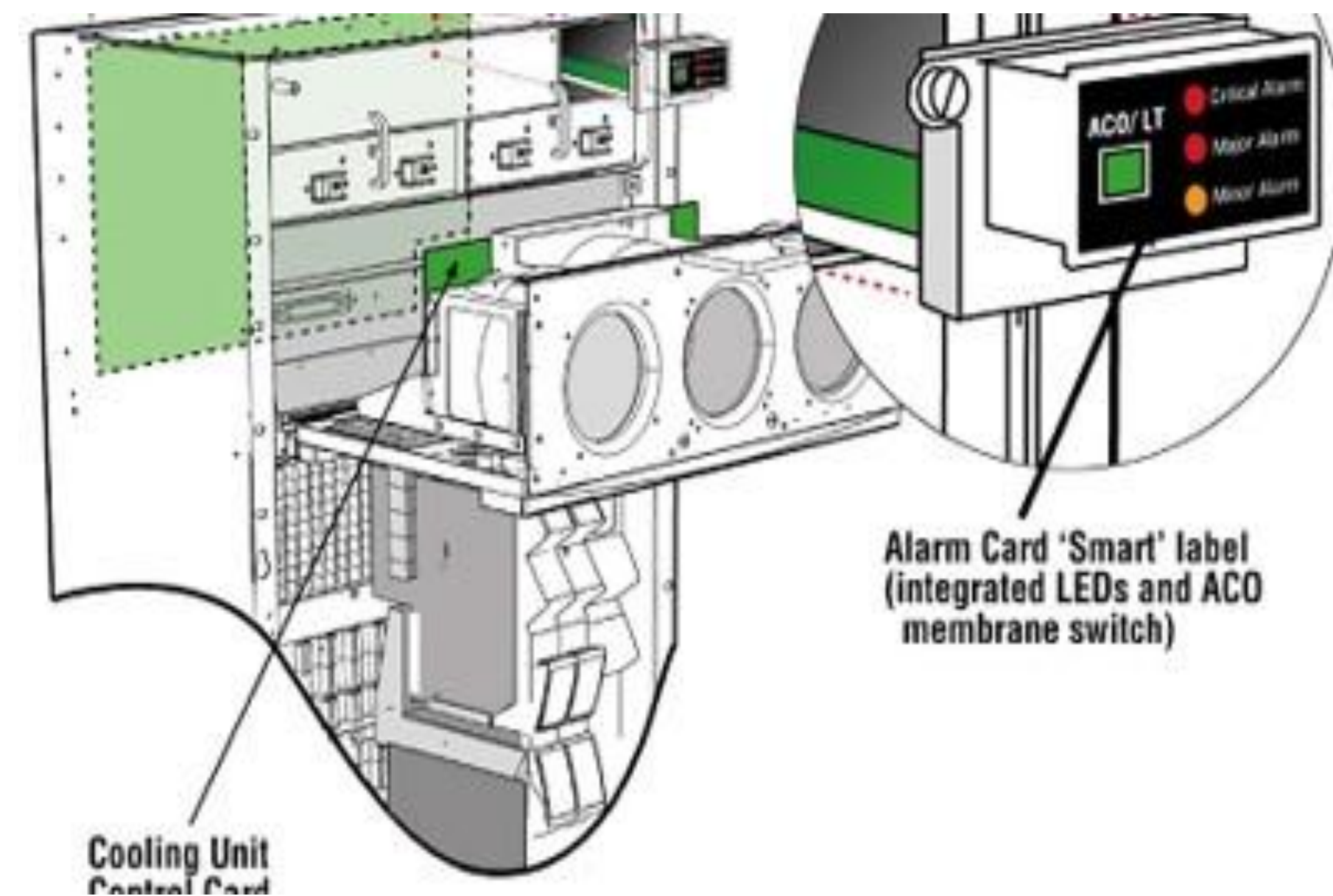
HARDWARE CAPABILITIES

- Concept Development
- Mechanical Engineering and Design
- Industrial Design
- Analysis: Thermal/Stress/Vibration/Tolerance
- Design Verification Testing
- Supply Chain Management/ Vendor Management
for Prototyping
- Cost Reduction



