

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported)
December 10, 2019

Lattice Semiconductor Corporation

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation)

000-18032
(Commission File Number)

93-0835214
(IRS Employer
Identification No.)

5555 NE Moore Court
Hillsboro, OR 97124
(Address of principal executive offices, including zip code)

(503) 268-8000
(Registrant's telephone number, including area code)

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class
Common Stock, \$.01 par value

Trading Symbol
LSCC

Name of each exchange on which registered
NASDAQ Global Select Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act (17 CFR 230.405) or Rule 12b-2 of the Exchange Act (17 CFR 240.12b-2).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 7.01. Regulation FD Disclosure.

On December 10, 2019, Lattice Semiconductor Corporation (“Lattice”) held a previously announced meeting with investors, analysts, customers and supply partners in San Jose California (“Lattice Nexus Product Launch”), and made the Lattice Nexus Product Launch meeting publicly available via webcast for investors and the general public. At the Lattice Nexus Product Launch, management made presentations concerning Lattice’s new product and product roadmap, among other topics.

Attached as an exhibit is the Lattice Nexus Product Launch presentation. The presentation and a recording of the webcast may also be found on Lattice’s Investor Relations website, <http://ir.latticesemi.com/>.

The presentation also includes forward-looking statements and cautionary statements identifying important factors that could cause actual results to differ materially from those anticipated.

The information in Item 7.01 of this report is furnished and shall not be treated as filed for purposes of the Securities Exchange Act of 1934, as amended.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	Lattice Nexus Product Launch Presentation

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

LATTICE SEMICONDUCTOR CORPORATION

By: /s/ Byron W. Milstead
Byron W. Milstead
Corporate Vice President, General Counsel and Corporate Secretary

Date: December 10, 2019

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
99.1	Lattice Nexus Product Launch Presentation

THE LOW
POWER
LEADER

Safe Harbor

Forward Looking Statements

We may make projections or other forward-looking statements regarding future events during our presentation today. We caution you that such statements are predictions based on information that is currently available and that actual results may differ materially. We refer you to the documents that the company has filed with the SEC including our 10-K, 10-Qs and 8-Ks. These documents identify important risk factors that could cause actual results to differ materially from those contained in our projections or forward-looking statements.

General Notice-Trademarks

Lattice Semiconductor Corporation, Lattice Semiconductor (& design) and specific product designations are either registered trademarks or trademarks of Lattice Semiconductor Corporation or its subsidiaries in the United States and/or other countries.

Spartan is a registered trademark of Xilinx, Inc. and Cyclone is a registered trademark of Intel Corporation in the United States and/or other countries.

Solid Progress Over the Past Year

FOCUSED STRATEGY



100% Focus on FPGA

RE-ENERGIZED TEAM



New Leadership Team;
Revitalized Culture

SOLUTION INNOVATION



Application Focused
Innovation

PROFIT EXPANSION



2x Growth in Profit
5x Growth in Cash Flow

INCREASED INVESTMENT



Increasing Investment in
New Devices and Solutions

STRONGER ROADMAP



Faster Cadence;
High Fidelity Execution

Note: Net profit and cash flow expansion based on non-GAAP results from Q1 thru Q3 2019 compared to Q1 thru Q3 2018

New Products Over the Next 12 Months



sensAI 2.0

New AI Capabilities

LAUNCH DATE
MAY 20, 2019



MachXO3D

Robust Platform Security

LAUNCH DATE
MAY 20, 2019



CrossLinkPlus

Enhanced Video Bridging

~~Sampling in H2 2019~~

Q3 2019



Next Generation

Next Generation FPGA Platform

~~Sampling early 2020~~

Today

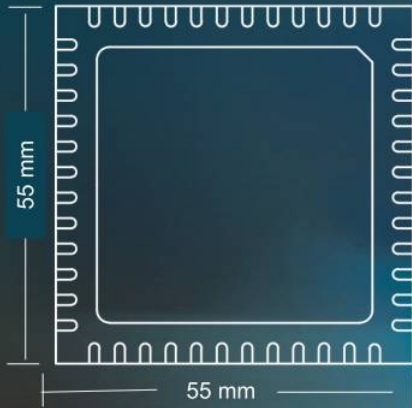
Our Mission

The Low Power Programmable Leader

Lattice's Focus: Low Power, Small Size

OTHER FPGA COMPANIES

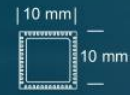
Focused on Large, High Power Devices
for Data Center Compute



