

# omni

## ALLIANCE

## OMNI SA

**Service provider within software and hardware development and EMS services**

**Established in 2010**



**Builds on experienced teams with roots from the 1970s.**



# OMNI SA:

Key Figures 2010: Turnover 125MNOK, Employees: 70



- System development
- SW development
- Embedded
- EMC lab and expertise
- Bachelor, Master, PhD
- Established 1979



- HW development
- FPGA
- Embedded
- Prototyping
- Bachelore, Master
- Established 1994



- Industrialisation
- Production
- Logistics
- Support
- Bachelor, Technicians
- Established 1976



The alliance is supported by Innovation Norway

# Certifications

Concept

Development

Industrialisation

Production

Logistics

After sales

Product renewal

PROJECT  
MANAGEMENT  
KNOWLEDGE  
TRANSFER  
DOCUMENTATION  
FUNDING

**Microsoft®**  
**GOLD CERTIFIED**

*Partner*

EMC lab  
ISO 17025  
certified





PROJECT  
MANAGMENT  
KNOWLEDGE  
TRANSFER  
DOCUMENTATION  
FUNDING

# Partnership:



# Member of:





# Consept/Systems



- Analyze alternative solution(s)
- System Architecture
- Technology evaluation and selection and/or technology advice
- Planning the project including solution outline, time, cost, verification needed, risks and risk mitigation

**Unique combination of creativity, methodology and system knowledge**

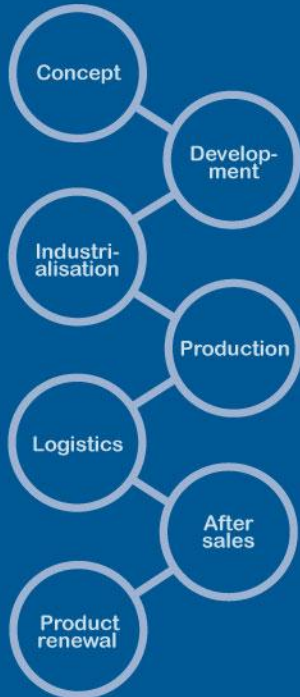
*Core of our experience is:*

*Solutions with demanding requirements to mobility, robustness, security and reliability.*

*Information infrastructure  
Mobile systems and solutions  
Control room solutions*

*We have several cases where our unique background within infrastructure for special applications are valued as enhancements to a broad range of product offerings*





## Software

- Architecture design
- Analysis and specification
- Implementation and test
- Database Design
- Adaption and integration
- WEB-applications
- OS-DRIVERS and core adaption's
- Error detection and necessary adaption's/corrections



### Core competencies:

#### Software languages

/framework: *C#.NET, ASP.NET, VB.NET, C/C++, JAVA, VB6, SDL, XML.*

#### Operating systems:

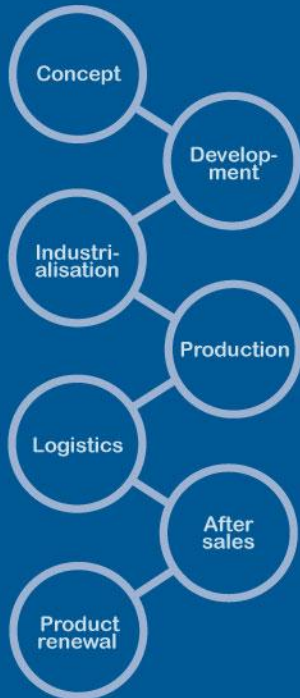
*Windows, Windows CE, Windows XP, Embedded Linux, UNIX, PSOS, Symbian, Windows MOBILE, Proprietary kernels.*

#### DATABASEs

*MS-SQL and ORACLE.*

3RD-PARTY library and Packages.

State of the art software tools, methods and processes.

