Siemens EDA

Engineer a smarter future faster

SIEMENS

As a focused technology company, we empower our customers to transform their industries and markets, helping them to transform the everyday

303,000
employees[1]

€62.3 bn
in revenue[2]

€6.7 bn
in net income[3]

15.0%
adjusted EBITA margin for the Industrial Businesses[2]

1 As of September 30, 2021 | **2** For fiscal 2021 | **3** Continuing and discontinued operations

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Siemens Digital Industries Software is a leader by any measure

TOP RANKED

#1

industrial software
for the digital enterprise

EXPANDING ECOSYSTEM

220k+

Ecosystem
developers

REVENUE

$4.2B

DI SW, 2020

>60%

Recurring revenue

FORTUNE MAGAZINE

Most admired

industrial company

M&A INVESTMENT

€11B

Since 2007

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Siemens Digital Industries Software continues to expand its portfolio with huge investment to combine the real world with the virtual world

> **€11 billion investment**

12,700 software engineers are shaping the digital transformation

Virtual world
Software

Industrial software #1

Real world
Automation

Automation #1

mendix

ESTEQ

profpga

Nextflow Software

Supplyframe

Mentor Graphics

CULGI

timeseries

COMSA

onespin

FRACTAL Technologies

Bentley
Advancing Infrastructure

LIGHTWORKS

POLARION

AVATAR Integrated Systems

SAAB

ultraSOC

IBS

LMS

CD-adapco
www.cd-adapco.com

tass International
A Siemens Business

VISTAGY   CAMSTAR

Selection of acquisitions

innotec
innovation worldwide

UGS
The PLM Company

2007

2021

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Siemens EDA is aggressively strengthening its portfolio with key acquisitions
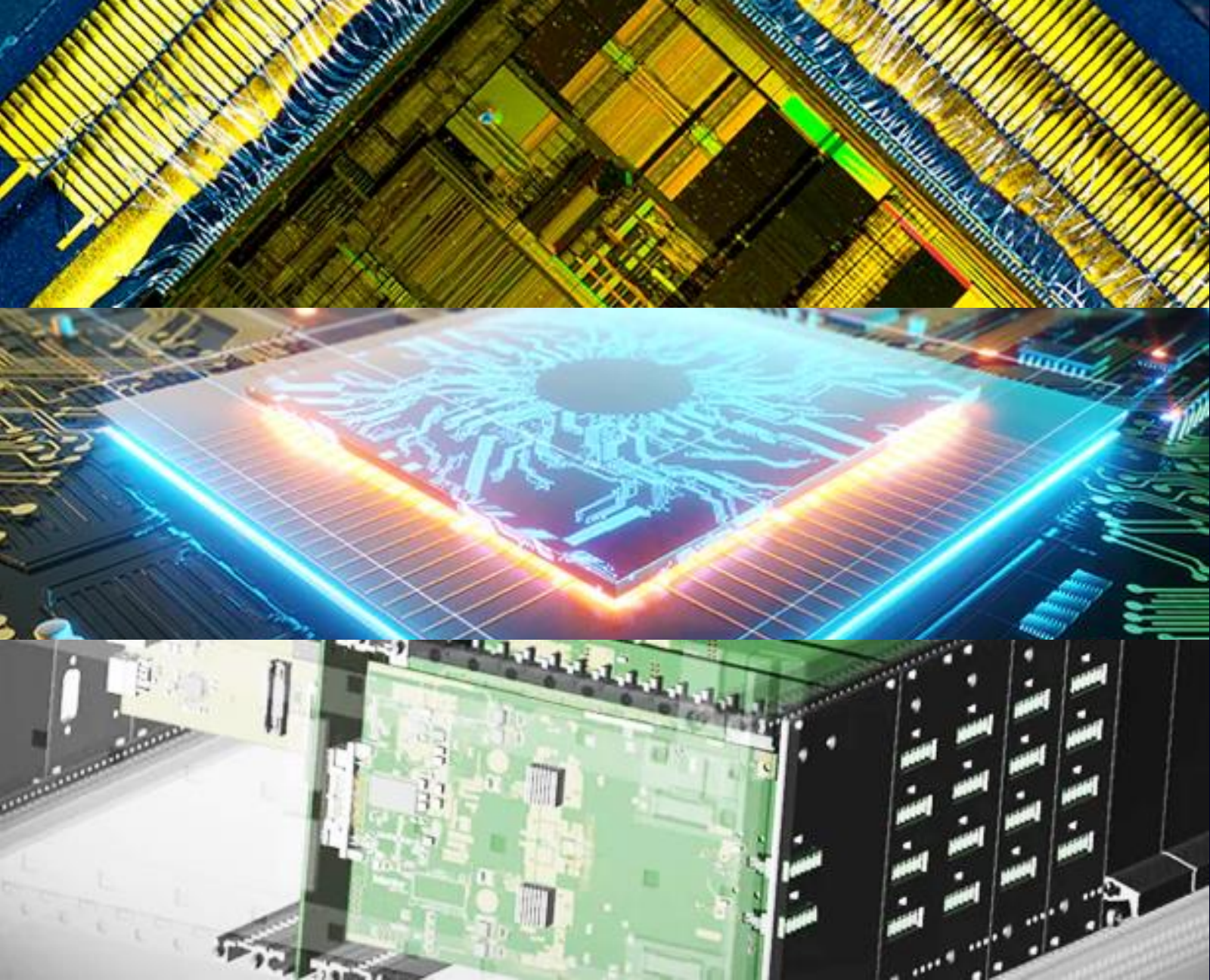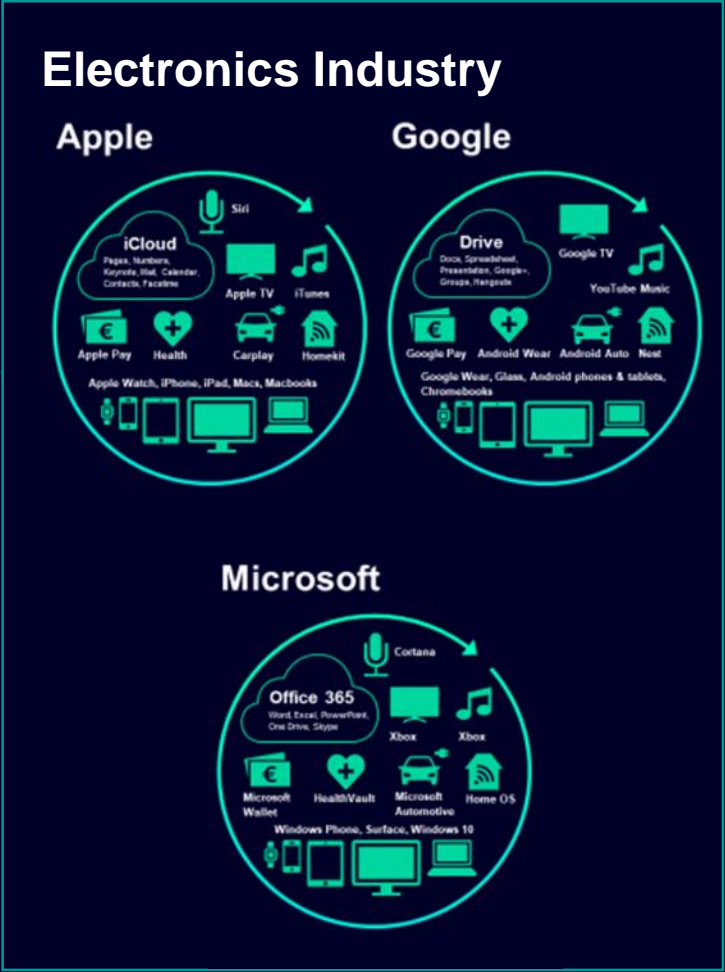## Significant increase in R&D and M&A investments in select technologies