~200 W With Heat Sink



Focused on Low Power,
Smaller Form Factors



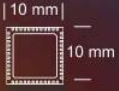
~1 W
(Small)



~1 mW
(Smallest)

Addressing Applications Where
Power Efficiency & Small Size are Important

Solving Problems at the Edge



~1 W
(Small)



~1 mW
(Smallest)



AI & IoT

AI Inferencing at the Edge



VIDEO

Embedded Vision



SECURITY

Hardware Platform Security



5G INFRASTRUCTURE

Control & Management



AUTOMATION

Precision Robotic Motor Control

Introducing Our New Low Power FPGA Platform



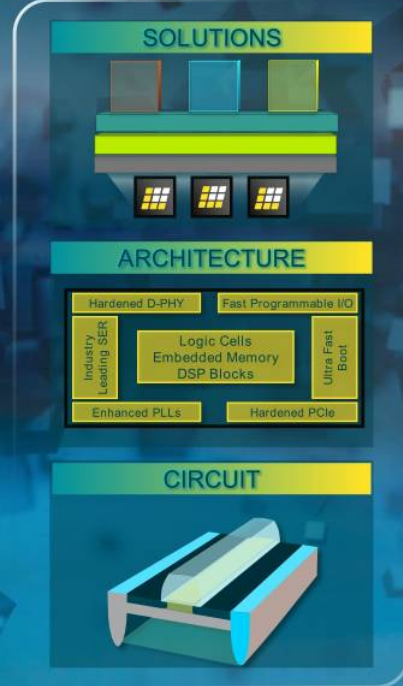
LATTICE **NEXUS**

Introducing Our New Low Power FPGA Platform



LATTICE NEXUS

LATTICE INNOVATION

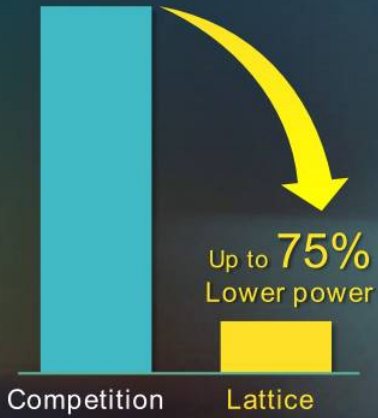


Lattice Nexus is Changing the Landscape



POWER

Operating Power Consumption



PERFORMANCE

Video Connectivity



RELIABILITY

Soft Error Rates



Bringing Lattice Nexus Across All our Key End Markets

COMMUNICATIONS



COMPUTE



INDUSTRIAL



AUTOMOTIVE



CONSUMER



5G Wireless

Switches/Routers

Servers

Client

Industrial IoT

Factory Automation

ADAS

Infotainment

Smart Home

Wearables

\$3B Lattice Market Opportunity

LATTICE NEXUS

- Low power leadership
- Edge computing ready
- Robust and reliable
- Smallest form factor
- Faster innovation cadence



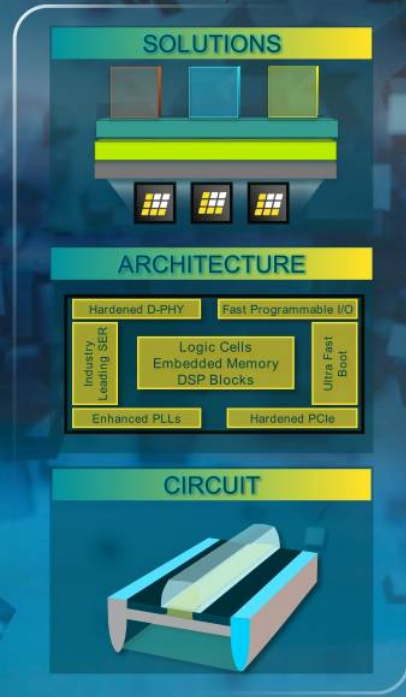
Steve Douglass
Corporate Vice President,
R&D

