VLSI to System design:
Silicon-to-end application approach

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Building your own SoC

VLSI to System design: Silicon-to-end application approach

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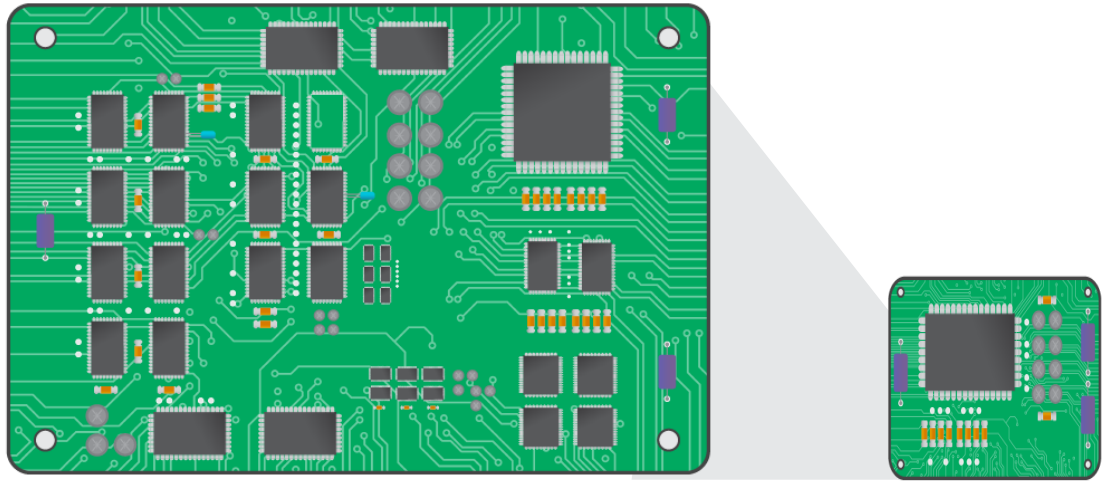
Benefits of your own SoC