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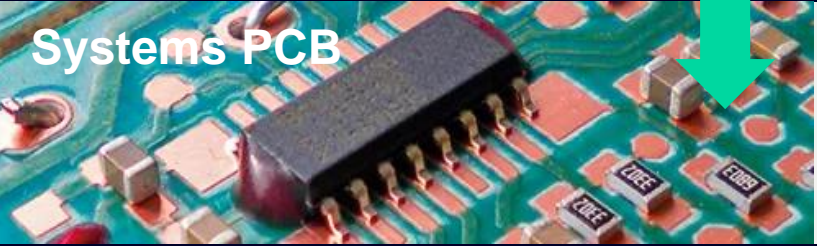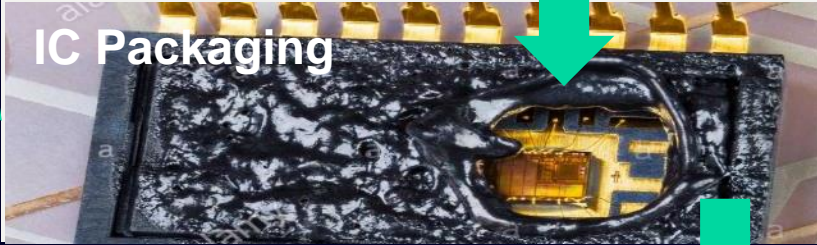
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Engineer a smarter future faster…

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What we do and what our customers do

EDA

Semiconductors

IC Packaging

Systems PCB

Electronics Industry

Apple

Google

Microsoft

SIEMENS
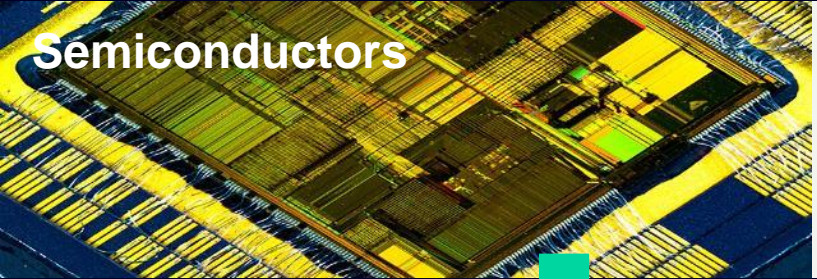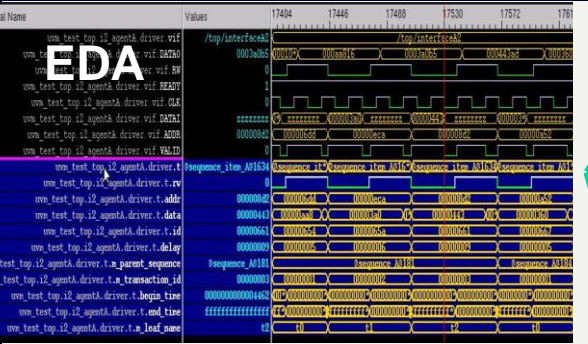
Next-generation systems design platform

