



When it comes to excellence in product and solution designs, the quality of the end-result depends on a combination of the overall concept and each functional block of the design. AimValley has a dedicated Systems Engineering team that is assigned up front when it comes to end to end turn-key designs.

Our systems engineering team is the source for creative and innovative architectures for entire systems design and it is the work they do that vastly increases the overall effectiveness of the design.

### Aspects of Systems Engineering

- Function
- Connectivity
- Power
- Transmission
- CPU/Controllers
- ASICs, FPGAs, Circuitry
- Backplanes, Modularity
- Assembly & Mechanical Design
- Environmental Standard Conformance
- [Expert Feasibility](#)

## Considerations of Systems Engineering

Overall product design excellence is achieved by conceptualizing the end-product and then parsing the project into a logical design process along with clearly defined timelines, requirements, concepts, and an overall vision.

Here are the considerations that are considered and translated into sub-projects, plans and milestones:

- **Function** - ensuring that the end-product will provide the functionality defined by our customers.
- **Form Factor** - on the surface this often seems simple, however a vast amount of elements need to be taken into consideration, such as; the location and orientation of connectors, the ingress/ egress of airflow for cooling, ergonomics, considerations for the sake of ruggedness, RF shielding, alignment for installation, usability and modularity, etc.
- **Time-to-Market** - striking a balance between functions that are supported by standard off-the-shelf integrated circuits versus those done in CPU/ GPU and those done in an FPGA, requires forethought. Trade-offs between cost, power draw and flexibility are made.
- **Cost versus Future Proof** - AimValley's system engineering team designs to minimize both the cost of the design cycle as well as the cost of goods sold, while still taking into account sustainability, supply continuity and future proof flexibility.
- **Manufacturability** - ensuring that the product is efficient and practical to be manufactured, leveraging reduction in manual labor without sacrificing quality.

Using your requirements as our key input, we rapidly converge to a high-level proposal, taking standard's evolution and technology trends into account. Once completed and agreed through interaction with our customers, product proposals are subsequently specified in detail in (testable) requirements.

### Systems & Networks

- Transmission, cross-connect and OAM&P
- ASICs and Circuit Board Design
- Backplanes, Mechanical Design, Power and Environmental
- Pioneers of Ethernet over SDH
- Virtual Concatenation, LCAS and GFP
- TDM over Packet Solutions

### Telecoms Expertise

- OTN, SDH, SONET
- Synchronization
- Protection
- DCN network designing
- Time Sensitive Networking
- CPRI and Wireless Fronthaul

### Data Expertise

Ethernet, VLAN, IP/MPLS  
Ethernet Switching  
Ethernet Protocols  
Performance and Quality of Service  
Industrial Ethernet

### Why AimValley?

AimValley is a reliable provider of Edge technology since 2003, delivering solutions for:

- High speed data processing applications
- Complex FPGA-based accelerated systems
- High speed, low power hardware equipment
- Robust embedded software
- Early adopter of Acceleration Technology

### Joint Development

Achieving your goals requires you to constantly adapt to new technologies. Based on your requirements, we design solutions and ways to jointly implement them.

### Tailor-made Solutions

We collaborate with you to deliver your desired solution (complete product or only part of the development).

### Fast-Track Development

Taking advantage of re-usable designs and IP enables us to develop your solution on a fast track.

### Innovative Solutions

AimValley is continuously looking for alternative and optimized ways of designing high-tech products. We have an extensive patent library.

### Phased Approach

Our design process is structured to successfully take your product from concept to production and flexible enough to allow you to leverage any of our services on a standalone basis.

### Certification

AimValley is experienced in certifying products or systems, such as EMC/ESD, CB and CE.

### Life Cycle Management

We offer life cycle management for the design and/or the product. This includes maintenance and component obsolescence management.

### Quality Focus

- Outstanding track record of on-time delivery
- Best in Class Designs – Time, Budget & Quality
- ISO9001, ISO140001, Ecovadis Platinum CSR