

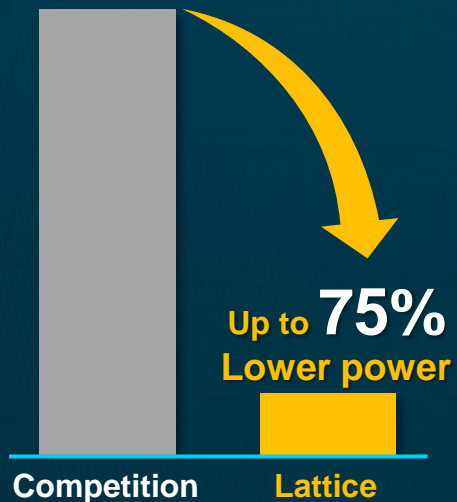


Nexus Platform FPGAs

Lattice Nexus is Changing the FPGA Landscape

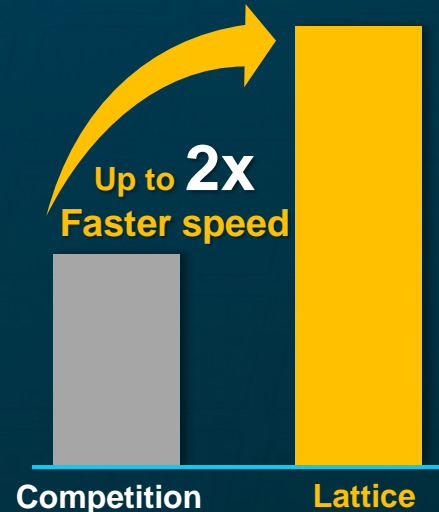
POWER

Operating Power Consumption



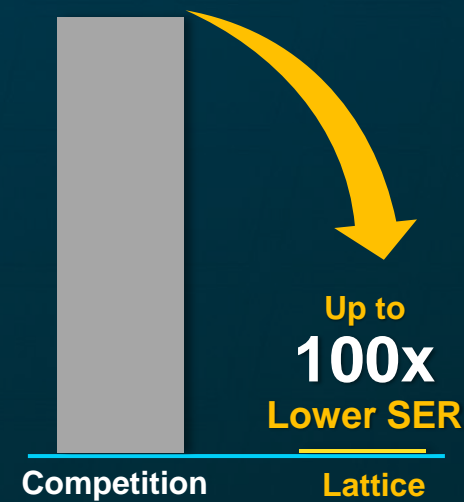
PERFORMANCE

Video Connectivity



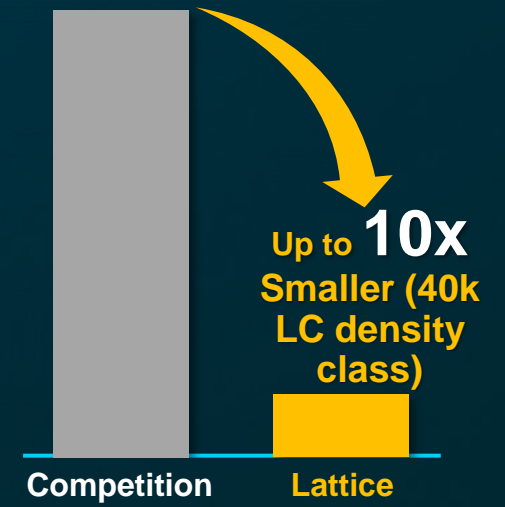
RELIABILITY

Soft Error Rate



SMALLER SIZE

Package Size



Note: comparing similar class competitive devices

Earth Observation Systems

Background

Application: Earth observation / sensing

Lattice Device: Certus-NX™

Socket Function:

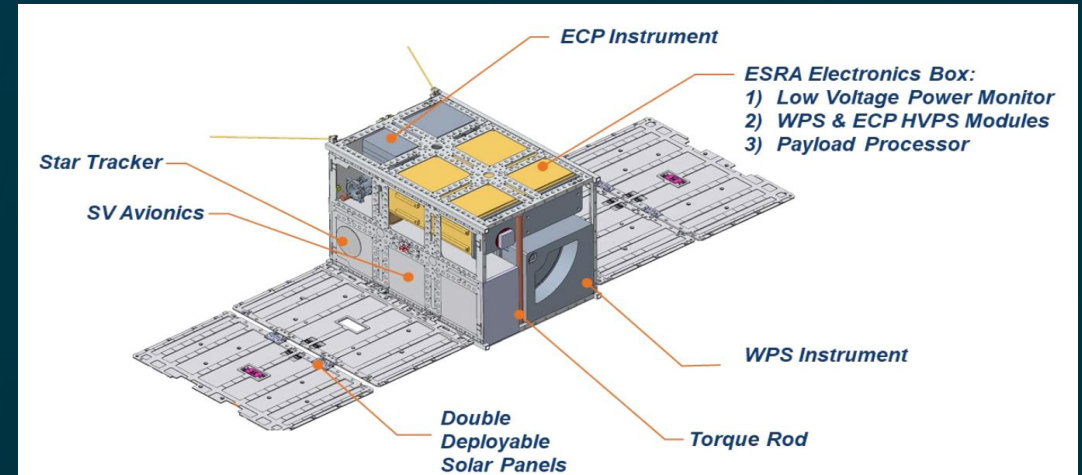
- Distributed Processing block in payload
- Analyze and pre-process sensor data