Introducing Our New Low Power FPGA Platform



LATTICE NEXUS

LATTICE INNOVATION



Circuit Innovation

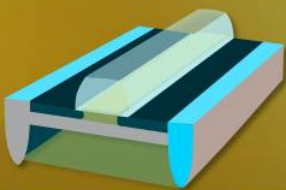
SOLUTIONS



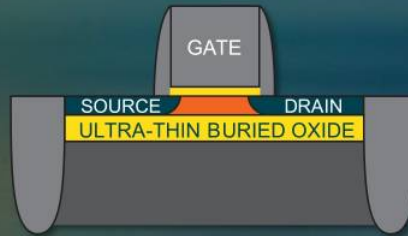
ARCHITECTURE



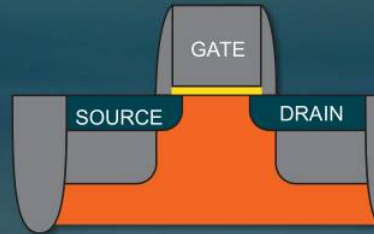
CIRCUIT



LATTICE NEXUS ON FDSOI



TRADITIONAL FPGA ON BULK



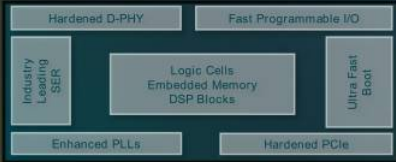
- Greatly reduces transistor leakage and susceptibility to soft errors
- FDSOI leverages bulk CMOS process and has fewer processing steps
- In high volume production today

Circuit Innovation

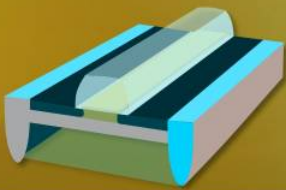
SOLUTIONS



ARCHITECTURE

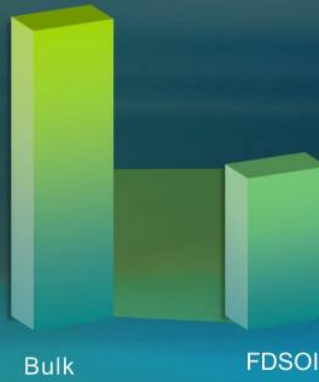


CIRCUIT



POWER

Static Power



Half
The Power

RELIABILITY

Soft Error Rate



100x
Lower SER

Circuit Innovation

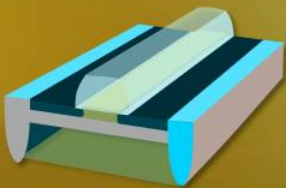
SOLUTIONS



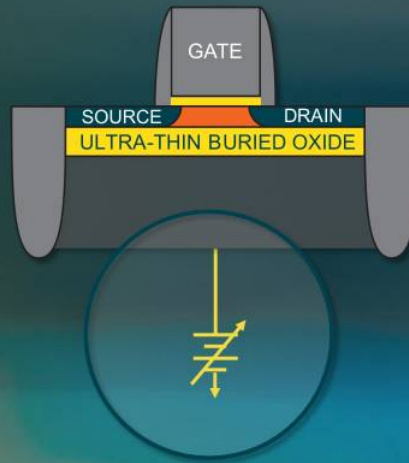
ARCHITECTURE



CIRCUIT



PROGRAMMABLE BODY BIAS



Allows customers to optimize for both:

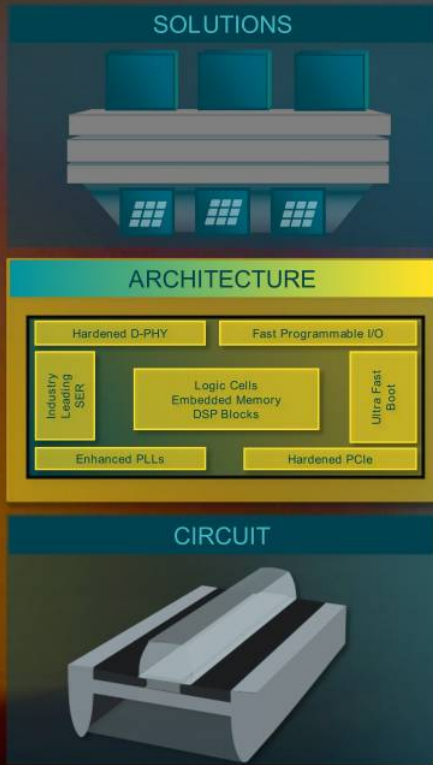


HIGHER PERFORMANCE

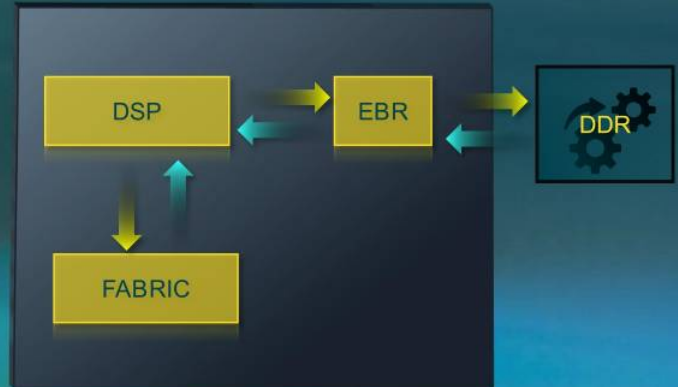


LOWER POWER

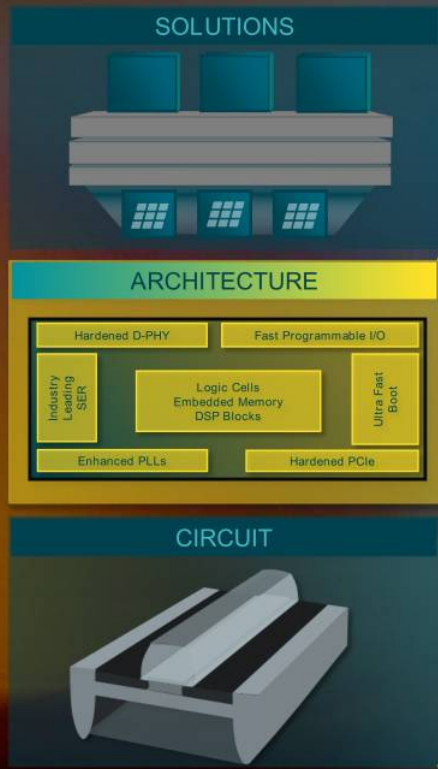
Architecture Innovation



OPTIMIZED FOR POWER EFFICIENT COMPUTING



Architecture Innovation



OPTIMIZED FOR POWER EFFICIENT COMPUTING



2x
Faster Performance

Half
The Power

Note: Performance and power relative to Lattice prior genera

Human Presence Detection Demo



KEY APPLICATIONS



Industrial safety



Security cameras



Client compute



Smart doorbells

OVERVIEW

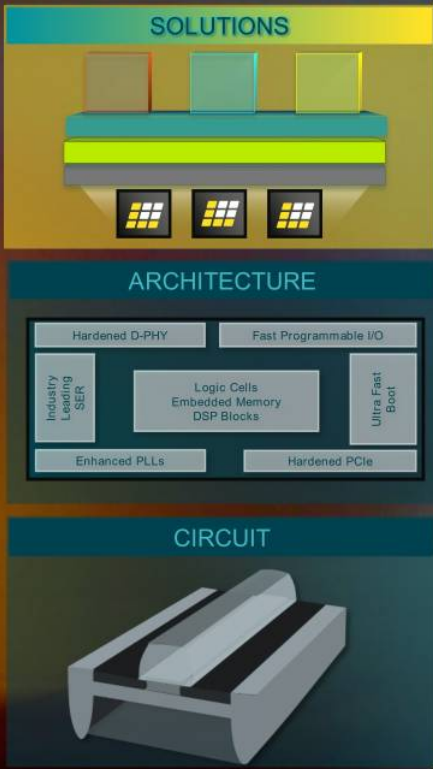
What You Are Seeing

Human presence detection with bounding boxes around upper body implemented with our first Lattice Nexus based device.

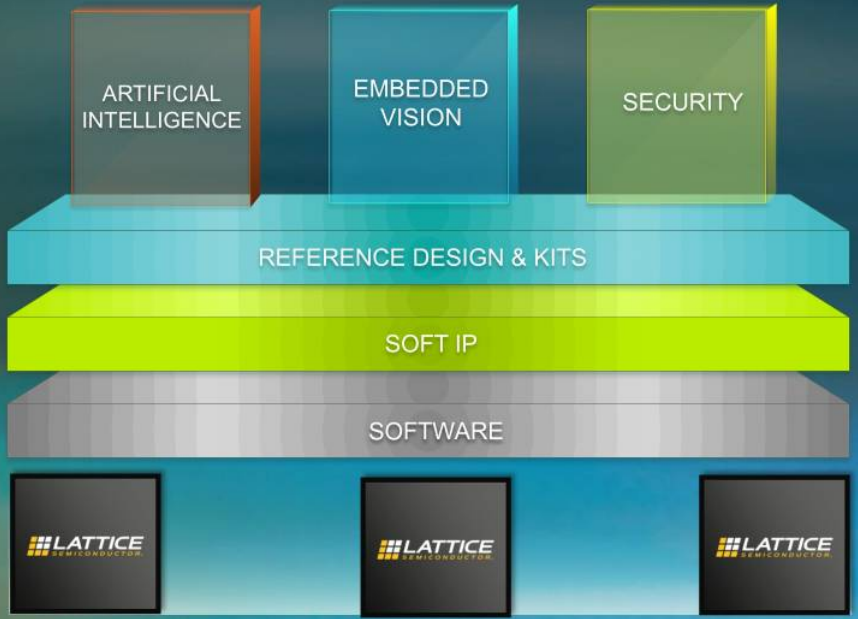
Why It Matters

Human presence detection is a common AI use case in many Edge applications including security cameras, client compute, factory automation, and automotive.

