

SIE

COMPUTING SOLUTIONS ● ● ■

**Prepared by: Jim Tierney
SIE Computing Solutions Inc.**

SIE Corporate Overview

Who We Are

- Over 30 years experience in the design of electronic packaging and integrated computing solutions for rugged, industrial and telecom environments.

- Award Winning World Class Manufacturing
 - Complete Supply Chain Solutions
 - Vertically integrated – Design, Fabrication, Assembly, Integration & Test.
 - Lean for Life Lean Continuous Improvement Program
 - ISO 9001:2008 Certified Process from Sales to Support
 - ISO14001 Certified Environment Management System
 - Received Raytheon's "Four Star Supplier Excellence" award 2008.

 - Wholly owned subsidiary of System Industrie Electronics AG (SIE)
 - ITAR registered Facility



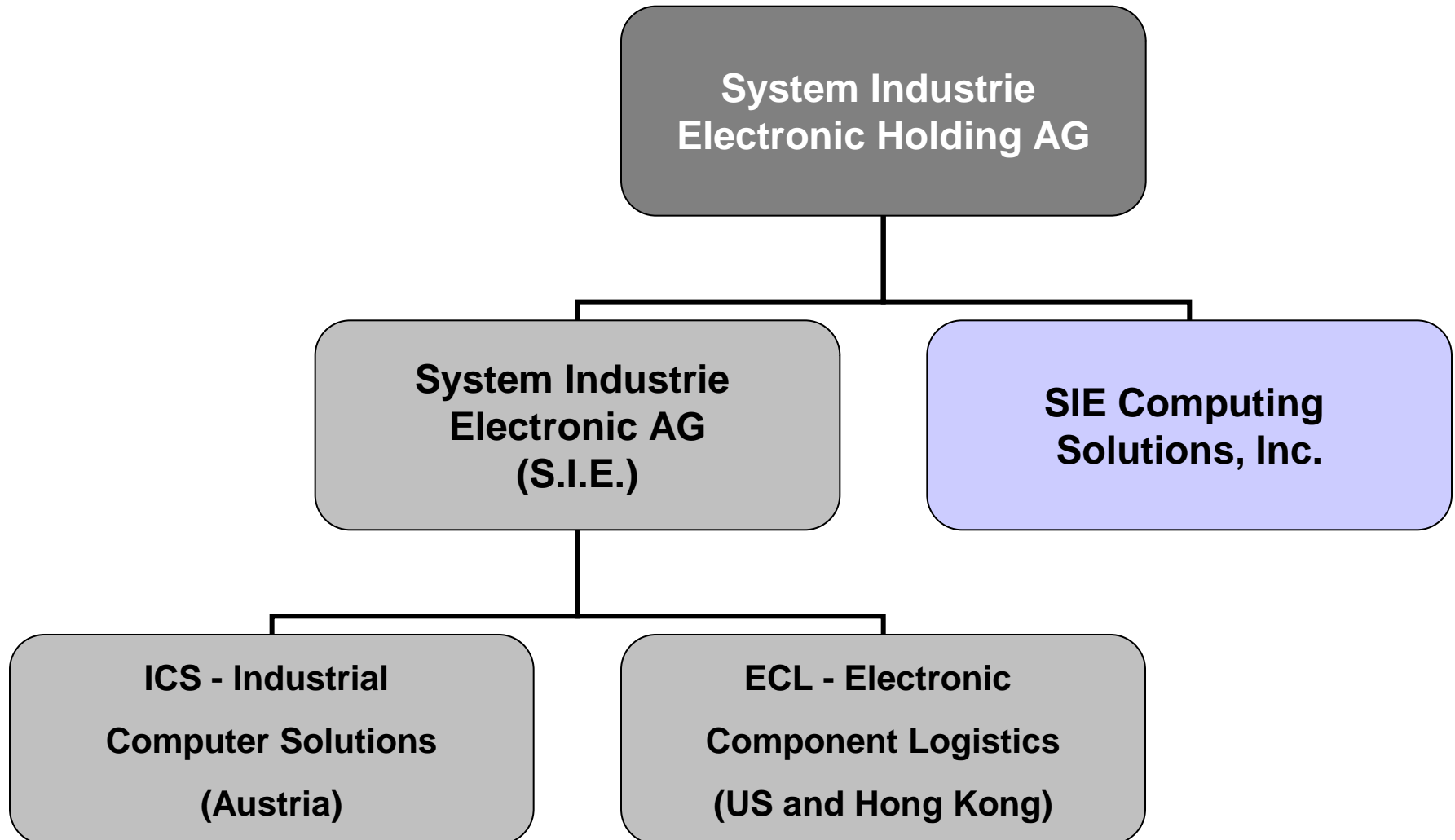
Focused on solving our customers' most challenging application ³