How Lattice Won

Lattice Advantages:

- Low power, small form factor
- Radiation Tolerant

Product



Block Diagram



Source: <https://ieeexplore.ieee.org/document/9843239>

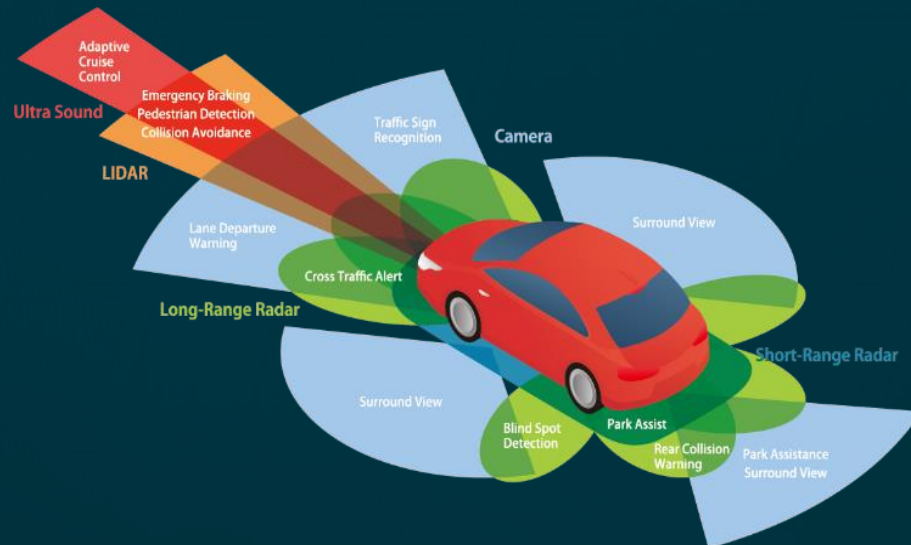
4 to 1 Image Sensor Aggregation

CrossLink-NX in Automotive

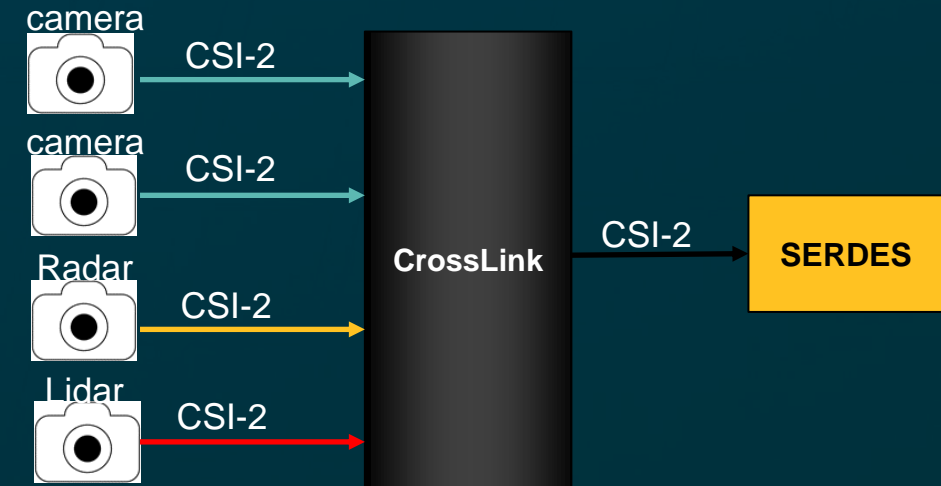
Background

- **Application:** 4 to 1 Image Sensor Aggregation.
- Aggregate visual, Radar, and LiDAR sensors for environmental awareness with MIPI virtual channel aggregation

Product



Block Diagram



How Lattice Won

- Minimize automotive cabling.
- Low power consumption.
- Scalable reference designs from 1:1 to 5:1.
- Availability of D-PHY and CSI-2 IP

Lattice mVision Design Example

CrossLink-NX sensor aggregation

Background

Application:	VR Headset
Socket Function:	Sensor Aggregation
Key Customer Requirements:	<ul style="list-style-type: none">• Performance• Ease of Use