Smaller size, lower power consumption and better features

From multiple devices to custom SoC



Benefits

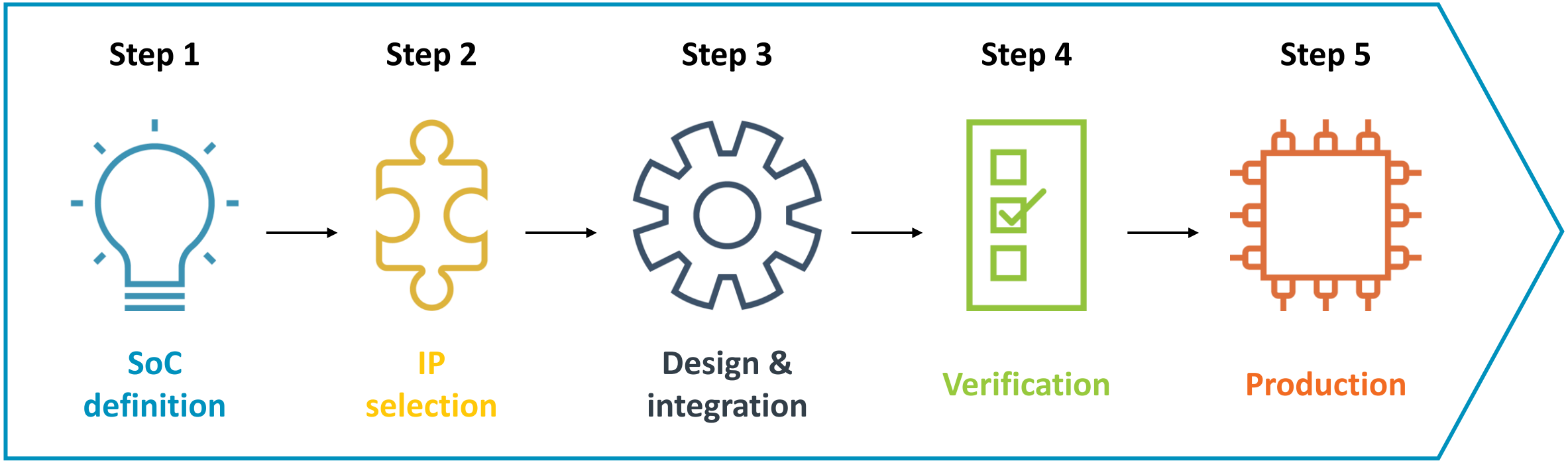
Increase margins by reducing

- Cost
- Complexity
- Size

Enhance designs with greater

- Efficiency
- Reliability
- Differentiation
- IP protection

From concept to silicon



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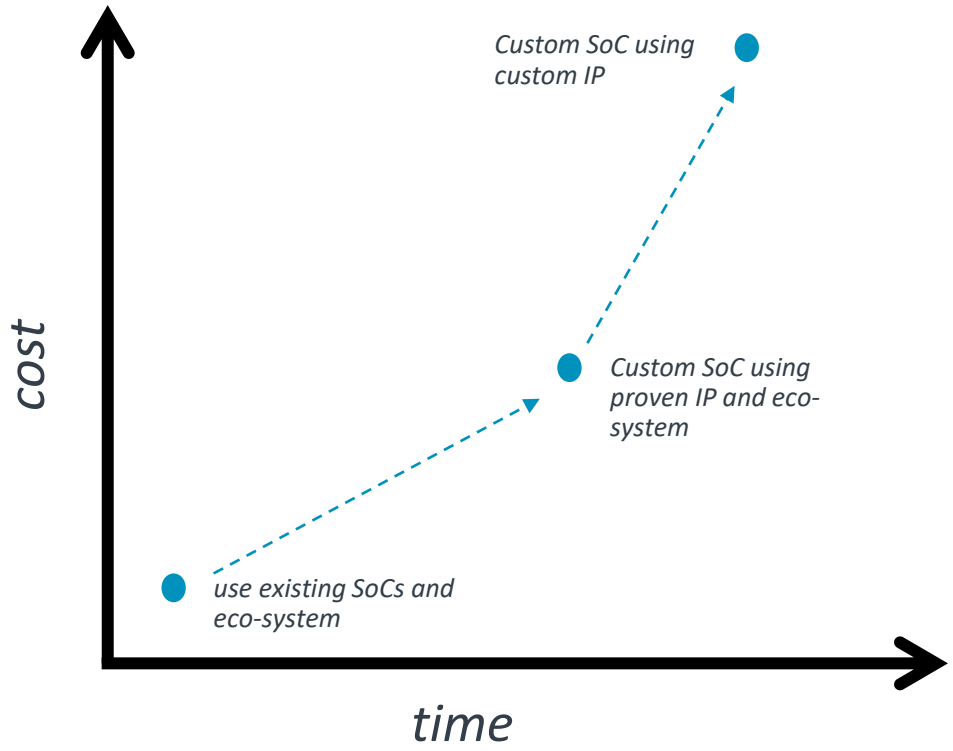
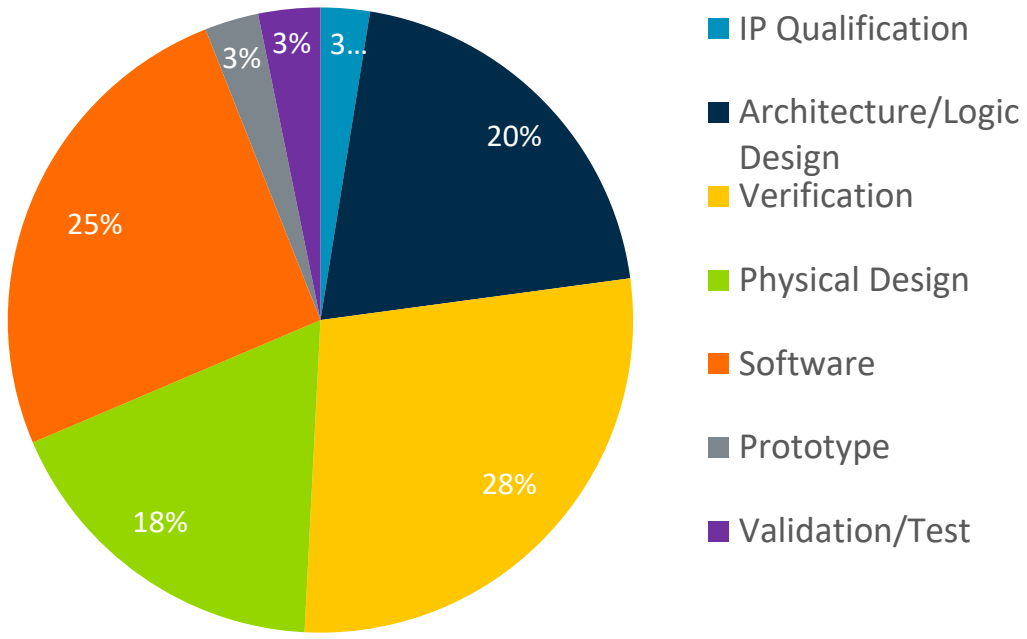
Understanding the costs

System architecture, verification, and software are the key drivers





*(Source: IoT Analytics)