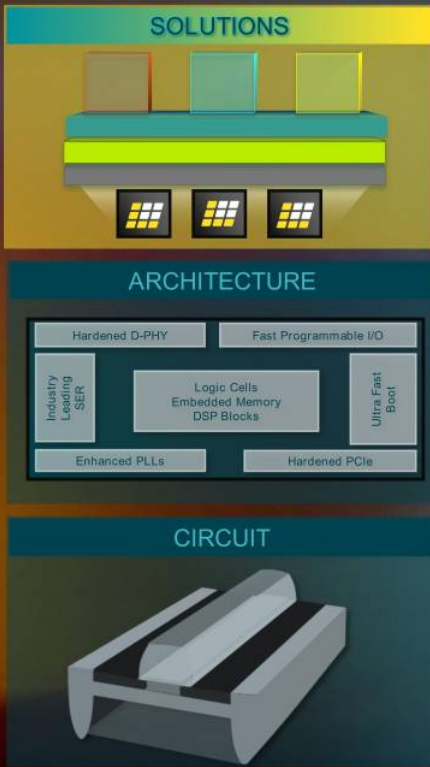
Solutions Innovation



APPLICATION FOCUSED SOLUTIONS



Solutions Innovation



APPLICATION FOCUSED SOLUTIONS

EMBEDDED VISION

SENSOR BRIDGING



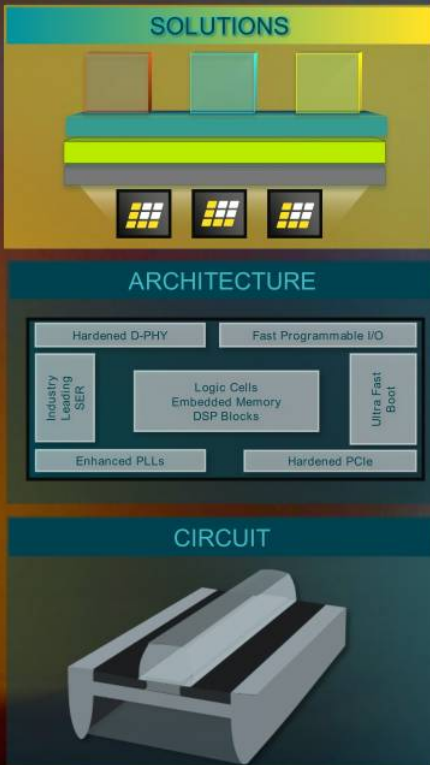
SENSOR AGGREGATION



IMAGE PROCESSING



Solutions Innovation



APPLICATION FOCUSED SOLUTIONS

EMBEDDED VISION

SENSOR BRIDGING



SENSOR AGGREGATION



IMAGE PROCESSING



Camera Aggregation Demo



KEY APPLICATIONS



AR / VR



Drones



ADAS



Robotics

OVERVIEW

What You Are Seeing

MIPI CSI-2 data streams from 4 cameras are aggregated into a single data stream, bridged to parallel data and displayed in a single HDMI out.

Why It Matters

Number of sensors are increasing, and the application processors have limited MIPI inputs.

Number of screen sizes and resolutions are increasing.

Need solution that can aggregate data streams from multiple image sensors in applications such as ADAS, drones, AR/VR, robots etc.