How Lattice Won

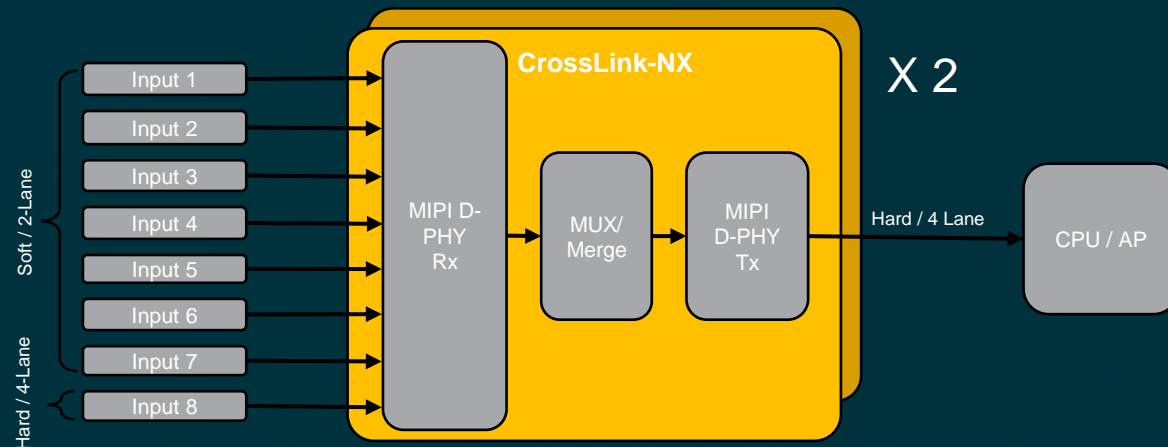
Lattice Advantages:

- Ready-to-go solution to speed custom development.
- Lattice mVision solution stacks and reference design with ready-made MIPI CSI-2 / DSI PHY IP cores

Product



Block Diagram



Nexus-based Low Power Silicon

CrossLink-NX



Embedded Vision Processing

10 Gbps Embedded MIPI D-PHYs

Optimized Low Power Architecture

Automotive AEC-Q100 qualified parts available

Certus-NX



General Purpose Processing

Compact Size with PCIe & GigE

Lowest Power & Smallest Package with 5 Gbps PCIe

Highest number of I/O in a given form-factor

CertusPro-NX

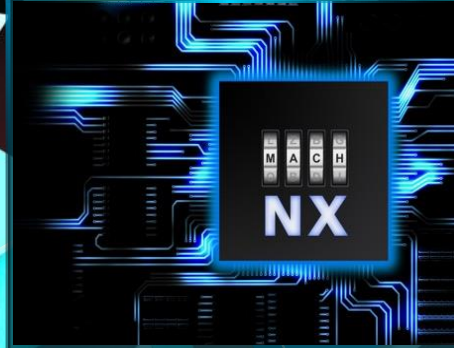


Advanced General Purpose FPGA

Highest Logic Density Nexus FPGAs

Best in class power efficiency, system bandwidth, and memory capabilities

Mach-NX



Next Gen Hardware Security

Cyber Resilient System Control

Dynamic End-to-End Firmware Protection

Robust Standards & Protocol Compliance

MachXO5-NX



Advanced Secure Control FPGA

High density, high IO for complex system control

Secure bitstream with authentication, encryption, embedded flash memory

Lattice Software Solutions

LATTICE
sensAI™

LATTICE
Sentra™

LATTICE
mVision™

LATTICE
ORAN™

LATTICE
Automate™

LATTICE
Drive™



LATTICE
RADIANT™
DESIGN SOFTWARE

LATTICE
PROPEL™



LATTICE
DIAMOND™
DESIGN SOFTWARE

LATTICE SOFTWARE SOLUTIONS
REDUCES TIME-TO-MARKET

More Resources Available

Sales Resources

- Sales Toolbox – Presentations by marketing team for customers
- Channel Partners – Resources for Distribution Channel

Lattice Insights On-demand Trainings

- Video Connectivity Product Line Overview (21 Min)
- General Purpose Product Line Overview (54 Min)
- Control & Security Product Line Overview (1 Hr 13 Min)
- Developing with Radiant: Fundamentals (2Hrs 41 Min)
- Developing with Propel: Fundamentals (1Hr 12 Mins)



Certus-NX/CertusPro-NX

- Reference Design
- Example Use Cases
- Documentation

Crosslink-NX

- Reference Design
- Example Use Cases
- Documentation

Mach-NX/MachXO5-NX

- Reference Design
- Example Use Cases
- Documentation