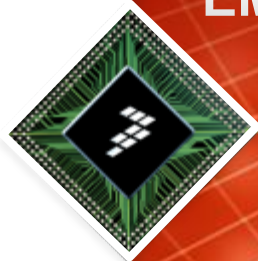




# [Freescale.com/ebs](http://Freescale.com/ebs)

Your Single Source of  
Embedded Board Information

**Jean-Louis Dolmeta**  
**EMEA i.MX Marketing Manager**



July 2012

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# Agenda

- **Market Dynamics Shaping Freescale's Embedded Board Solutions Initiative**
- **Embedded Board Solutions based on ARM<sup>®</sup> technology**
- **i.MX Industrial Solution**
- **Conclusion**



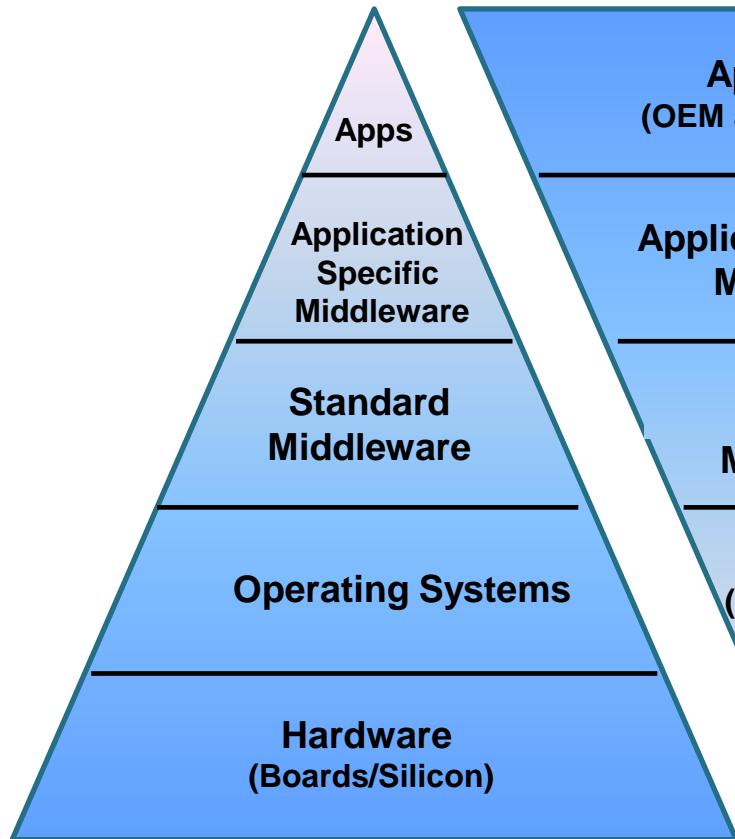
# Market Dynamics



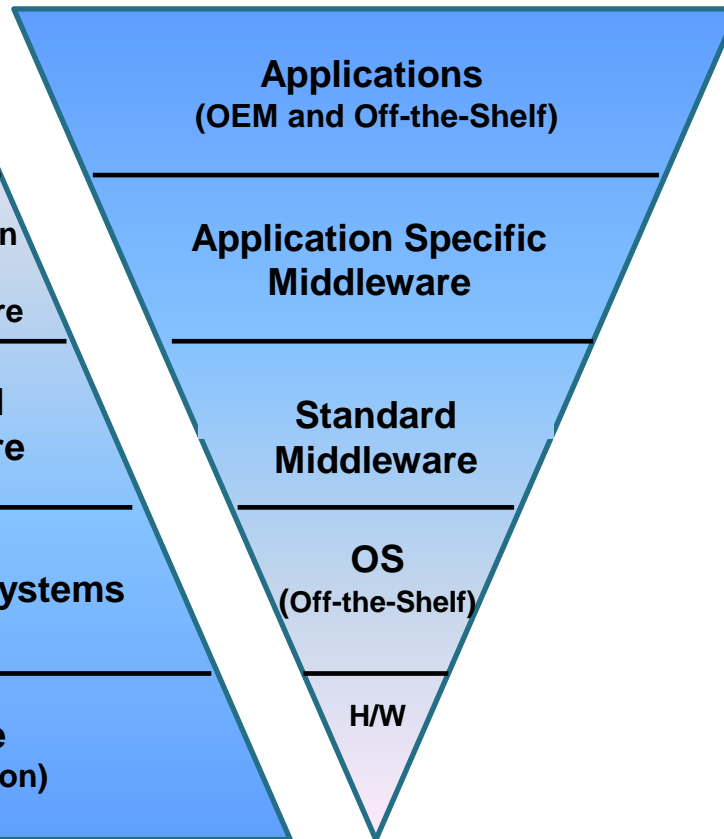
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# The Changing Face of Engineering in OEM's