Introducing Our New Low Power FPGA Platform



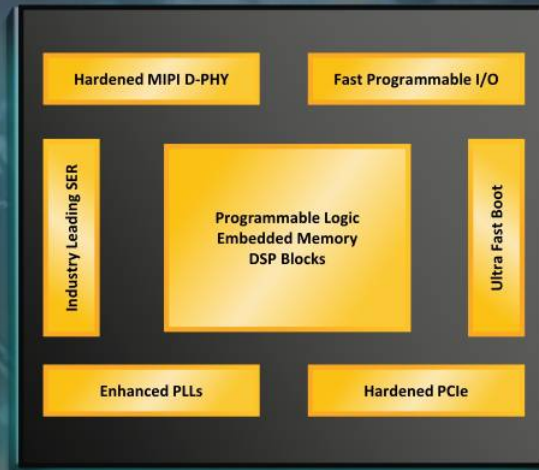
LATTICE NEXUS



Introducing Lattice CrossLink-NX



Introducing Lattice CrossLink-NX



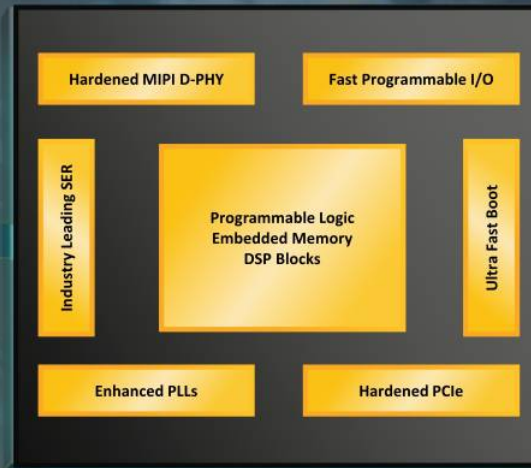
A Closer Look at CrossLink-NX

PROGRAMMABLE LOGIC CORE

- Low power mode
- High performance mode
- High embedded memory count
- Optimized DSP blocks

DEDICATED INTERFACES

- 8 D-PHY lanes @ 2.5 Gbps
- One lane PCIe @ 5 Gbps



FAST PROGRAMMABLE I/O

- Up to 12 MIPI D-PHY interfaces @ 1
- LVDS, subLVDS, SGMII
- DDR3 @ 1066 Mbps
- Up to 192 total I/O

INSTANT-ON

- 3 ms I/O configuration
- 14 ms device configuration

Enhanced for Customer Needs: Power Efficiency, Performance, Reliability



Esam Elashmawi
Chief Marketing &
Strategy Officer

Customer Engagement



LOW POWER



HIGH PERFORMANCE



HIGH RELIABILITY



Solving the Power Challenge

LOW POWER



HIGH PERFORMANCE



HIGH RELIABILITY



POWER IS KEY TO SOLVE

PORTABLE & AUTONOMOUS CHALLENGES

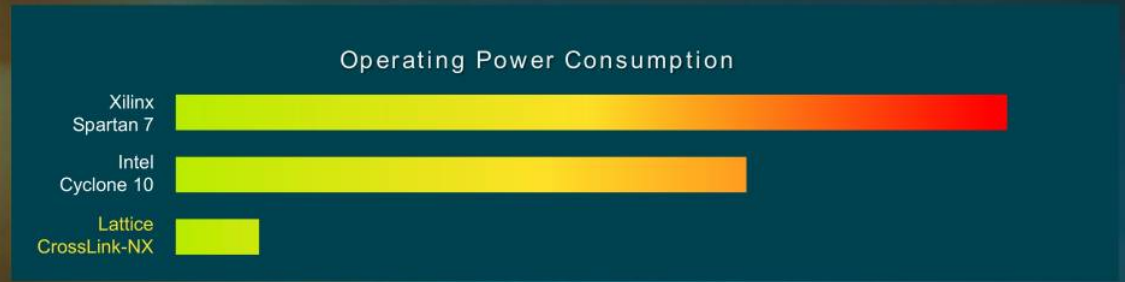


SYSTEM & OPERATING COSTS

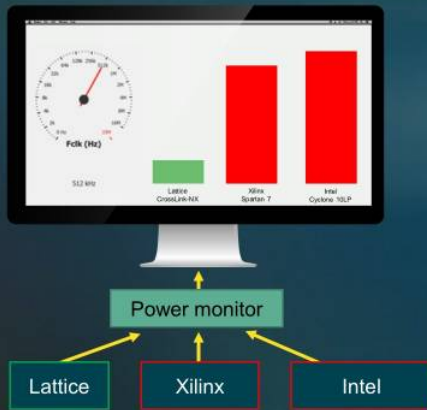


LOWEST POWER FPGA ...

Up to 75% lower power compared to competition



CrossLink-NX Low Power Demo



OVERVIEW

What You Are Seeing

Power consumption for Lattice CrossLink-NX 40 running a typical design compared with Xilinx Spartan 7 (XC7S50) and Intel Cyclone 10LP (10CL025).