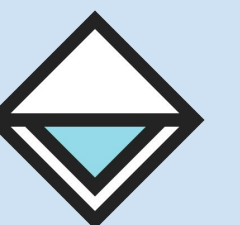
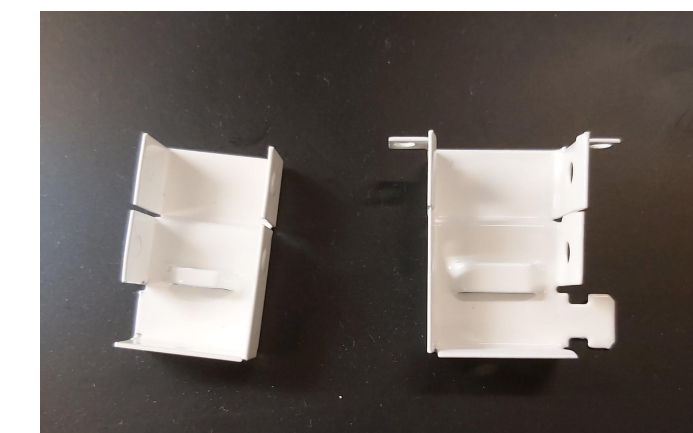
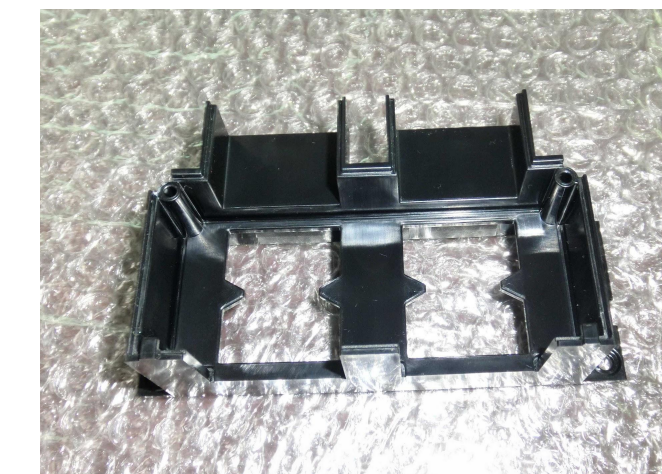
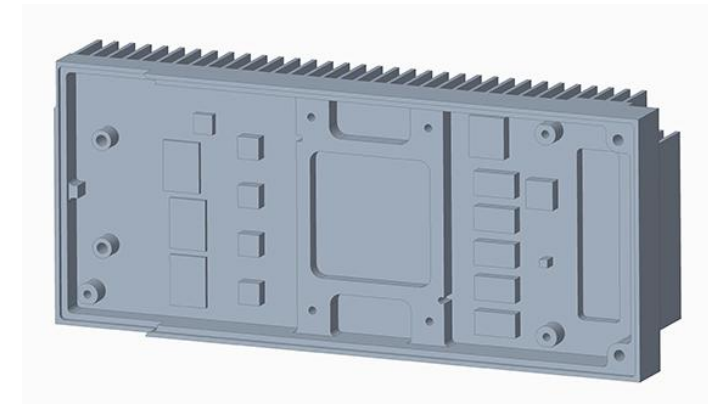
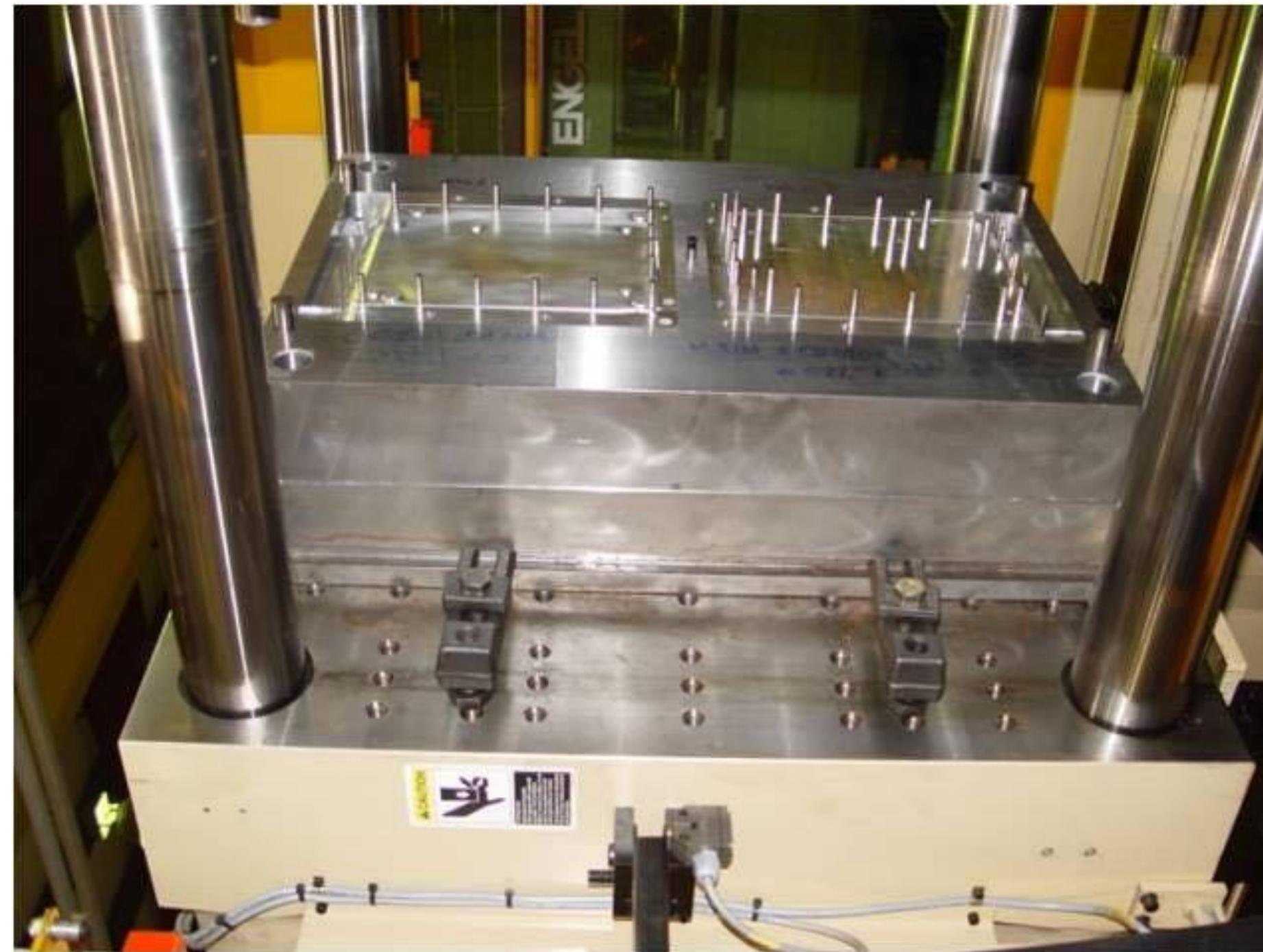
CONTINUED CAPABILITIES

- New Product Introduction (NPI)
- High speed/Low speed electronics packaging
- Optical module and component packaging
- System Architecture - power, cooling, interconnect
- Circuit board mechanical design
- Design for Manufacturing
- Design for Assembly

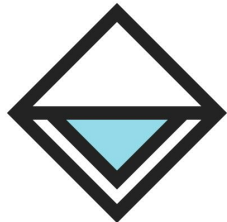
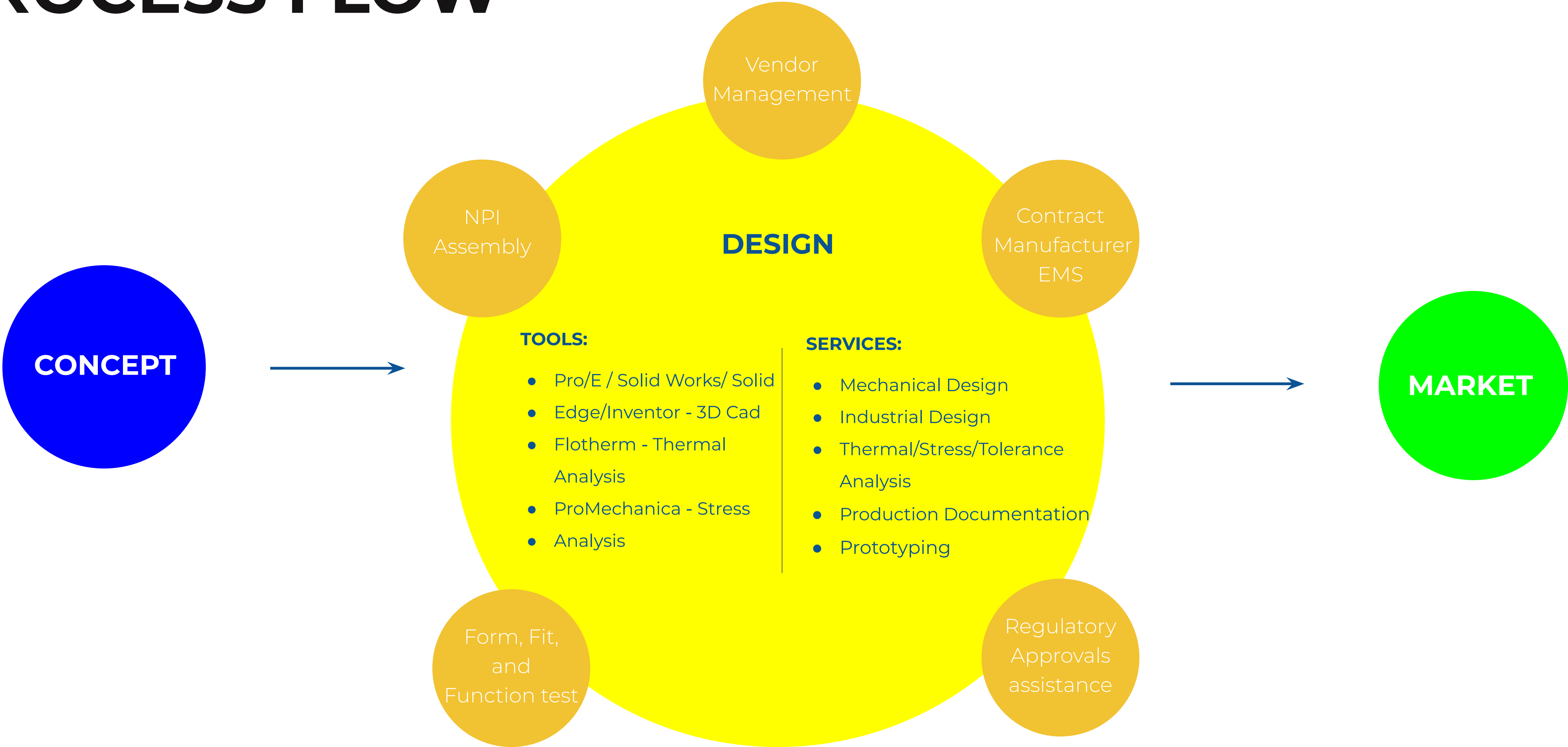