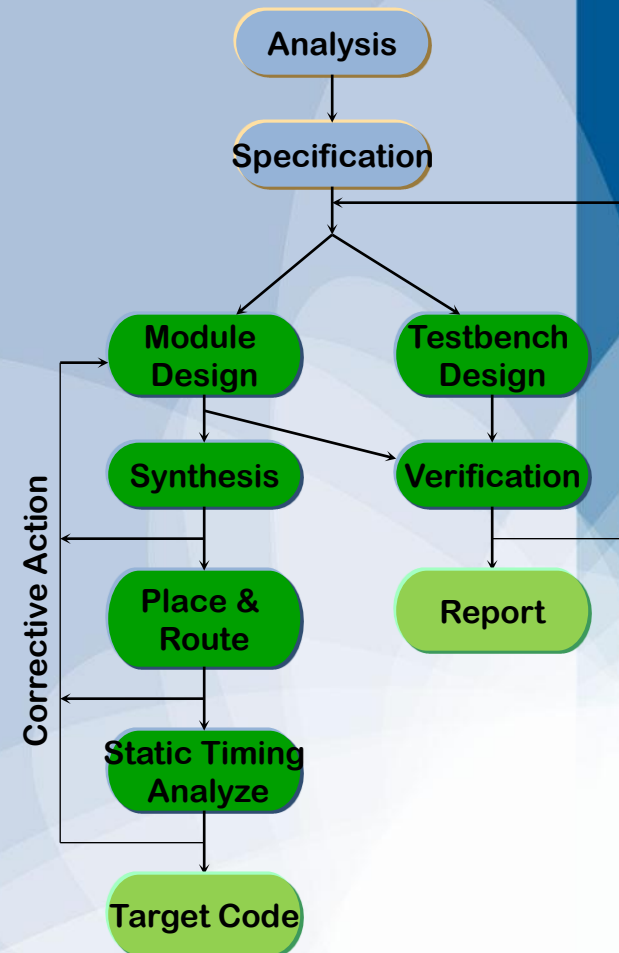


# FPGA

- We have valuable expertise in FPGA design
- Structured design process
- Predictable project implementation
- Reliable target code

## Key Experience

- Structured VHDL coding methodology
- Effective utilisation of FPGA architecture
- High speed design
- Timing Closure





# FPGA

## Frequently use of IP's

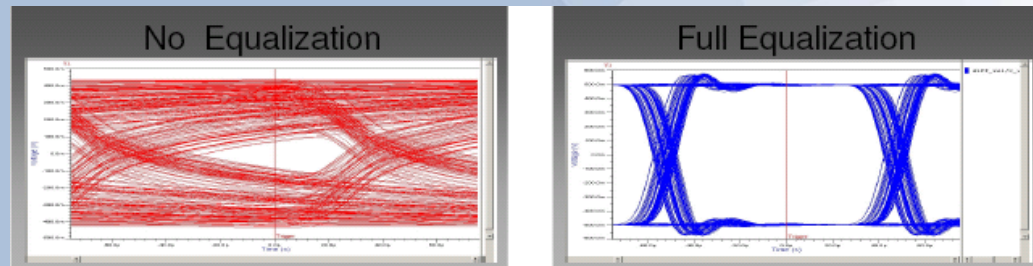
- SPI-4.2 LogiCORE IP
- Transceivers (2.488,32 Mbps)
- Ethernet MAC
- DDR SDRAM controller

## Development of IP's

- SDRAM controller
- SDH Line termination

## Project experience:

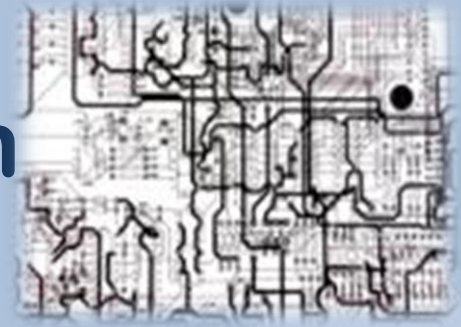
- Telecommunication
  - TDM, SDH, EOS
- Data
  - GbE
  - Packet Processing
- Broadcasting
  - SD-SDI, HD-SDI and 3G-SDI
- DSP
  - Data Acquisition
  - Signal Generator
- Embedded processing







# Electronics Design



- System specification and design
- Detailed design
- Printed Board
  - Prototyping and industrialisation
  - Qualification testing
  - Common component data base
- Board Layout
- EMC

## Core competencies

- *Processor systems*
- *Signal processing*
- *Embedded systems*
- *Digital interfaces: ATM, PCI, Ethernet, TDM*
- *Voice-over-IP*
- *Real time programming*
- *Audio interfaces*
- *Security (TEMPEST) Electromagnetic Compatibility*
- *Radio systems and transponders*
- *SW defined radio*



# Reference projects in electronics design

## High-speed design

- 2.4GHz ZigBee radio
- Gigabit Ethernet
- SDH
- Laser drivers

## Interfaces

- USB, PCI, SPI, I2C, JTAG, audio, etc

## CPU systems

- X86, RISC, etc

## Electronics in harsh and demanding environments

- Defence
- Offshore
- Sub-sea



# Industrialisation

- Documentation
- Material Search & Vendor Evaluation
- Test Development
- Manufacturability
- EMC certification
- Environmental Stress Screening
- Quality Plan

## TO CONSIDER ...

- Is documentation clear, complete and correct?
- Can product be reproduced?
- Can product be manufactured at right cost?
- Any design decisions that influence manufacturing cost or quality negatively?
- Does the product meet international & industry requirements & standards?
- Will product handle relevant environmental conditions?
- How can product or manufacturing process be improved?