Why It Matters

- Simplifies thermal management
- Improves operating costs
- Extends battery life

KEY APPLICATIONS



Solving the Performance Challenge

LOW POWER



HIGH PERFORMANCE



HIGH RELIABILITY



PERFORMANCE IS KEY TO SOLVE

USER EXPERIENCE



PERFORMANCE FOR AI



ENHANCED PERFORMANCE FEATURES

Fastest display connection

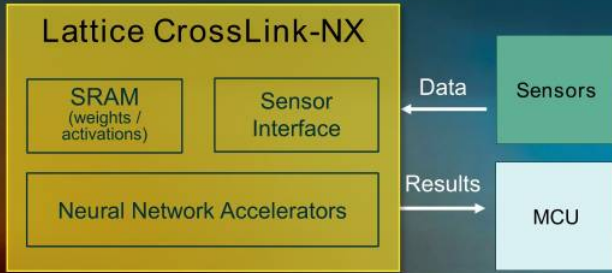


Optimized for power efficient computing

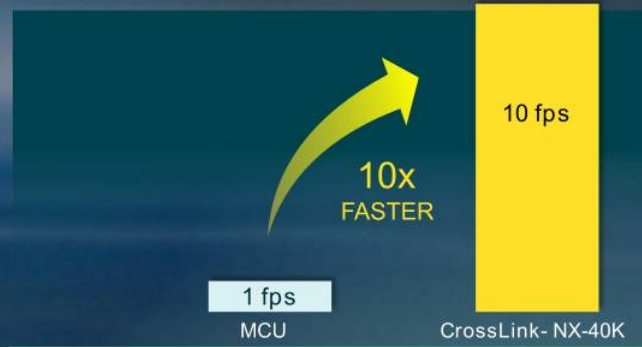


sensAI Application Example: Retail Security Camera

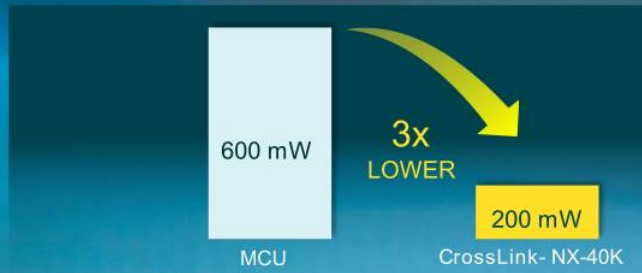
ALWAYS-ON HUMAN COUNTING



PERFORMANCE



POWER



Instant-on

LOW POWER



HIGH PERFORMANCE



HIGH RELIABILITY



PERFORMANCE IS KEY TO SOLVE

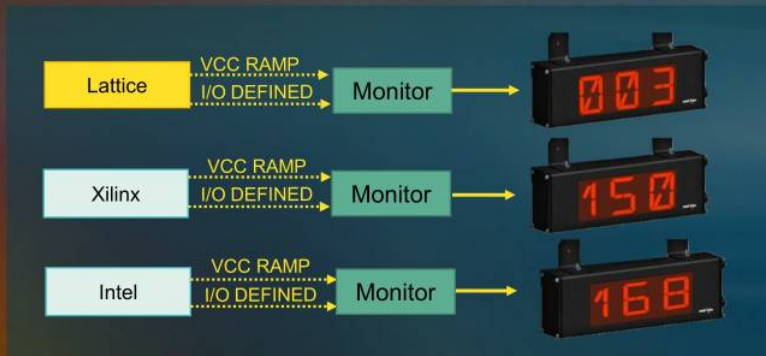
INCREASED DEMAND FOR INSTANT-ON APPLICATIONS



UP TO 50X FASTER



Demo: CrossLink-NX Instant-on Demo



OVERVIEW

What You Are Seeing

Time for device to self configure I/O to a user defined state for Lattice CrossLink-NX-40 compared with Xilinx Spartan 7 (XCS7-50) and Intel Cyclone 10LP (10LP025).

Why It Matters

“Instant-on” I/O configuration is important for applications such as LED drivers, motor control and board housekeeping.

Reduces complexity, cost, and power dissipation in customer systems.