HI DEV'S DESIGN FOR MULTIPLE MANUFACTURING PROCESSES:

- Rapid Prototyping
- Low Volume Production
- RTV Tooling
- Aluminum Tooling
- Steel Tooling High Volume

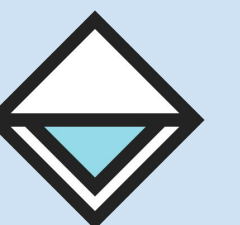


PROCESS FLOW



HARDWARE SERVICES

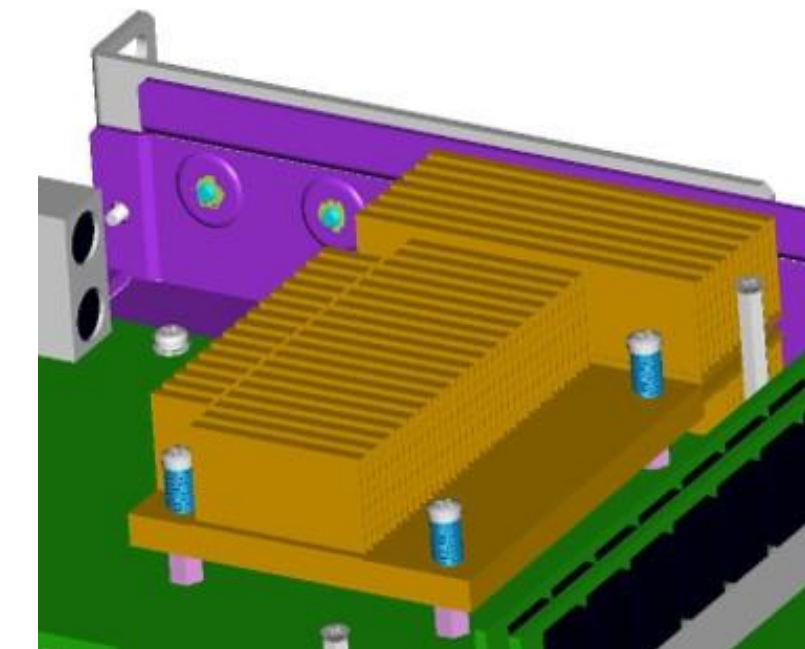
- Complete physical design service disciplines under one roof
- Specialization in helping our clients become market leaders through innovative design; delivering products which astonish their customers and inspire loyalty
- Seamless transition from design to post-production
- Reduced Time-to-Market
- Cost Reduction Support
- Flexibility and Scalability
- Proven global technology solutions
- Web-enabled infrastructure provides secure, encrypted communication
- Maintain strong long-term customer relationships with our clients
- Industry standard design applications: (Pro/ENGINEER, SolidEdge, Solidworks, Inventor , Pro-Mechanica, Flotherm)



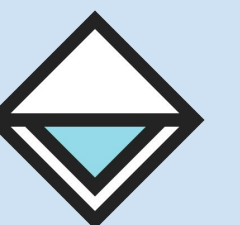
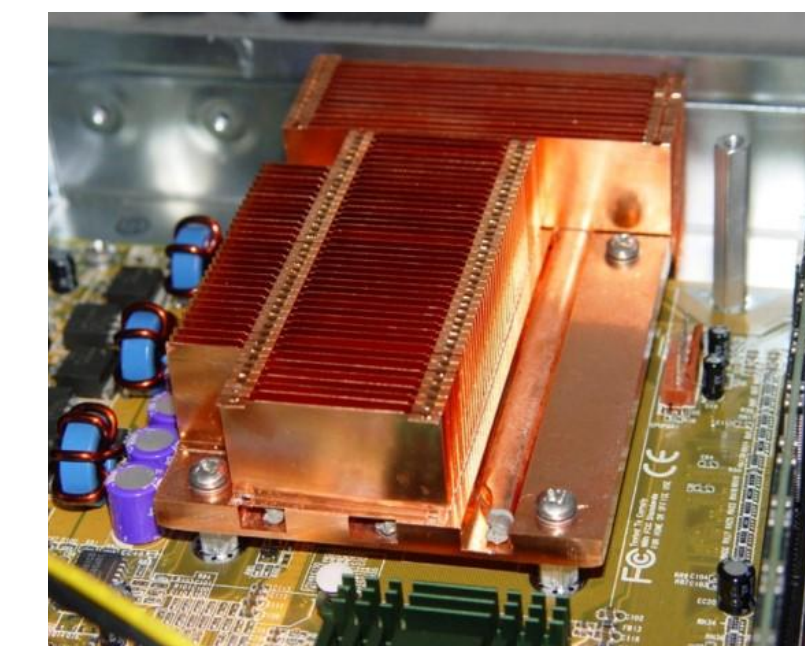
THERMAL SIMULATION & ANALYSIS

- Mechanical Design optimization through thermal simulation and analysis.
- Physical prototyping and temperature profiling, combined with software modeling (FLOHERM) for accurate results.
- Reduces component level failures and improves product reliability.
- Custom designed copper heat sink with embedded heat pipes to solve cooling issues on Pentium 4 processor in a 1U server.

