



 TEXAS
INSTRUMENTS

World Leader

A graphic of a globe with a grid of latitude and longitude lines, rendered in a light purple/pink color against a dark blue background. The globe is positioned behind the 'World Leader' text.

Mixed Signal/ Analog/ DSP Solutions

THE WORLD LEADER IN DSP SOLUTIONS

 TEXAS
INSTRUMENTS



Mixed Signal/ Analog/ DSP Solutions

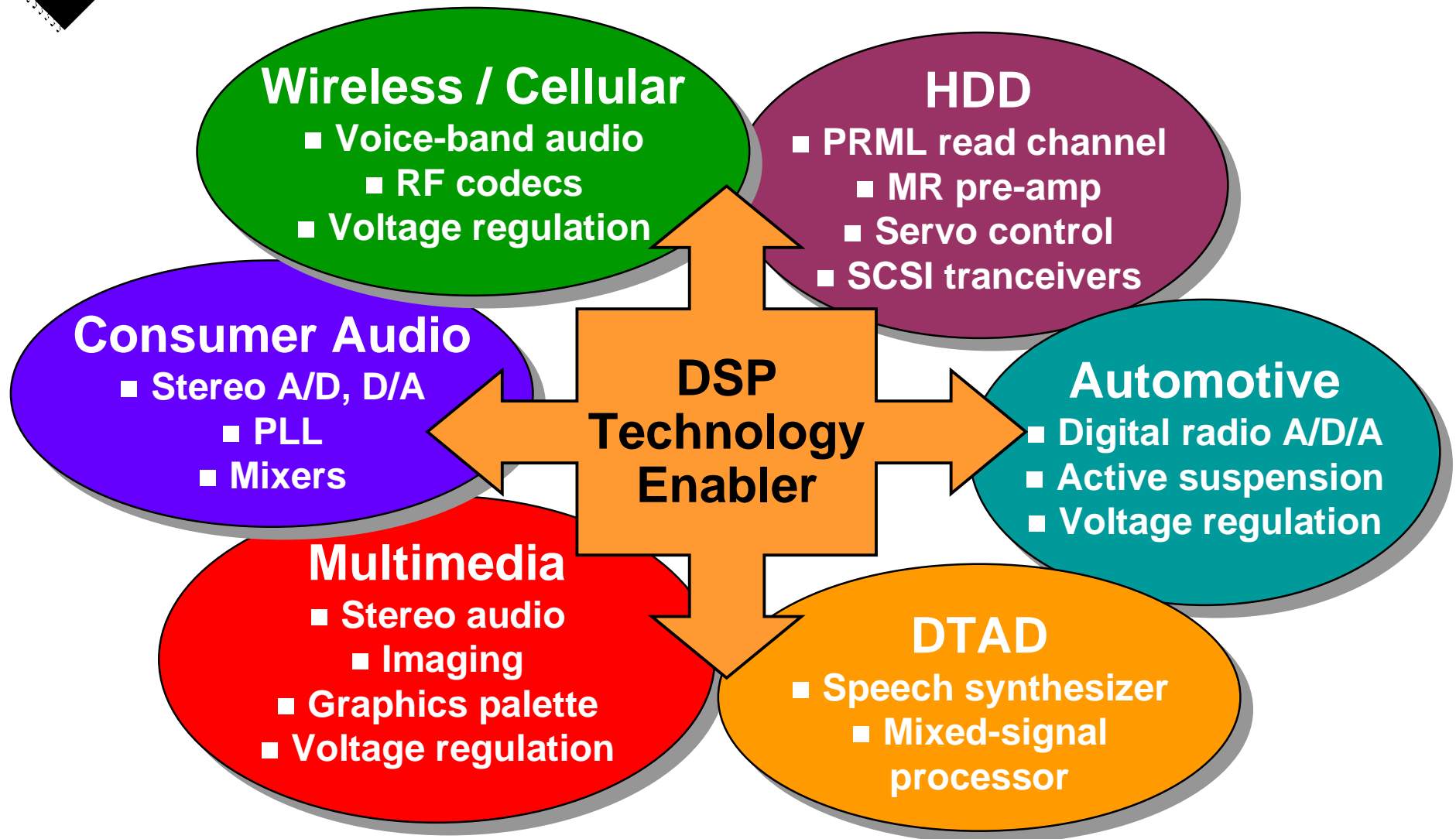
While we can't claim to solve every problem, we're solving lots of them by leveraging our strengths