Digitally integrated & optimized

Engineering productivity & efficiency

Digital prototype-driven verification

System-level model-based engineering

Supply-chain resilience

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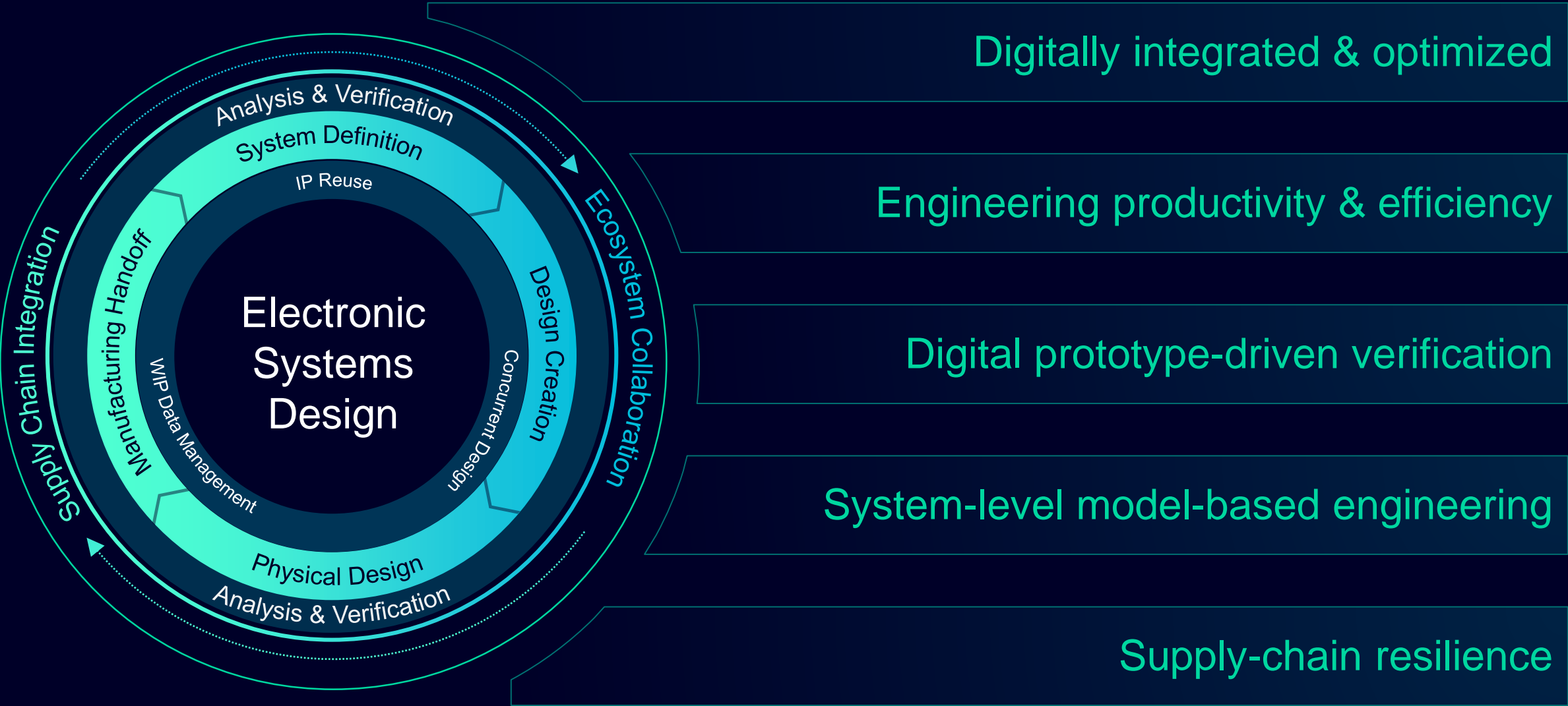
Assuring IC integrity

Targeting critical hardware verification challenges

Functional Correctness

Rigorous coverage-driven functional verification from block to chip, leveraging formal technology

Safety

Automated FMEDA flow requiring minimal fault simulation
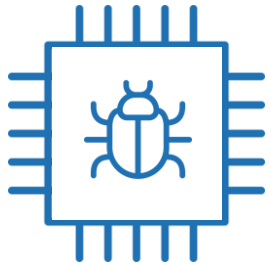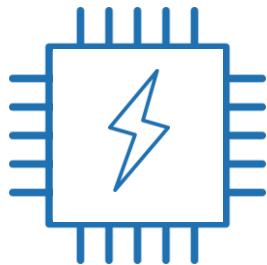

Trust and Security

Automated detection of RTL Trojans and hardware vulnerabilities to adversary attacks

RISC-V

Proof of compliance to instruction set architecture (ISA) with no gaps or inconsistencies

RISC-V

OneSpin 360® Formal Platform

OneSpin Solutions and Services

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Siemens Embedded Solutions for RISC-V

Toolchain Services

GNU / GCC · **LLVM** COMPILER INFRASTRUCTURE · **OpenMP** Enabling HPC since 1997 · **OpenACC** · **RISC-V**