System Industrie Electronic AG



- Headquarters: Lustenau, Austria
- Founded 1994
- Udo Filzmaier CEO and founder
- Privately held
- Custom Embedded Computing Solutions for the Medical and securities markets
- Global Supply Chain and Distribution business headquartered in Melbourne, FL
- Acquired Carlo Gavazzi Computing Solutions assets April 2009

System Industrie Electronic, Holding AG



Major Customers By Market

Telecom (10%)

Military (45%)



Industrial (45%)



SIE Program Management Review

Program Management

SIE Computing Solutions Program and Product Life Cycle Management Service provides the customer with an team of professionals and a program Manager dedicated to the project from concept through the life of the product.

- Development statement of work that covers the design of the system
- Establish a project schedule, identifying major milestones as well as critical inch stones
- Document all meetings and establish action item lists
- Coordinate certification test requirements and schedule the test facility
- Drive all action items to completion
- Prepare and coordinate all presentation and meeting material
- Complete design documentation package

SIE Engineering Review

■ Electrical Design

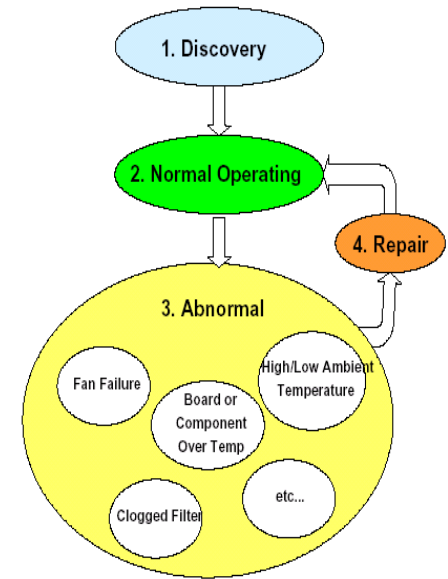
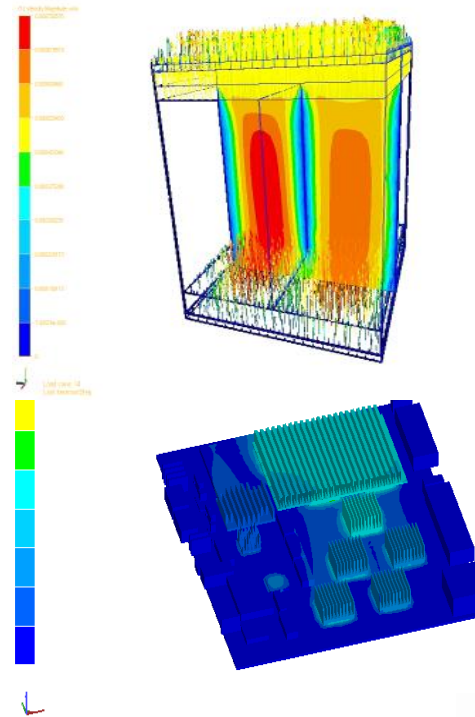
- System Control and Monitoring Hardware
- Backplane design, cable and interconnect
- Serial I/O design
- Storage systems
- Custom power supplies and distribution systems

■ Mechanical Design

- Enclosure design
- EMI and RFI cabinet and enclosure design
- Low MTTR & High MTBF
- Thermal Simulations
- Outdoor and harsh environment packaging
- CE, UL, CSA, VDE, IEC and FCC agency certifications