- Broad differentiated, optimized product range
- Leadership in both Analog and DSP technologies
- Hundreds of man-years developing industry's most effective debug and evaluation tools
- Extensive support – from TI and a worldwide network of third-party companies
- Investment in ongoing research
- Global university program
- Enablers for emerging markets

THE WORLD LEADER IN DSP SOLUTIONS

 TEXAS
INSTRUMENTS

DSP/Analog: One stop shopping

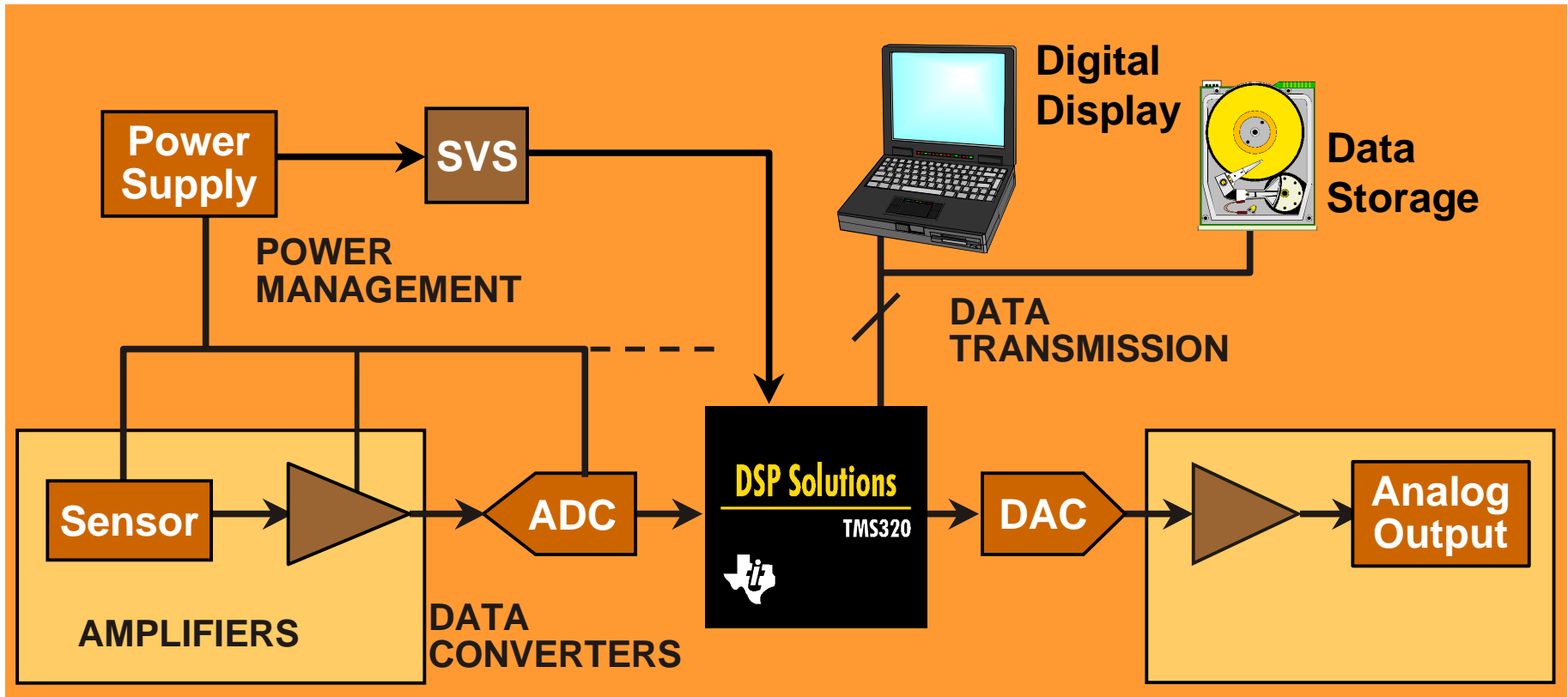


THE WORLD LEADER IN DSP SOLUTIONS





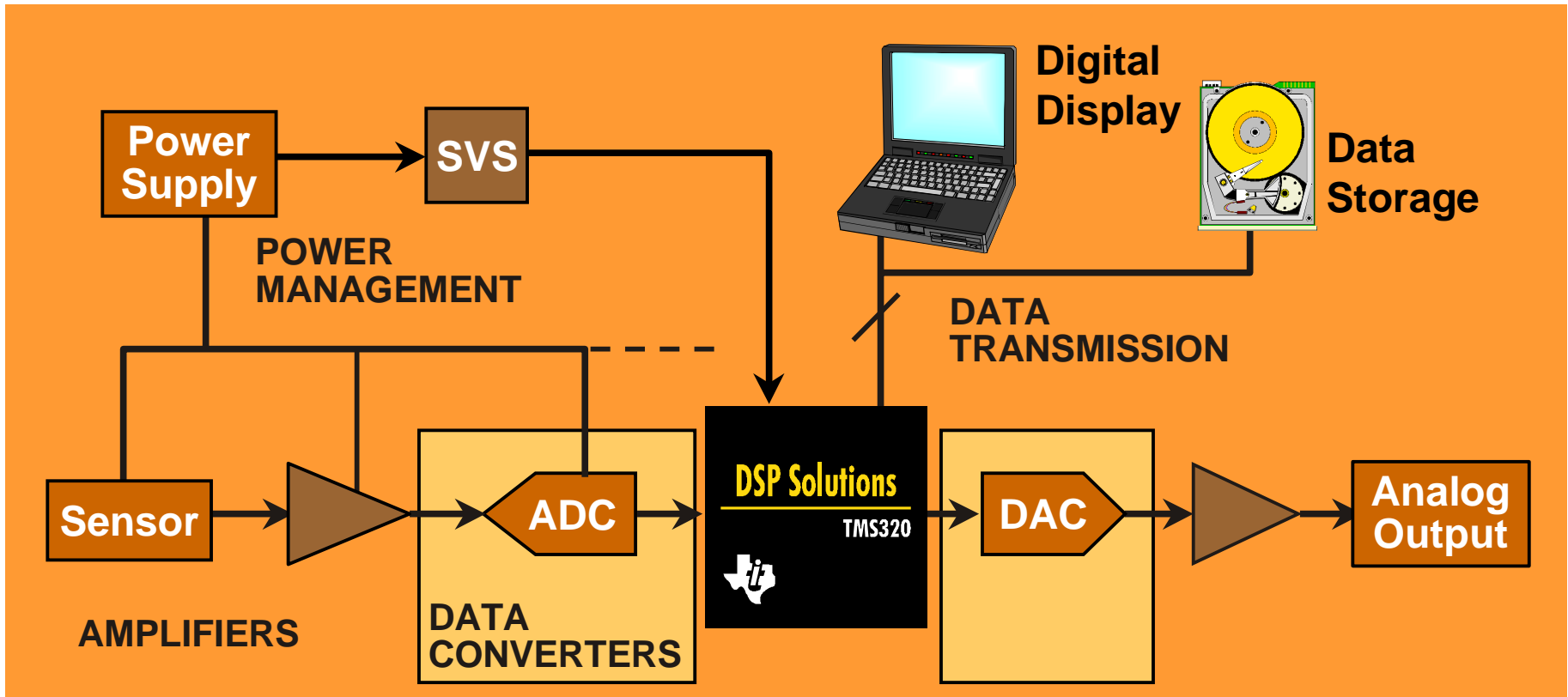
DSP/Analog: System solution



THE WORLD LEADER IN DSP SOLUTIONS

TEXAS