Offering
- Toolchain customization and optimization services
- Toolchain custom support services
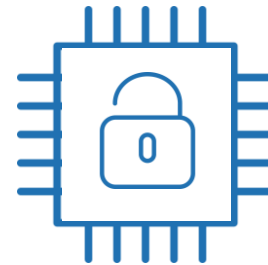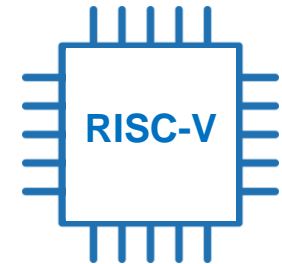
Unique value proposition
- GCC and LLVM open source complier framework expertise
- Deep expertise in heterogeneous multi-core and accelerator offload
- 20 years of OSS toolchain dev., upstreaming and support experience

Areas of expertise
- Super Computer / HPC Platform Enablement
- Toolchains for RISC-V customized processors
- High Performance Embedded Computing
- Long term support for safety critical applications

Embedded Linux®

- Both pre-built enterprise and highly customizable variants available
- Software customization and optimization services
- Support for the full life cycle of the device
- Rich graphics enablement
- Broad processor support
- Security monitoring

Flex OS
- Source code based Embedded OS
- Highly customizable
- Aligned with latest semiconductor company provided LTS Kernels

Omni OS
- Enterprise-class Embedded OS
- Pre-built Debian distribution
- Civil infrastructure platform kernel
- Compatible with Debian package feeds
- Real-time

Nucleus® Real Time Operating System

- Deployed in over 3 billion units shipped
- Portable & configurable, provided with source code
- Highly scalable, from 32 bit microcontrollers to 64 bit multicore SoC's
- Integrated with Embedded IoT Framework
- Advanced Multicore support: an IPC framework & hypervisor

Nucleus ReadyStart
- Extensive connectivity and middleware
- Integrated power management framework
- Process model
- Symmetric multi-processing
- Royalty free

Nucleus SafetyCert
- Certified to
  - IEC 61508 SIL3
  - IEC 62304 Class C
  - ISO 26262 Level D
- DO-178C Level A artifacts

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Tessent™ Embedded Analytics - at the forefront of RISC-V support
The first commercially available, standards-compliant and core independent RISC-V trace solution

EA Trace Encoder Features

Feature	Standard RISC-V	Tessent Embedded Analytics Trace Encoder
Trace	✓	✓
Filters	✓	✓
Counters	✗	✓
Timestamps	✓	✓
Comparators	✓	✓
GPIO	✗	✓
Security	✗	✓
Data trace	✗	✓
Interval timer	✗	✓
Tiered throttling	✗	✓
Message interfaces	✗	✓
Fast profiling mode	✗	✓
Multiple retirement	✓	✓
Implicit return mode	✗	✓
Whole system solution	✗	✓
Branch prediction	✗	✓
Cycle-accurate tracing	✗	✓

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Siemens EDA Solutions

IC Design and Verification **IC Packaging** **Electronic Systems**

To PLM and to analytics

Design Stage	IC Architectural Design	IC Logic Design	IC Logic Verification	IC Physical Design	IC Physical Verification	IC Manufacturing and Test	3D IC Packaging	Electronic Systems Design	Electronic Systems Verification	Electronic Systems Manufacturing
Solutions	C++ High-level Synthesis & Verification 3D IC	RTL Development Power Analysis & Optimization DFT SSN	AMS Verification Debug & Coverage Scalable HW Verification Formal Verification Hardware/Software Validation Power Analysis & Optimization Functional Safety	Digital Implementation Custom, Analog & MEMS IC Design Power Analysis & Optimization FPGA synthesis	IC Physical Verification DFM Optimization Functional Safety Hardware-based cybersecurity Built-in Self-test Functional Monitoring Power Integrity	DFM Optimization Yield Management ATPG Manufacturing Test	Advanced Packaging Design to Mfg. Solution 3D IC Design to Mfg. Solution	Multi-PCB systems Design Xcellerator as a Service for Electronics Supply chain	Signal integrity Power integrity Thermal analysis Mixed signal analysis	Manufacturability Analysis Manufacturing prep Supply chain

Tessent

Services	Methodology Services	Design Services	Managed Cloud Services	Learning Services

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VISIT US ON OUR BOOTH !!

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