KEY APPLICATIONS



Motor Control



Human Machine Interfaces



ADAS

Note: based on competition's evaluation boards running at similar frequencies

Solving the Reliability Challenge

LOW POWER



HIGH PERFORMANCE



HIGH RELIABILITY



RELIABILITY IS KEY TO SOLVE

CRITICAL SAFETY & RUGGEDIZED



SYSTEM UP TIME



MOST RELIABLE FPGA FOR RUGGEDIZED APPS

Temperature Ranges



Suitable for:
OUTDOOR | AUTOMOTIVE | INDUSTRIAL | AVIONICS

Soft Error Rates (FIT)



FIT (Failure In Time) (1B device)
* Based on Xilinx published data

Small Size Matters





WAYMO





LATTICE
SEMICONDUCTOR.
CrossLink-NX

Engaged with > 65 customers

Early Access Program with 30+ customers


Solutions available today




Jim Anderson
President, Chief Executive
Officer

The Lowest Power FPGA Platform

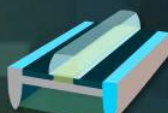
SOLUTIONS



ARCHITECTURE



CIRCUIT



LATTICE NEXUS



LOW P



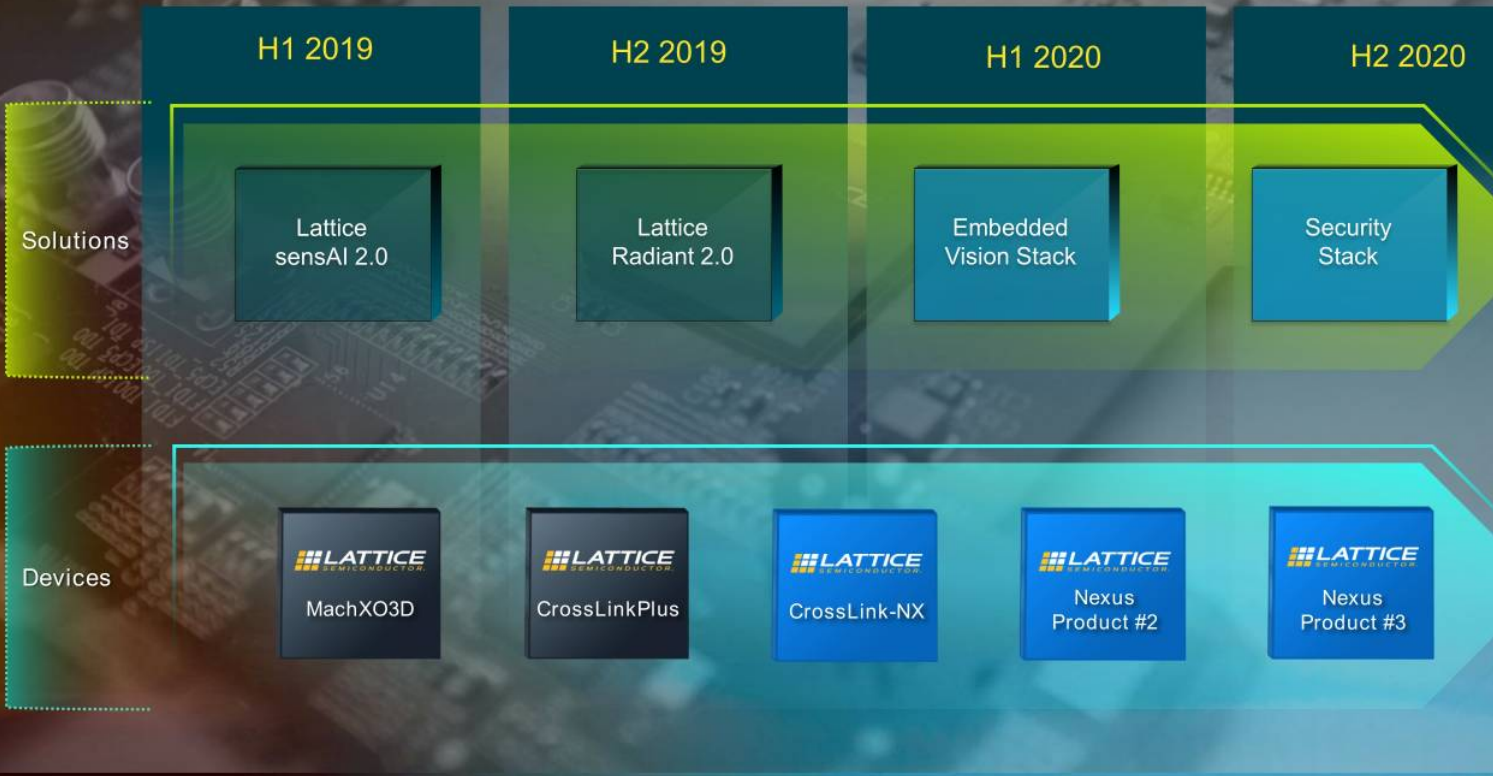
HIGH PER



HIGH REL



Faster Cadence of New Devices and Solutions



LATTICE NEXU



CrossLink-NX



The Low Power Programmable Leader