BEFORE

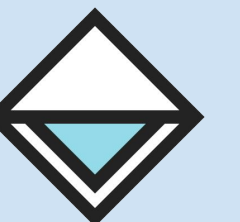
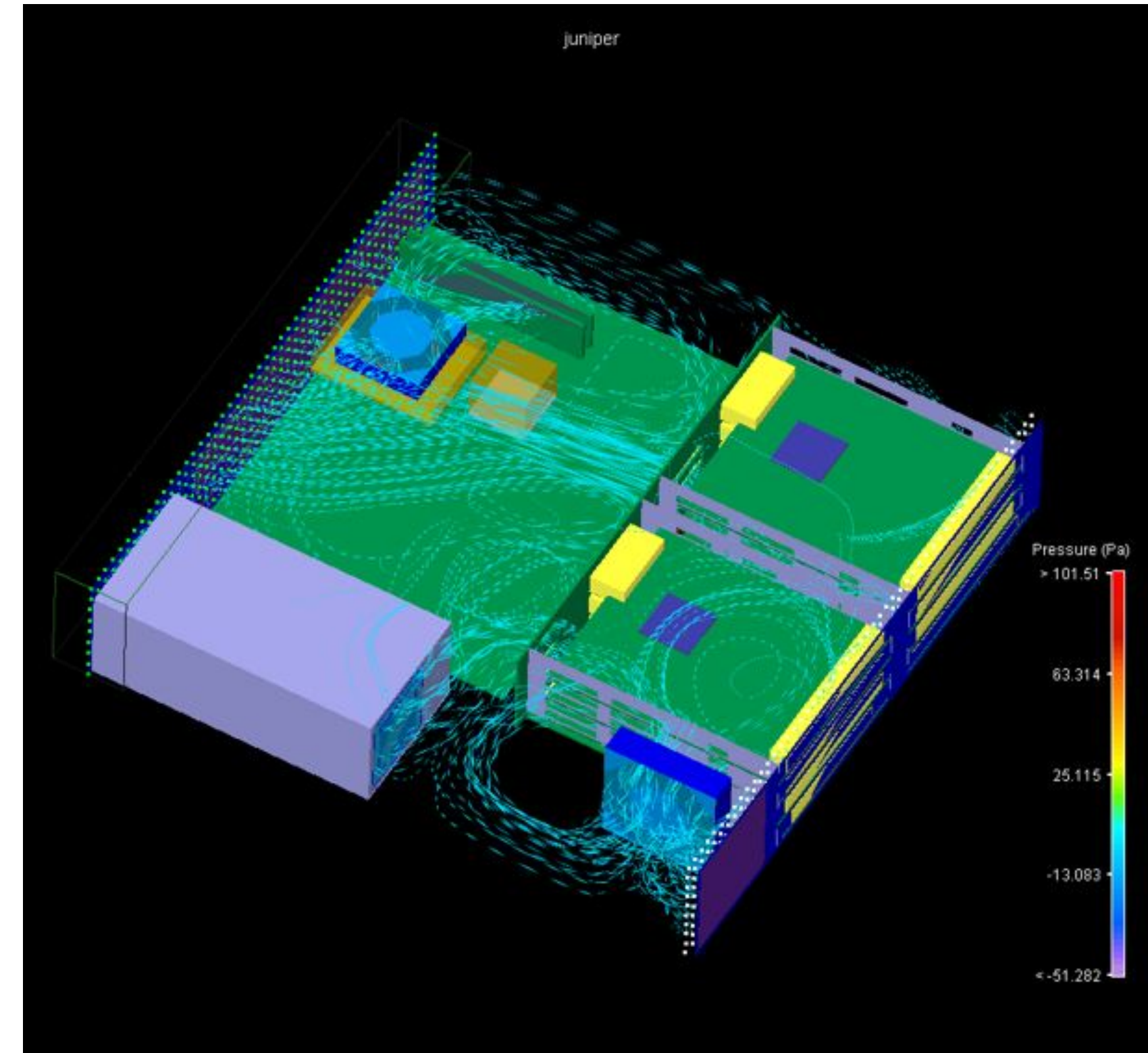


AFTER



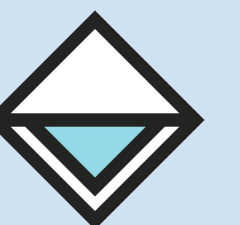
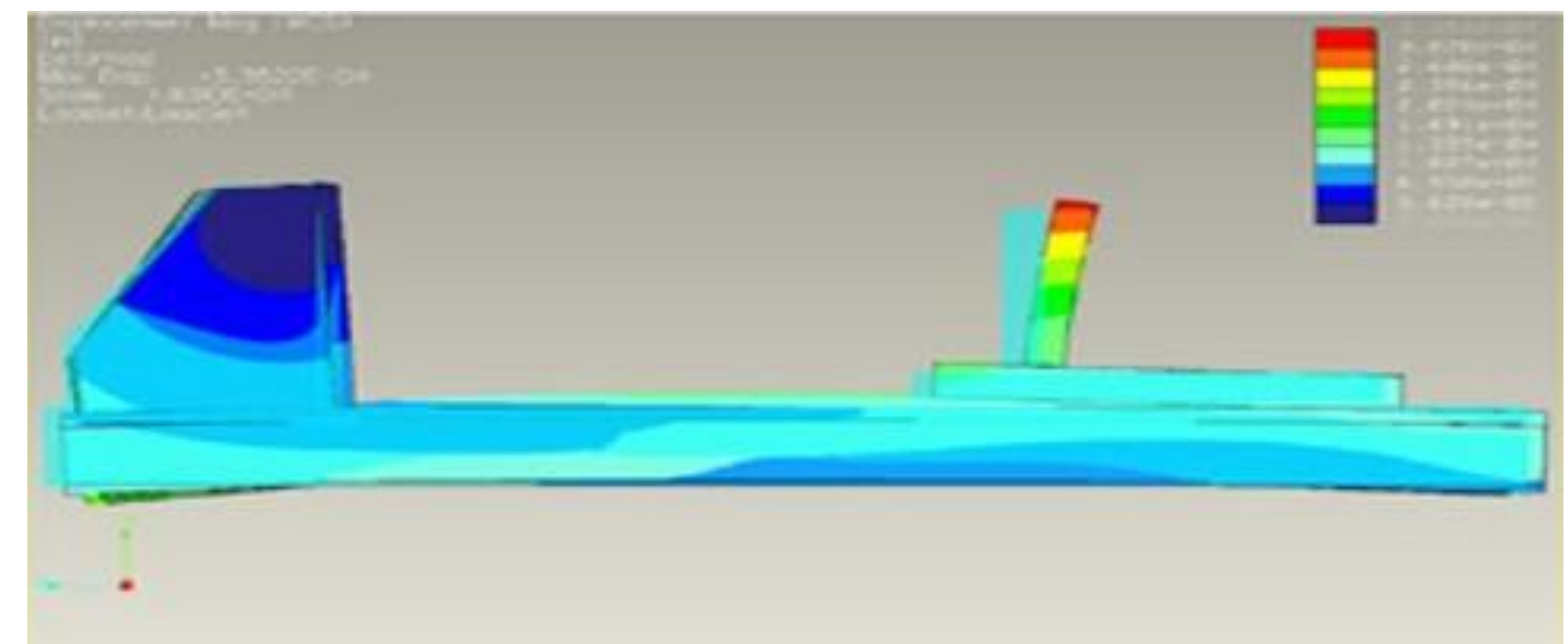
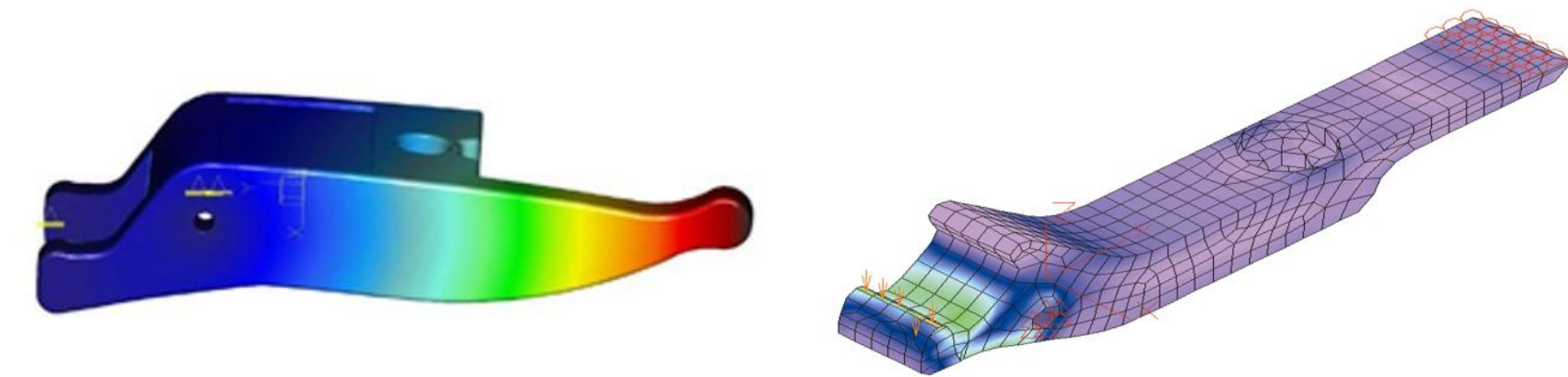
THERMAL SIMULATION & ANALYSIS

- Hi Dev also does thermal analysis for clients who already have a product but are experiencing thermal issues.
- Based on our analysis, Hi Dev can then propose solutions to the issue at hand.