■ Software Design

- System Control and Monitoring Programming and Configuration

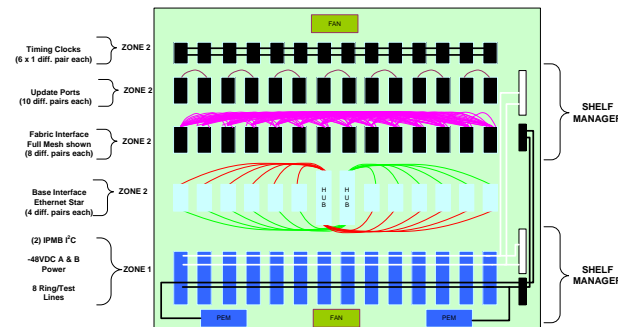
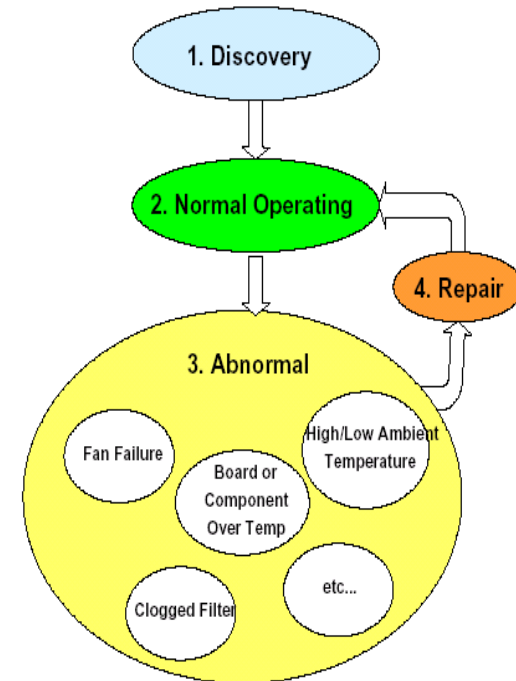
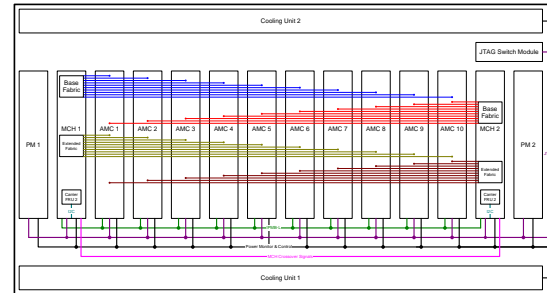


Electrical Design Capabilities

Electrical Design Capabilities

Software: PADS

- Backplane design
- SBC design in using third party SBCs
- Fabric Switches and node cards
- Parallel and serial I/O design
- Health monitoring/shelf management systems
- Live Insertion “Hot Swap system design”
- SCSI, IDE & SATA storage systems
- Custom power supplies
- Power distribution systems
- UPS design

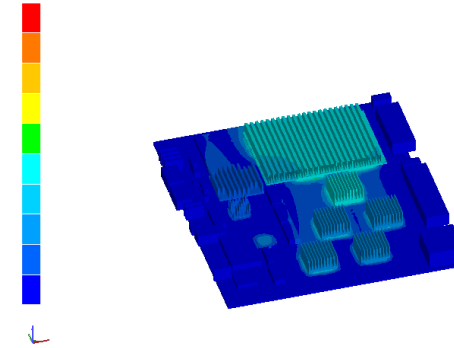


Mechanical Engineering

Mechanical Design Capabilities

Software: Pro-E

- TEMPEST and secured enclosure design
- EMI and RFI cabinet and enclosure design
- Quick access, removal and replacement of enclosure and cabinet components (Low MTTR)
- NEBS and BELCORE design
- Total thermal analysis and design using CFD Simulations that are verified on the actual chassis using airflow measurement equipment.
- Military packaging at all levels: Total MIL, rugged, and COTS
- UL, CSA, VDE, and FCC agency certifications