## Historical Design Model



## Today's Design Model



## Challenges:

- Improves the time to market
- Lowering development cost with increased system complexity
  - Less hardware engineering resources and value the software and system engineering activities
  - Multicore, High-Speed I/O, DDR memories, ...
- Increasing internal IP ownership
- Support long life cycles

**Embedded board solutions vendors help OEMs to meet these challenges**

# Embedded Board Solutions

**Partner with the EBS ecosystem to provide our customers a broad range of form factors, software development tools and ease of access to products and solutions with our channel partners**

## Customer Benefits

- Form factors for key vertical segments:
  - Smart Devices, Industrial, Automotive and FA/HMI
- Quick time-to-market to increase revenue
- Ease production and fulfillment
- Strengthen customer IP development and value added features
- Enabled with OS and software applications: Linux<sup>®</sup>, Android<sup>™</sup>, WinCE, RTOS's, etc.

## EBS Benefits

- Early access to the FSL engineering information
- First in the market with proven technology
- Co-development of products and solutions



# “Make vs. Buy” Decision Matrix

Customer Challenges	Full Custom	Module (COM Express, SOM, Custom)
Time to market	<ul style="list-style-type: none"> <li>• Longest period driving slowness to react</li> </ul>	<ul style="list-style-type: none"> <li>• Shortest period to react to Market request</li> </ul>
Lowering development cost with increased system complexity	<ul style="list-style-type: none"> <li>• Keeping up with full &amp; complex technology evolution driving higher cost of resources</li> </ul>	<ul style="list-style-type: none"> <li>• Complex modules designed by Module vendors makes less risky, complex and costly on Customer system</li> </ul>
Increasing internal IP ownership	<ul style="list-style-type: none"> <li>• Most of the IP are not necessarily valued by customers</li> </ul>	<ul style="list-style-type: none"> <li>• limit the customer investment to better concentrate on their own IP</li> </ul>
Support long life cycles	<ul style="list-style-type: none"> <li>• OEM responsibility for all elements of design</li> </ul>	<ul style="list-style-type: none"> <li>• Customer can rely on EBS vendors to full fill the system parts</li> </ul>
Unit Cost	<ul style="list-style-type: none"> <li>• Lowest</li> </ul>	<ul style="list-style-type: none"> <li>• Potential low cost due to multiple customers per Modules</li> </ul>



# Embedded Board Solutions Based on ARM® Technology



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# Embedded Board Solutions Based on i.MX Technology



*Enabling an Intelligent Planet*



BLUETECHNIX  
Embedding Ideas



# Freescale.com/ebs – Your Source for Form Factors

The screenshot shows the Freescale Embedded Board Solutions (EBS) website. At the top, there is a navigation bar with the Freescale logo, location links (China, Japan, Korea), and a search bar. Below the navigation bar, there are tabs for Products, Applications, Design Resources, Support, Sample and Buy, and About. A secondary navigation bar includes links like Welcome Guest, Register, Login, Annotate, History, My Recommendations, Subscribe, and My Favorites. The main content area is titled "Embedded Board Solutions" and contains several sections:

- Design Partners:** A list of partner companies including Advantech, Boundary Devices Inc., BlueTechnix, CES, Curtiss-Wright Controls Embedded Computing, Digi, Embedded Planet, Emerson, Eurotech, Extreme Engineering Solutions (X-ES), GE Intelligent Platforms, Interface Masters Technologies, iWave Systems Technologies Pvt.Ltd., Mercury Computer Systems, MicroSys Electronics, NAT, Orion Technologies, Inc., and TQ.
- Design Resources:** A list of downloadable documents such as "Embedded board solutions fact sheet (pdf)", "Broadband/LTE Base Station Brochure (pdf)", "Industrial Single Board Computer Applications", "COM Express Whitepaper (pdf)", "Trusted Computing Whitepaper (pdf)", and "WiMAX Base Station Brochure (pdf)".
- Featured Video:** A video titled "Embedded Board Solutions (Video - 2:38) Overview of Freescale's Embedded board solutions".
- Embedded Board Solutions Selector Table:** A table with columns for Manufacturer, Part #, Architecture, Product Family, # of Cores, Form Factor, and Description.

Four blue callout boxes with arrows point to specific features on the page:

- EBS design partners:** Points to the Design Partners list.
- Design resources:** Points to the Design Resources list.
- Sort by form factor, processor and EBS vendor:** Points to the dropdown menus at the top of the Selector Table.
- Sort by form factor, processor and EBS vendor:** Points to the table header.