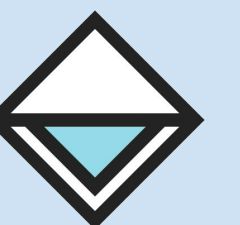
STRESS & VIBRATION ANALYSIS

- Mechanical Design optimization through stress and vibration simulation and analysis
- Physical prototyping, combined with software modeling (PRO- MECHANICA) for accurate results.
- Reduces component level failures and improves product reliability.



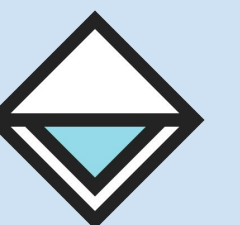
INDUSTRIAL DESIGN

- Industrial design team with 13 years of experience (consumer and telco products)
- Concept Development
- Visual Models and Prototyping
- Corporate Branding and image continuity
- Product Aesthetics
- Product Artwork
- Technical Illustrations



HANDHELD RADIO DESIGN

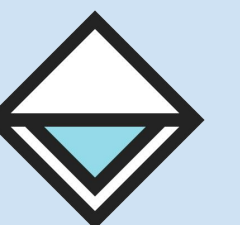
- Rugged design
- Meet or exceed Military specification
- Operate under extreme environmental conditions



BIOMETRIC SECURITY SOLUTIONS

Fingerprint reader for Indoor or Extreme Outdoor Environments

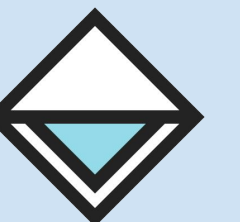
- Multiple entry solution, fingerprint, close proximity reader, key-in, magnetic swipe reader.
- Use of in-mould decoration to achieve the desired look and feel of the product.
- Commercial grade electronic components electronic used, but still achieved high operating temperature through creative cooling techniques



HANDHELD PRODUCT DESIGN

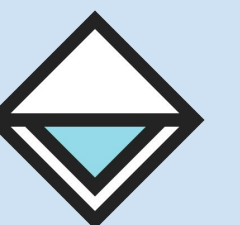
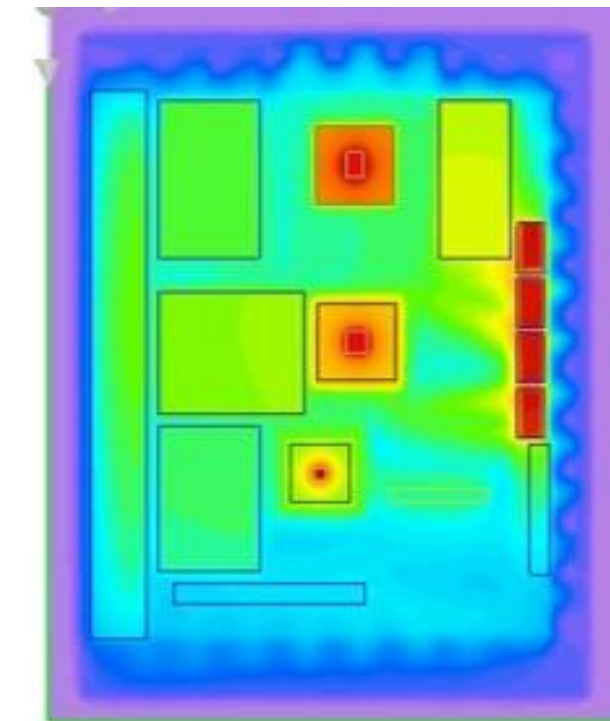
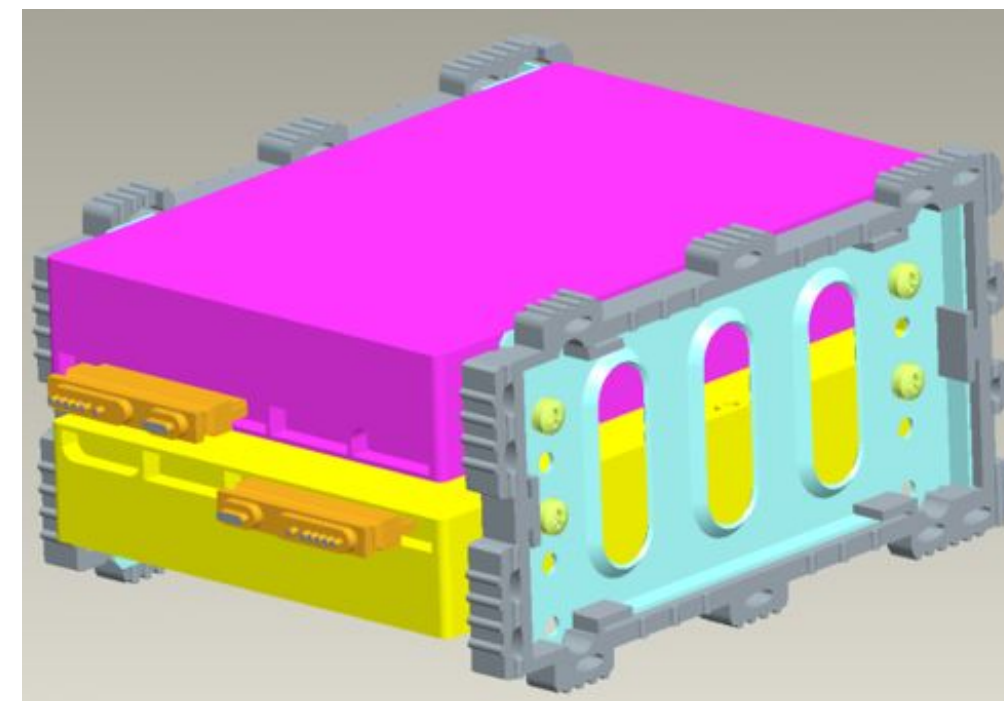


- Concept Development
- Mechanical Engineering and Design
- Industrial Design
- Analysis: Thermal/Stress/Vibration/Tolerance
- Design Verification Testing
- Supply Chain Management/ Vendor Management for Prototyping
- Cost Reduction



SOLUTION - CONSUMER PRODUCTS

- MSN TV2: Performed the mechanical and thermal design and procured first prototypes.
- Challenges: Cost sensitive high-volume consumer product. Naturally, cooled Pentium III processor



SYSTEMS - MILITARY PRODUCTS

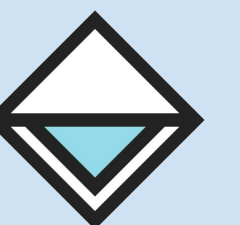
- Stringent and tough environmental requirements have become our specialty.
- We have excelled in designing ruggedized products to meet the different MIL-STD's