Test Engineering

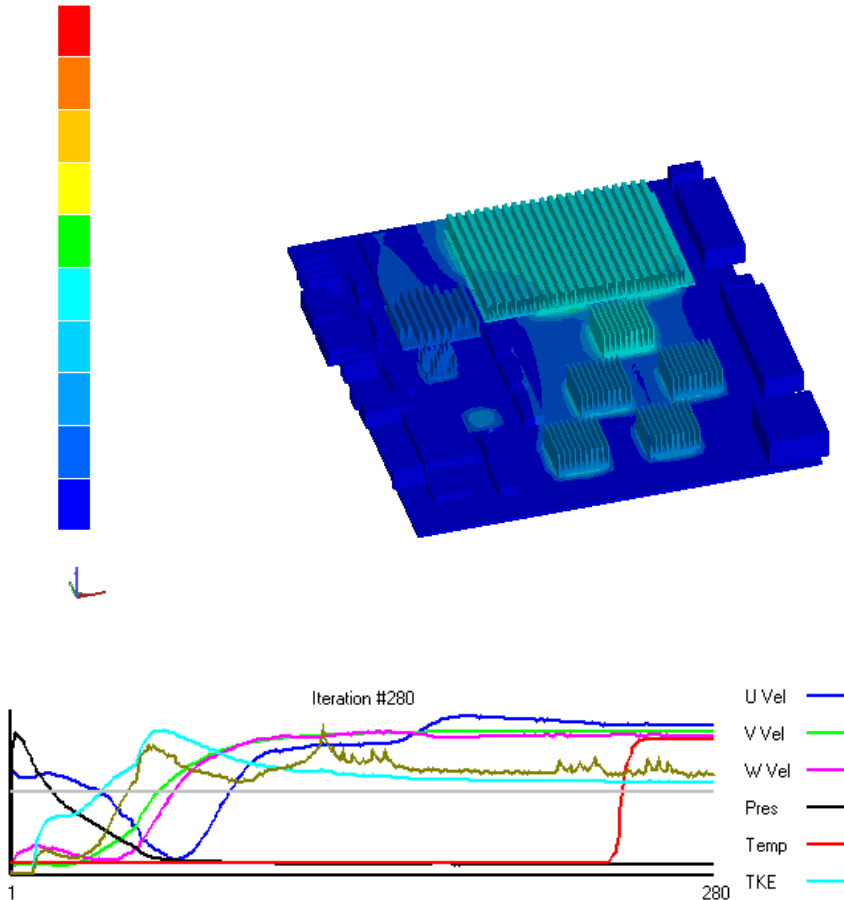
- Provide in house compatibility testing service of internally developed products which include:
 - Systems validation
 - OS Compatibility
 - Liaisons with outside
 - UL, CE, NEBs and FCC
 - agency Testing
- Evaluations Units
- Factory Test Procedure Generation
- Level 1, 2, 3 Technical Support on all the products we sell



Thermal Management Design

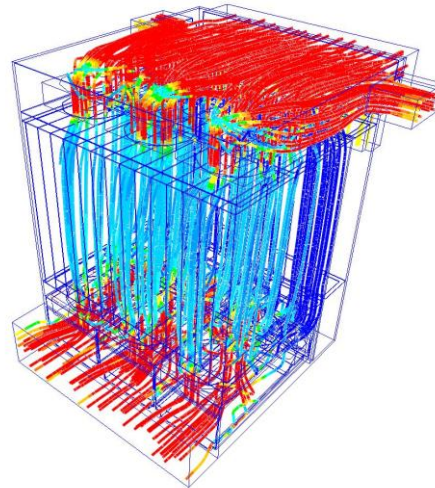
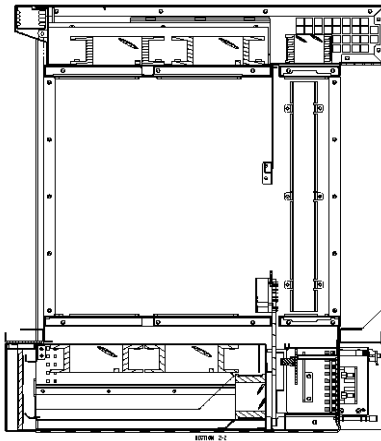
Thermal Management Analysis and Testing

- We provide this service to insure that the thermal management solution is properly designed before the chassis is fabricated.
- We have the CFdesign Analysis Tool in house.
- We can model how the customers board will perform in the chassis air flow path.
- We have the equipment to perform verification of the actual cooling of the chassis by measuring the airflow and temperature using airflow and temperature sensors.
- This is a service that is quoted through applications.