Manufacturer	Part #	Architecture	Product Family	# of Cores	Form Factor	Description
Advantech	AMC-4201	Power Architecture	QorIQ	8	QorIQ	Freescale QorIQ P4080 Single width, mid-sized AMC
Advantech	AMC-4202	Power Architecture	QorIQ	2	QorIQ	Freescale QorIQ P5020 Single width, mid-sized AMC
Advantech	NCPB-2210	Power Architecture	QorIQ	8	Custom	Freescale QorIQ P4080 Packetarium card
Advantech	NCP-3120	Power Architecture	QorIQ	8	Custom	1U Packetarium platform

EBS design partners

Design resources

Sort by form factor, processor and EBS vendor.





# i.MX Industrial Solution



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# Industrial Strategy for i.MX Processors

- **Provides key environmental differentiators**
  - 3.3V I/O support
  - 0.8 mm pitch package to reduce PCB and manufacturing cost
  - Extended temperature coverage
- **Provides required peripherals for control and monitoring industrial systems to reduce eBOM cost**
  - LCD controller for user interface with touch screen, Memory and media cards for updates and storage
  - Connectivity modules for links to other systems (USB host, OTG, UARTs, Ethernet, CAN)
  - Security for signing code
- **Supports Linux and Windows CE operating systems, as well as RTOS's from suppliers such as Green Hills and QNX**
- **Extended temperature range available with full Industrial qualified devices**
- **Supports long product life spans for required industrial applications**
- **Strong ecosystem with module manufacturers and software integrators**
- **Extensive range of core and performance levels to suit customer needs**

ARM920™

ARM926™  
400 MHz

ARM1136™  
532 MHz

ARM® Cortex™ -A8  
800 MHz

ARM® Cortex™ -A9  
1 GHz





# i.MX 6 Series

Breaking the Boundaries of User Experience

Industry's **most scalable** family of multimedia applications processors

Easily build scalable product lines with the i.MX 6 series—**ultimate versatility** with compatible single, dual and quad core devices

**Best-in-Class Performance** enabled by quad core processing, low power consumption and bleeding-edge multimedia and graphics

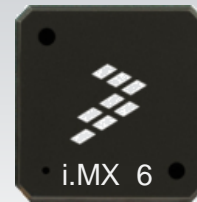
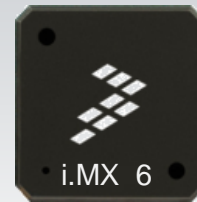
**Optimized peripheral sets** tailored to serve auto, industrial and consumer markets

**Fast development** through simplified hardware design, flexible interfaces and easy-to-use development kits



# Supreme Scalability and Flexibility: Leverage One Design Into Diverse Product Portfolio

**Scalable** series of five ARM Cortex A9-based SoC Families



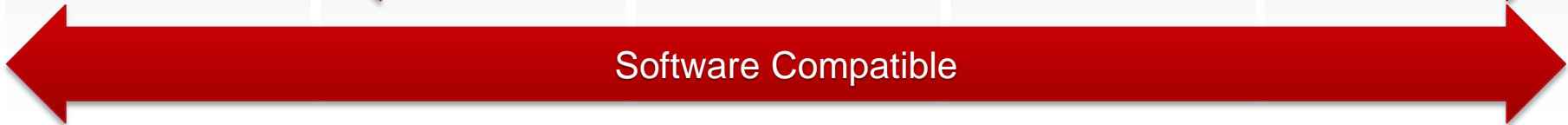
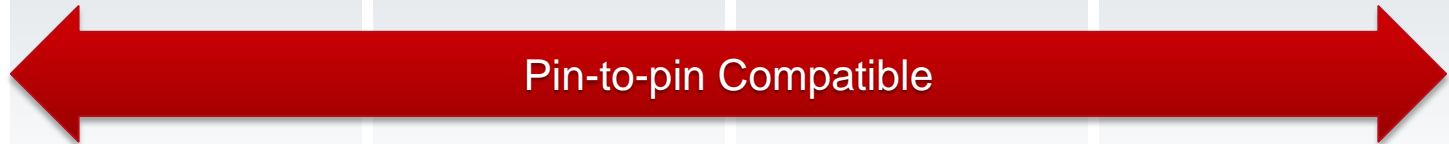
**i.MX**  
6SoloLite

**i.MX**  
6Solo

**i.MX**  
6DualLite

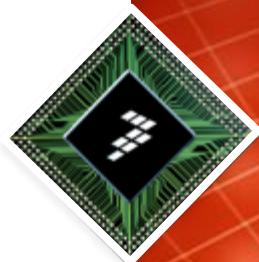
**i.MX**  
6Dual

**i.MX**  
6Quad





# Conclusion



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# Conclusion

- **Freescale's ARM® Embedded Board Solutions Initiative to full fill market requirements**
- **i.MX Industrial Solution**
- **i.MX 6 Scalable Solution to satisfy Modules Vendors**

# For More Information...

# [www.freescale.com/ebs](http://www.freescale.com/ebs)