# EMC

## Design&Tes

- EMC related design, test/ fault finding, problem solving and modification
- We have knowledge and equipment
- We work in our own laboratory or at the customer site, onshore or offshore.
- We have security training and may be offshore within short time

## Management

- 15 years as EMC-responsible in many projects
- EMC-responsible when building/equipping civilian and military vessels
- Top-deck design – placing and installing equipment
- Lack of EMC and poor installation have been the cause of many expensive situations

## Certification

- EMC Test laboratory since 1997
- SOLAS V rule 17 EMC
- ISO 17025 certified
- Tests according to: MIL-STD 461
- Qualifying products for the global market (in cooperation with SGS FIMKO)



## Customers

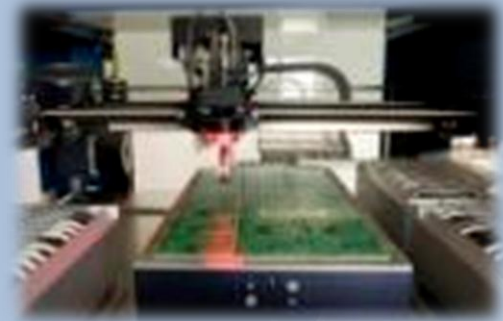
- References can be provided





# Production

- Flexibility
- Serve for complex designs
- Cooperation
- Logistics
- Purchasing
- PCB Mounting
- Testing
- Manual Assembly
- Quality Control
- After Sales



## SMD

Two lines, four machines.

## Soldering

Vapor Phase, Reflow, Selective, Wave Soldering (lead and unleaded), BGA rep. stations.

## Coating

Selective Coating Robot, Cleaner and Clean Test.

## Test

AOIs and comprehensive range of instruments.

## Systems

SAP, MyLabel, MyTrace, CDB and Manufacturing Database.





# Logistics

- Forecast & PO Management
- Accessories
- Packing
- Shipping & Handling
- Warehousing
- Invoicing Management

- Systems and processes for handling forecasts, and POs from end customers.
- Manufactures or sources accessories.
- We ship world wide on a weekly basis and have extensive knowledge of customs management!
- Favourable agreements with all the major freight companies.
- Long experience from designing and sourcing right packaging solution.
- 1200 m2 modern warehouse.
- Has systems and processes for handling invoicing on behalf of customers.





# Test

- OMNI can offer development, implementation and optimization of test solutions.
- Large and updated instrument portfolio for test and test development and dedicated test engineers with broad skill sets.
- Tailor made test solutions by utilizing In-Circuit, Boundary Scan, AOI and functional tests on both board and system level.
- Necessary equipment for dynamic burn-in and temperature cycling.
- Comprehensive system for collection, registration and storing of test data and can therefore offer relevant statistics and reports.





# After Sales

- Warranty Management
- Buffer Stock
- Spare Parts
- Repair
- Upgrades and Updates

A contract and/or a SLA can put severe strain upon the product owner. Whether to be handled in-house or outsourced depend on numerous issues:

- Internal resources: Both competence & capacity.
- Adequate systems & processes?
- Risk & scope of possible consequences.
- Type of products and the application of these.
- Agreed timeframe for solution, i.e. for contract and/or SLA to be fulfilled.
- Logistical solution prior to the after Sales process.



# In one or all phases we provide:

## Project Management

- Plan
- Manage and control
- Reporting
- Risk management
- Proactive approach

## Knowledge transfer

- Documentation
- Training
- Customer involvement in parts or in all phases
- With the customer or within our facilities

## Documentation

- Product Documentation
- Requirement Specification
- Product Release documentation
- Handbooks and training material

## Funding

- Innovation Norway (IN)
  - IFU/OFU
  - “Skattefunn”
  - “Risikolån”
- The Research Council of Norway
- EUREKA
- EU Frameworks