OUTDOOR WIMAX UNIT

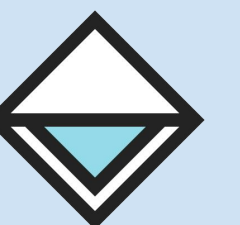


TWO WAY RADIO

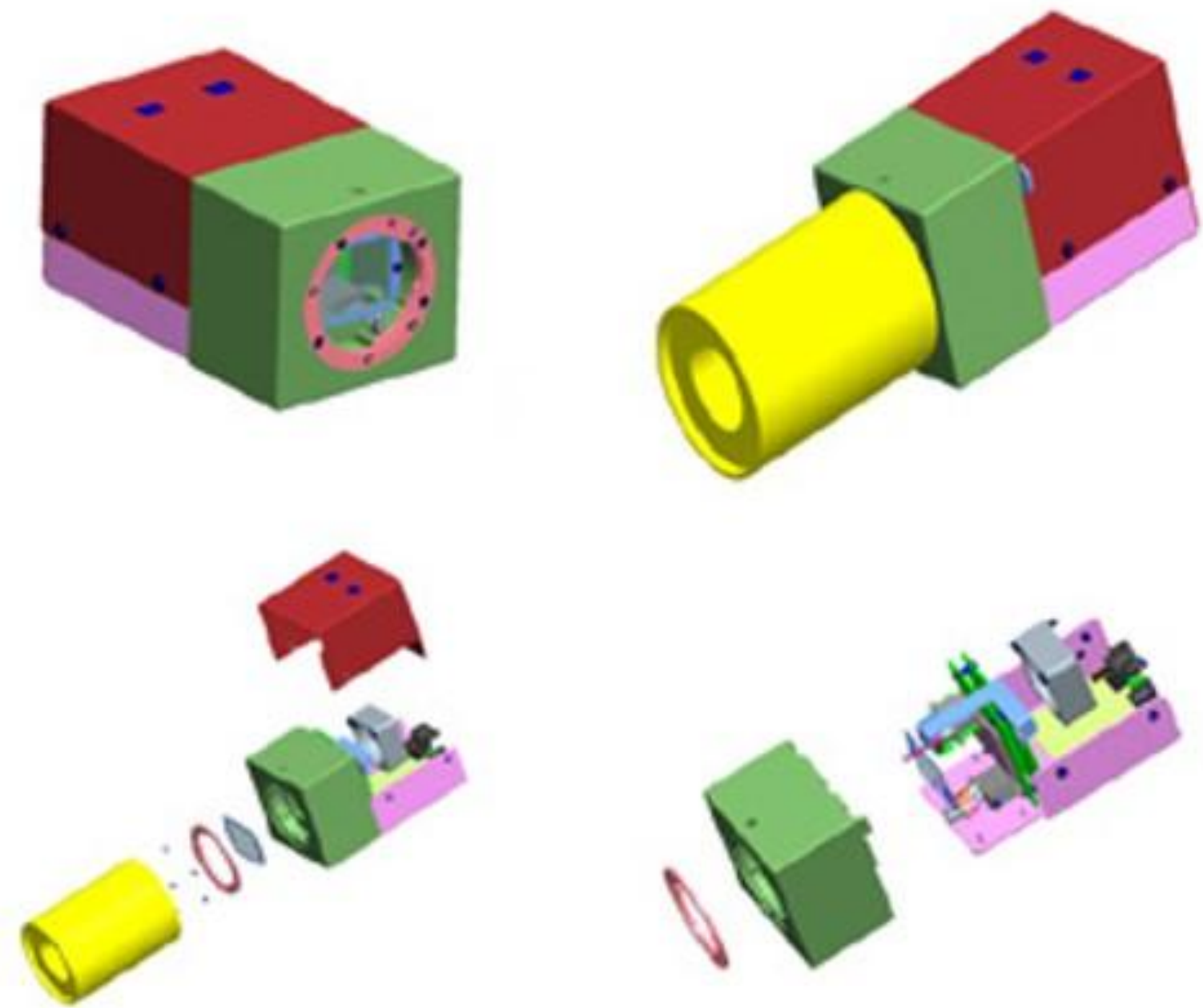


SOLUTION - TELECOM PRODUCTS

- Product architecture defining size, power strategy, cooling capacity, EMC/EMI containment, interconnect, cabling strategy, deployment strategy, and ergonomics.
- Airflow and thermal analysis, airflow testing and slot velocity estimation.
- Detail design, and manufacturing support.