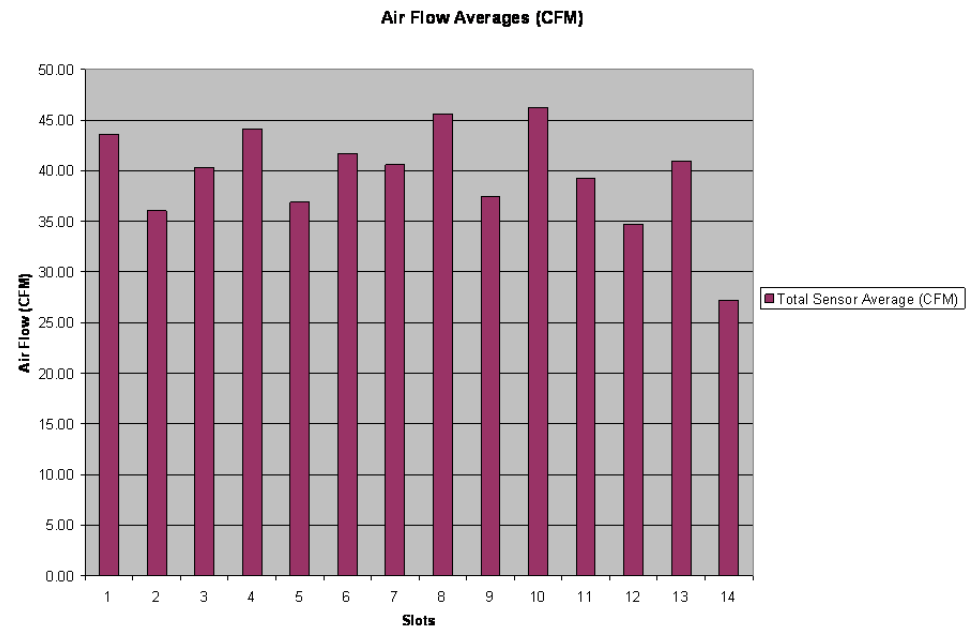
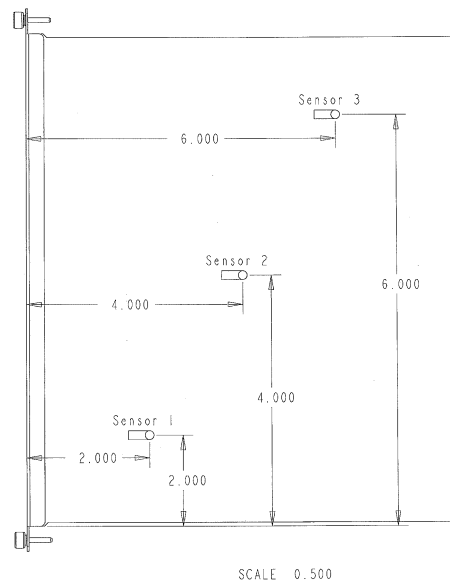
Air Cooled Thermal Simulation

- ▼ The CFD Thermal Model uses a simplified mechanical model that is derived from the actual ProE Wildfire 633 ATCA chassis.
- ▼ The model also uses the fans actual load (P&Q) curves along with the back pressures that are contributed by the intake, exhaust and filters.
- ▼ Airflow at any location within the model can be evaluated. i.e. Airflow across the CPU Heat Sink or the entire card slot.



Air Cooled Thermal Measurements

- ▼ The CFD Thermal Model is then back tested using the actual unit and Airflow sensors strategically placed into the chassis.
- ▼ In the case of the 633 Series chassis the simulated airflow was within 50 LFM (~ 4 CFM) of what was actually measured using the airflow sensors.



SIE QA, Configuration Management & Safety Review

Quality Management System

- AS9100 Certification
- ISO 9001:2008 Certification
- ISO14001:2004 Certification
- ISO Registrar: NQA USA
- Continuous Improvement: Lean Manufacturing

SIE Continuous Improvement

- Company wide Lean Manufacturing Program
 - All employees participate and meet daily
- New internal training program
- Improved WIP data collection and analysis
- ISO Certification updated to 2008 Standard

Configuration Management

- Documentation Rev controlled and vaulted in Omnify PLM system.
- All product manufactured and inspected in accordance with revision controlled documentation.
- Product manufactured and inspected to established standards: IPC-A-610, IPC-A-620 or customer specified requirements.
- Test equipment calibration ANSI/NCSL Z540-1-1994 compliant.
- Product verification/validation in accordance with controlled FAT, ATP