Trend - Silicon technology is becoming more available

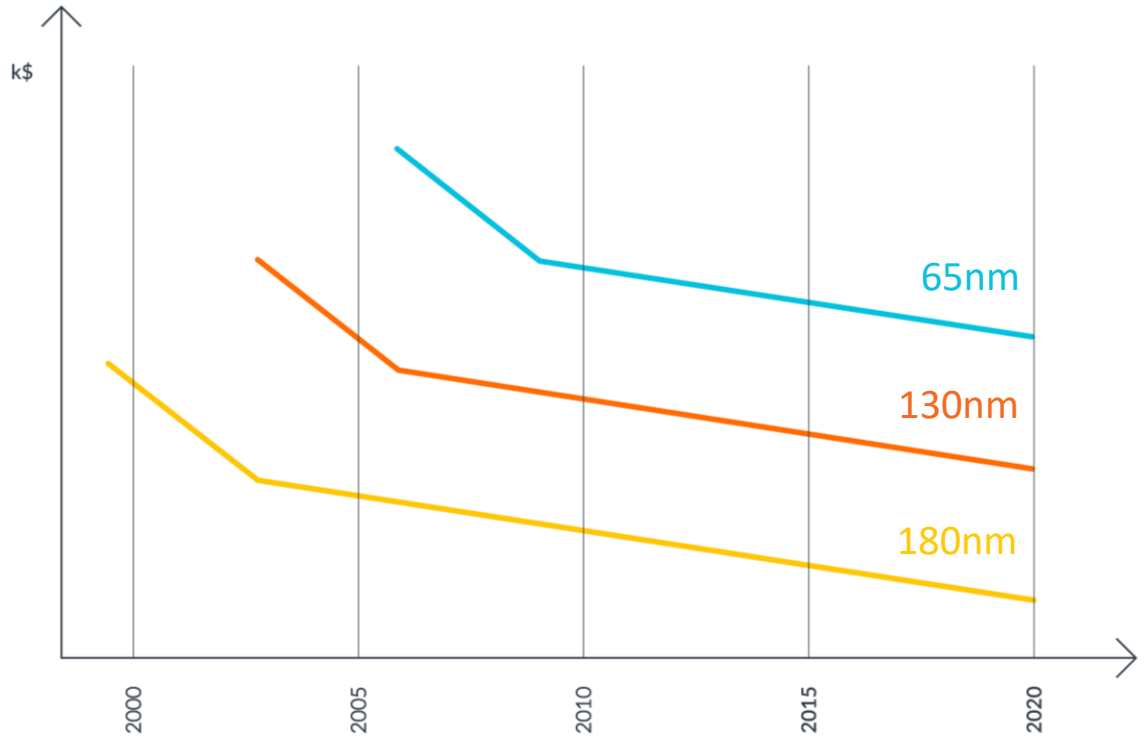
Mature silicon manufacturing processes are very cost-effective

Silicon technology availability

Previous generation technology nodes are becoming cheaper

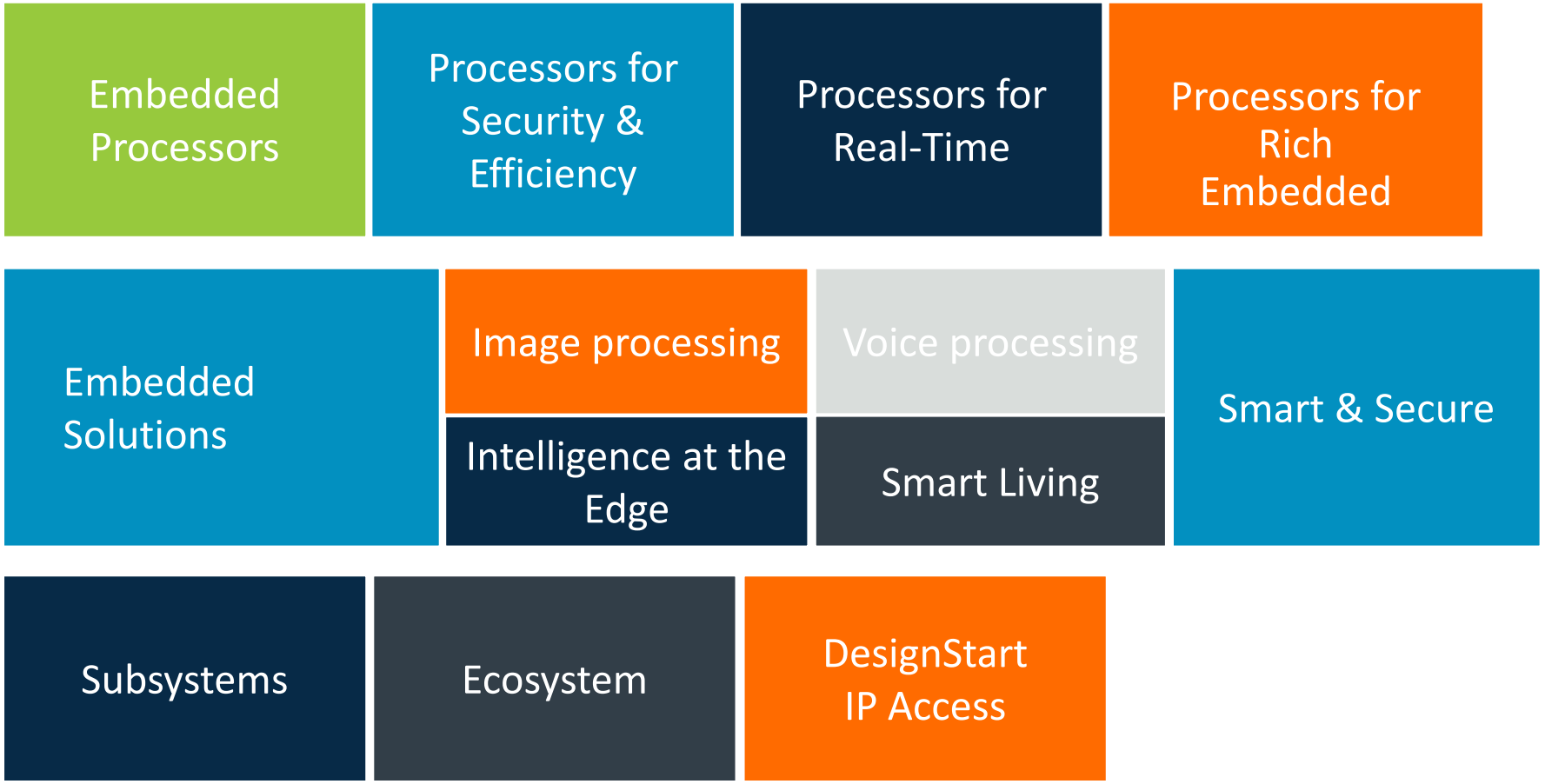
Access to valid technology nodes at compelling price is now possible