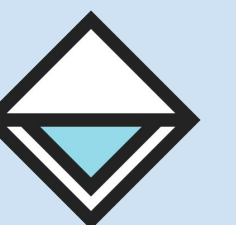
SOLUTION - SECURITY/SCIENTIFIC PRODUCTS



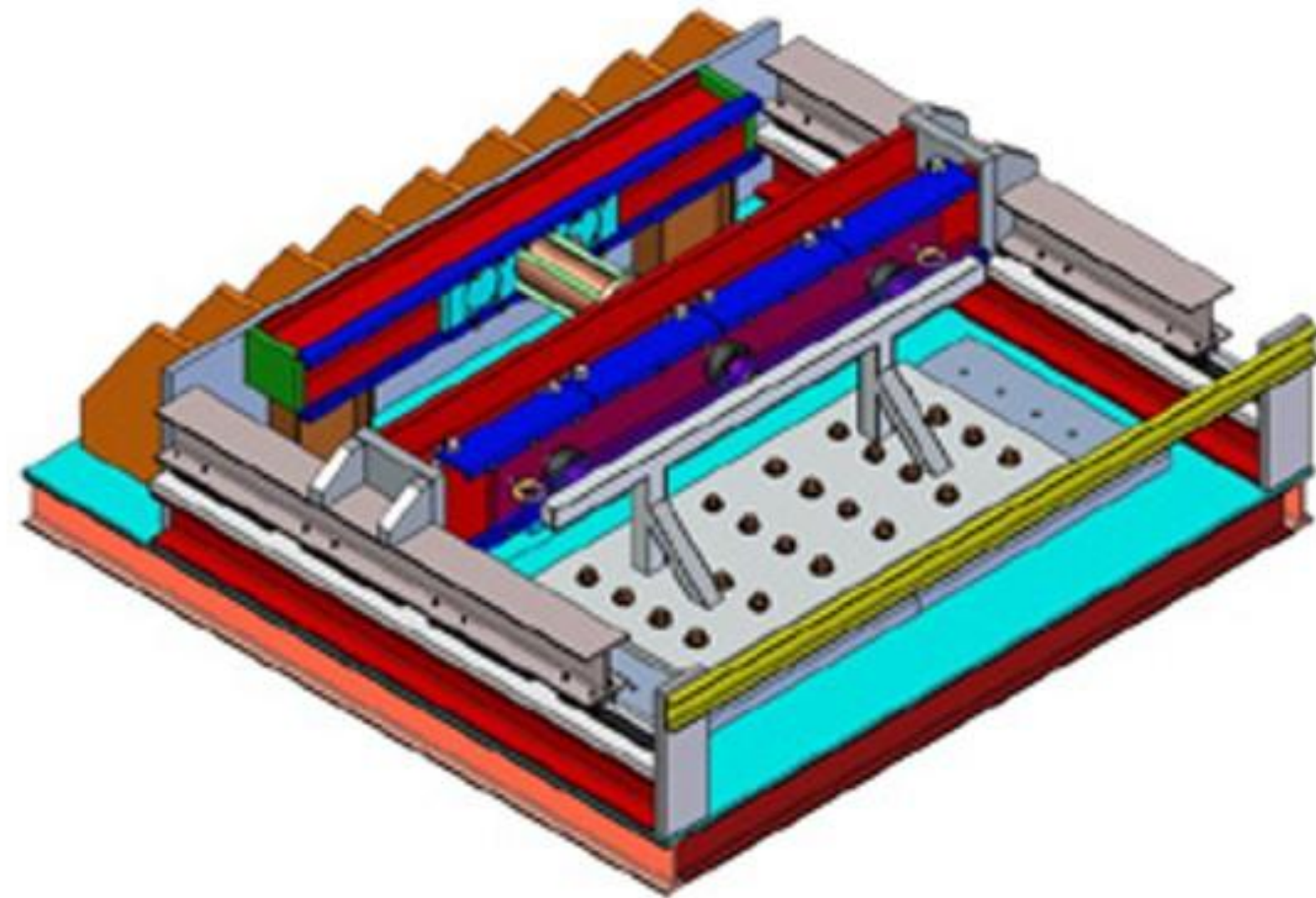
SECURITY CAMERA



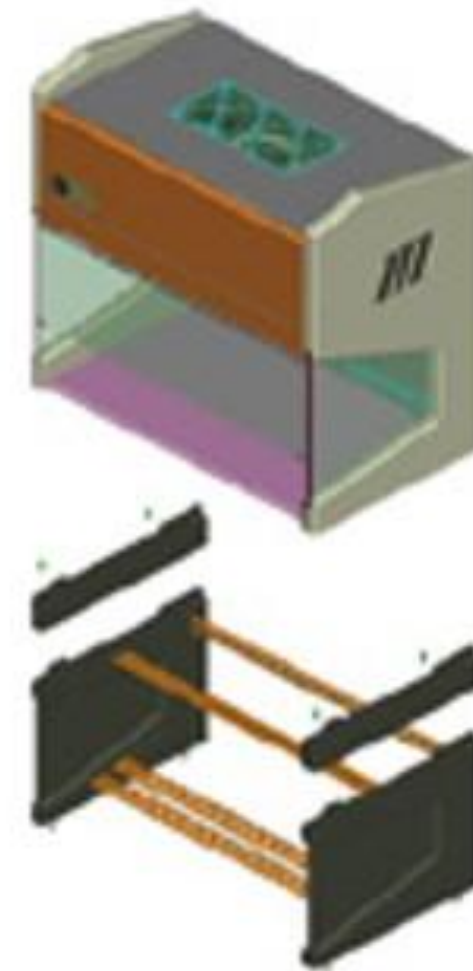
SCIENTIFIC CAMERA



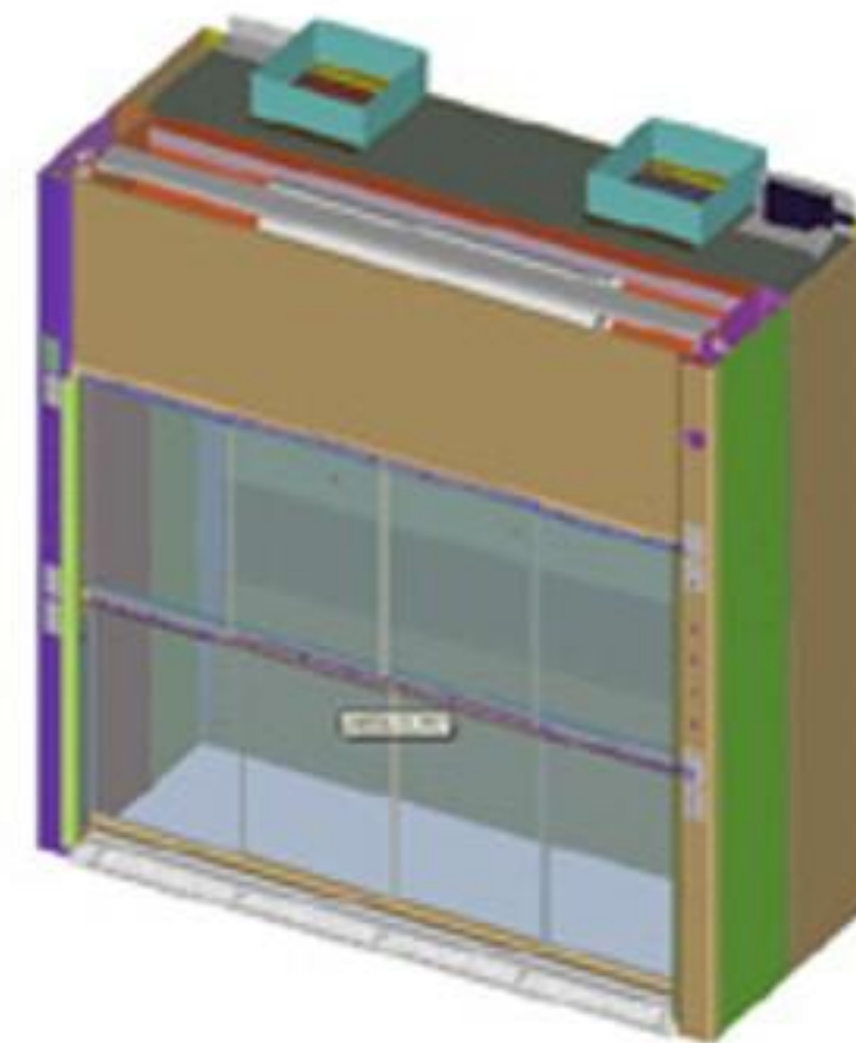
SOLUTION - INDUSTRIAL PRODUCTS



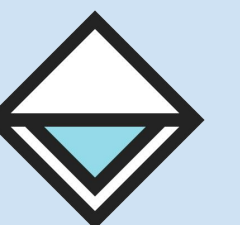
CLEAN LAB TABLE



FUME HOOD



TEST RIG

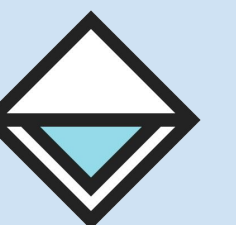
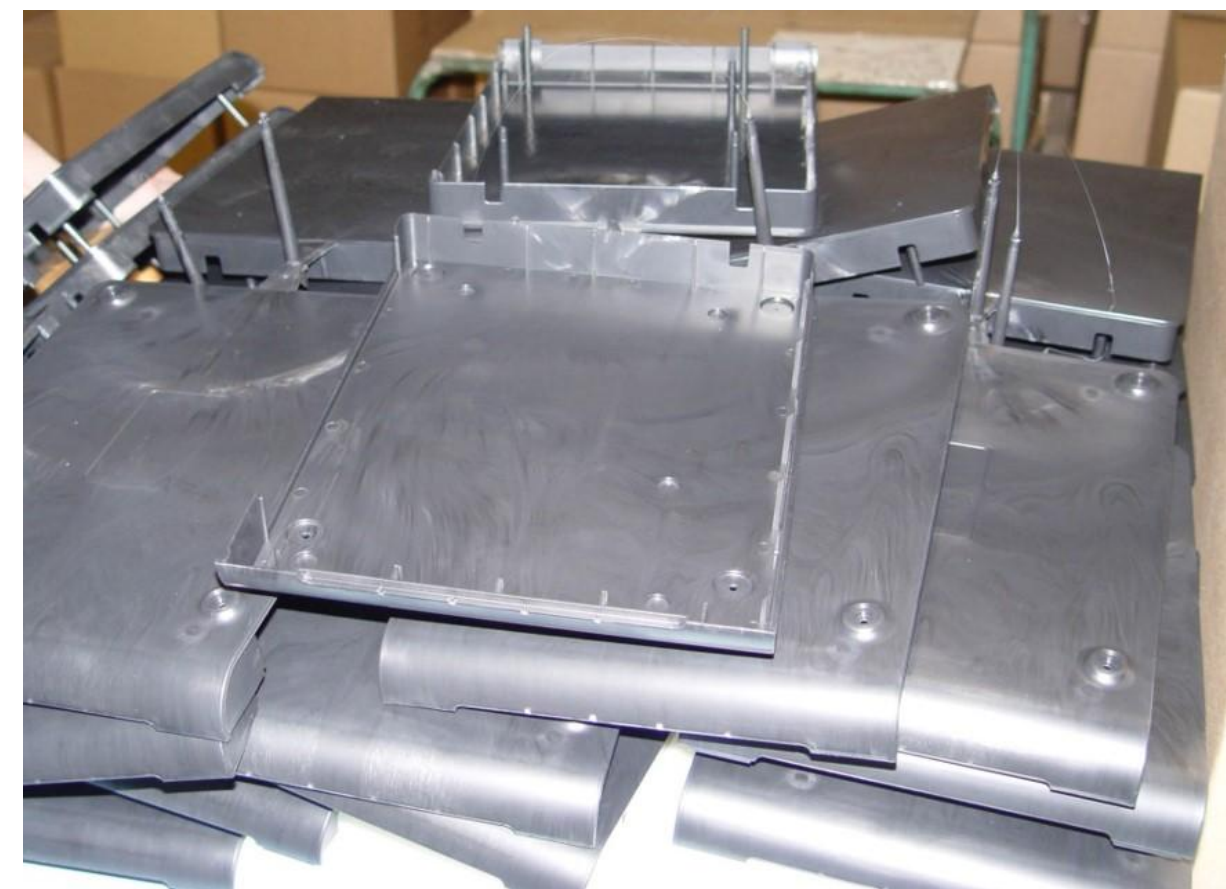
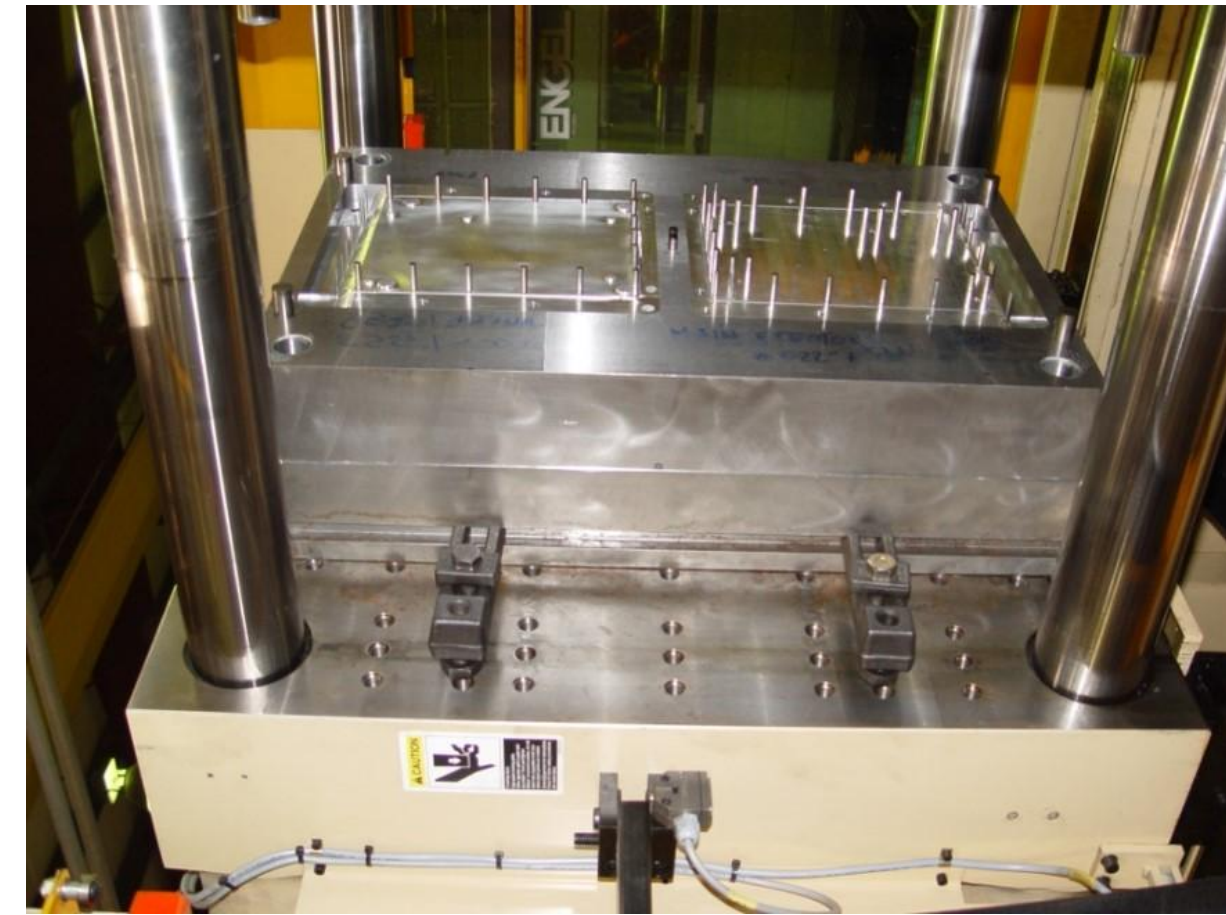


SOLUTION - START TO FINISH

It is part of our commitment to drive the product to successful completion.

Therefore, we follow our design wherever it is being manufactured, to access early prototypes and provide necessary guidance to the manufacturing team.

Whether it is a PCBA, or an injection moulded plastic part as shown on the side. We are there to assist at each step of the way



HI DEV & METAK SYSTEM CLIENTS

ALCATEL-LUCENT

ALGOLITH

AVVASI

BIOSCRYPT (L1)

CONTINUOUS COMPUTING

CELESTICA

CRITICAL TELECOM

EVR PRODUCTS

JUNIPER NETWORKS

JDS UNIPHASE

PIXELINK

LUMENERA

MICROZONE

MAXTOR

MOTOROLA

MARCH NETWORKS

NORTEC

NRC

PSION TEKLOGIX

PLEORA TECHNOLOGIES

TRIMBLE NAVIGATION

NOVATEL

PRYOR METALS

ROSS VIDEO

SOLECTRON

SUN MICROSYSTEMS - ORACLE

SIGNAL CRAFT

SIGNAL TECH

VECIMA NETWORKS

3M

BMV OPTICAL

L-3 WESCAM

TECHNICOLOR (THOMSON)