Business models like Multi-Product-Wafers (MPW)



Courtesy of IMEC

IP and Eco-system can help



Summary

- SoCs can enable differentiation
- Understanding the economics is key
  - SoCs can be expensive, difficult to build and take time
  - They can bring unique benefits
- Hardware is not everything – software eco-system matters
- Utilizing proven hardware and software IP can help you focus on what matters most to you

DAY 1 - (31st July - Monday, 1:45 PM to 6:45 PM IST)	
VLSI Introduction, Digital Design and Architecture	
Inauguration	1:45 PM
Building your own SoC	2:35 PM
VLSI Introduction: Idea to product flow	2:50 PM
Break	4:15 PM
SoC Design and Architecture	4:25 PM
EDA Tools : Digital Design and Architecture	5:55 PM
Closing Session	6:40 PM
DAY 2 - (1st August - Tuesday, 2:00 PM to 6:45 PM IST)	
VLSI Verification and Tools	
IP Parameterization Options and Selection	2:00 PM
VLSI Verification : Introduction to deep concepts	2:30 PM
Quiz 1	4:00 PM
Break	4:15 PM
VLSI workshop on System Validation	4:25 PM
EDA tools : Verification	5:40 PM
Quiz 2	6:25 PM
Closing Session	6:40 PM
DAY 3 - (2nd August - Wednesday, 2:00 PM to 7:00 PM IST)	
VLSI : Design for Test, Physical Design and Validation	
VLSI Design for Test	2:00 PM
Design for Test EDA Tools	3:30 PM
Quiz 3	4:00 PM
Break	4:15 PM
Physical Design and Signoff	4:25 PM
EDA Tools for physical design and verification	5:40 PM
SoC Post Silicon Validation	6:20 PM
Quiz 4 and Closing Session	6:50 PM

DAY 4 - (3rd August - Thursday, 2:00 PM to 6:50 PM IST)	
Silicon to System design	
Silicon for Embedded systems: An overview	2:00 PM
Embedded Systems : New innovations in MCU peripherals	2:45 PM
STM32CubeIDE : Easy to use Tools for getting into Embedded systems	3:30 PM
Quiz 5	4:15 PM
Break	4:30 PM
Live walkthrough to STM32CubeIDE	4:40 PM
New features and Innovations in Debugging tools	5:25 PM
Quiz 6 and Closing Session	6:40 PM
DAY 5 - (4th August - Friday, 2:00 PM to 6:00 PM IST)	
Industry 4.0	
Industry 4.0 : Enabling smart systems	2:00 PM
Sensors and Automation	2:45 PM
Real Life usecase : A Practical approach to Digital power conversion applications like EV, Battery Chargers	3:30 PM
Quiz 7	4:15 PM
Break	4:30 PM
Real Life use cases : Factory automation and Motor control solutions	4:40 PM
Closing Ceremony	5:30 PM

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