INSTRUMENTS

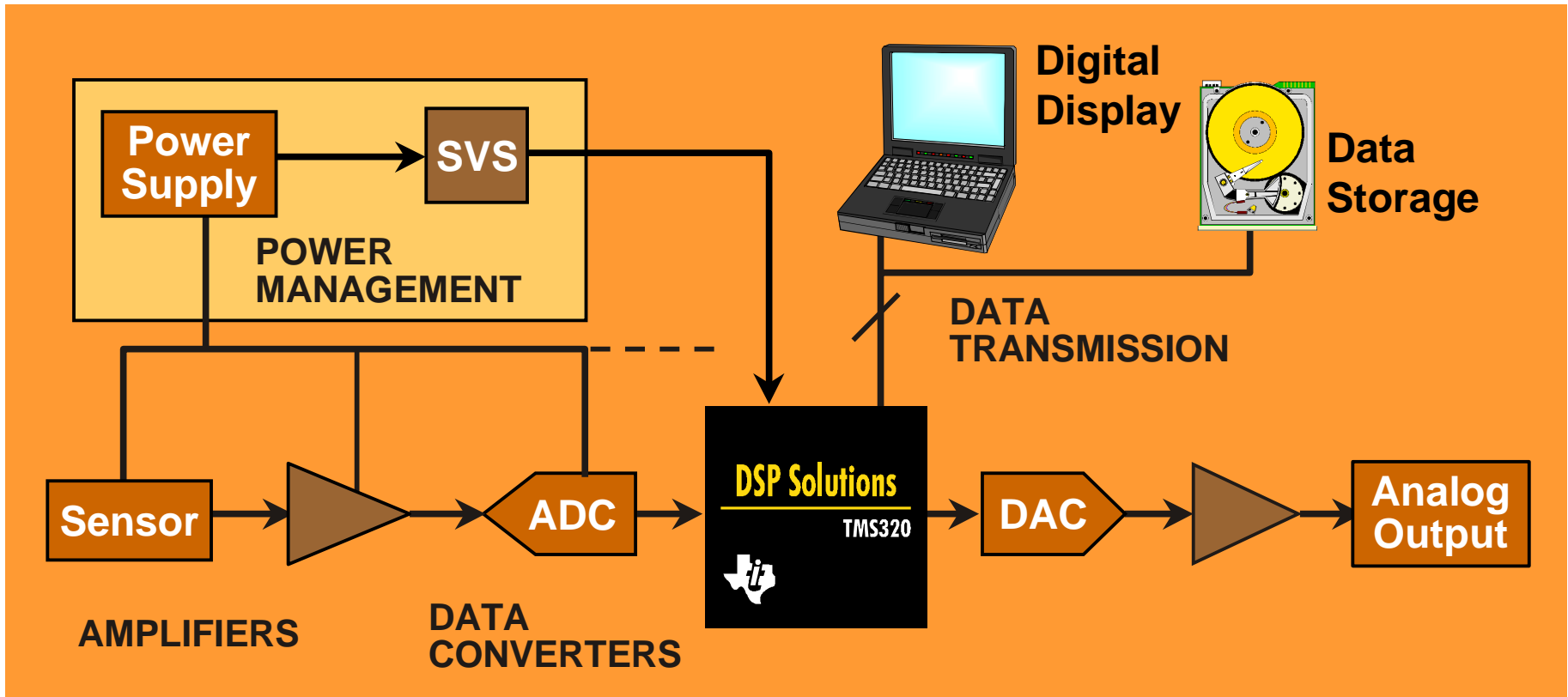
DSP/Analog: System solution



THE WORLD LEADER IN DSP SOLUTIONS

TEXAS
INSTRUMENTS

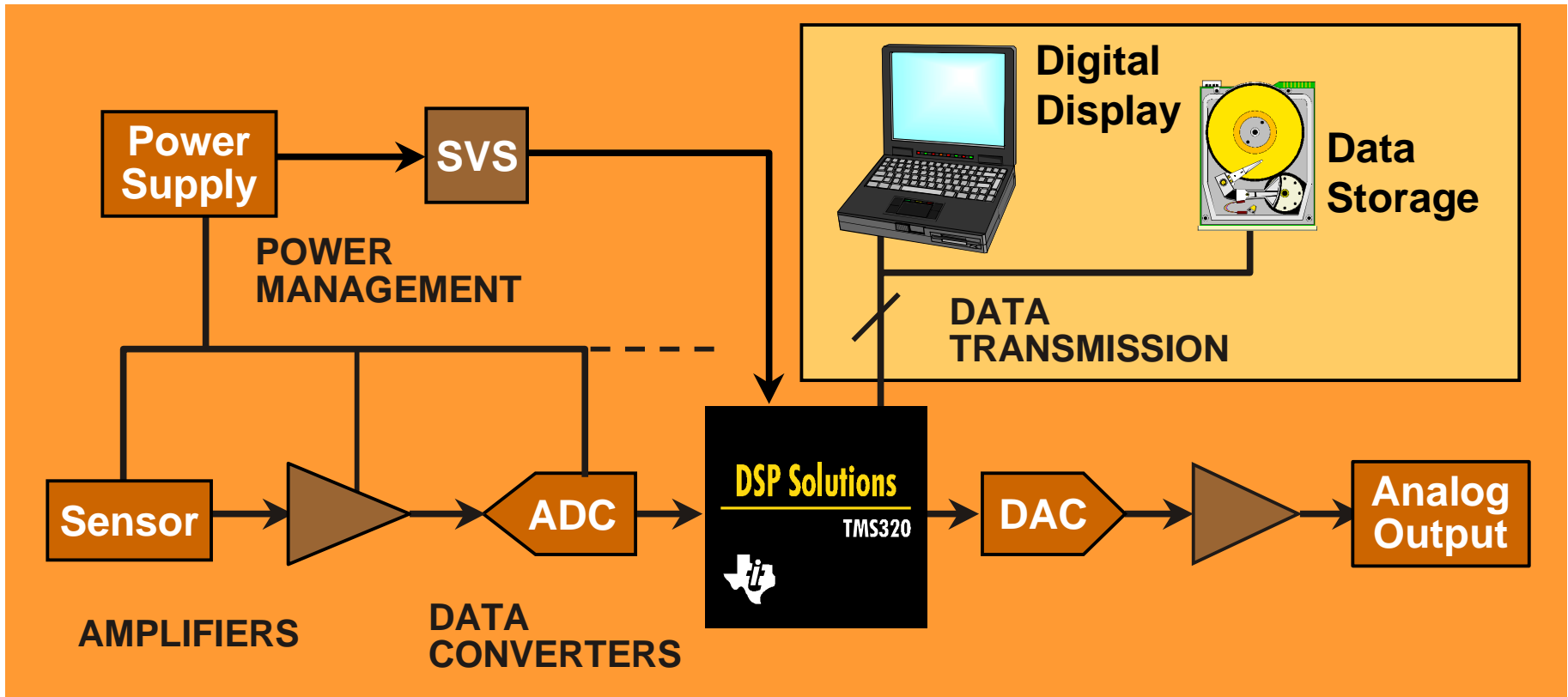
DSP/Analog: System solution



THE WORLD LEADER IN DSP SOLUTIONS

TEXAS
INSTRUMENTS

DSP/Analog: System solution



THE WORLD LEADER IN DSP SOLUTIONS

TEXAS INSTRUMENTS

DSP Seminar: Our objective



Performance-intensive, real-time applications need the right optimized DSP... and an easy-to-use unified development environment

THE WORLD LEADER IN DSP SOLUTIONS



Today's Agenda



✓ **What are my system requirements?**

How do I work with TI's 'C6000?

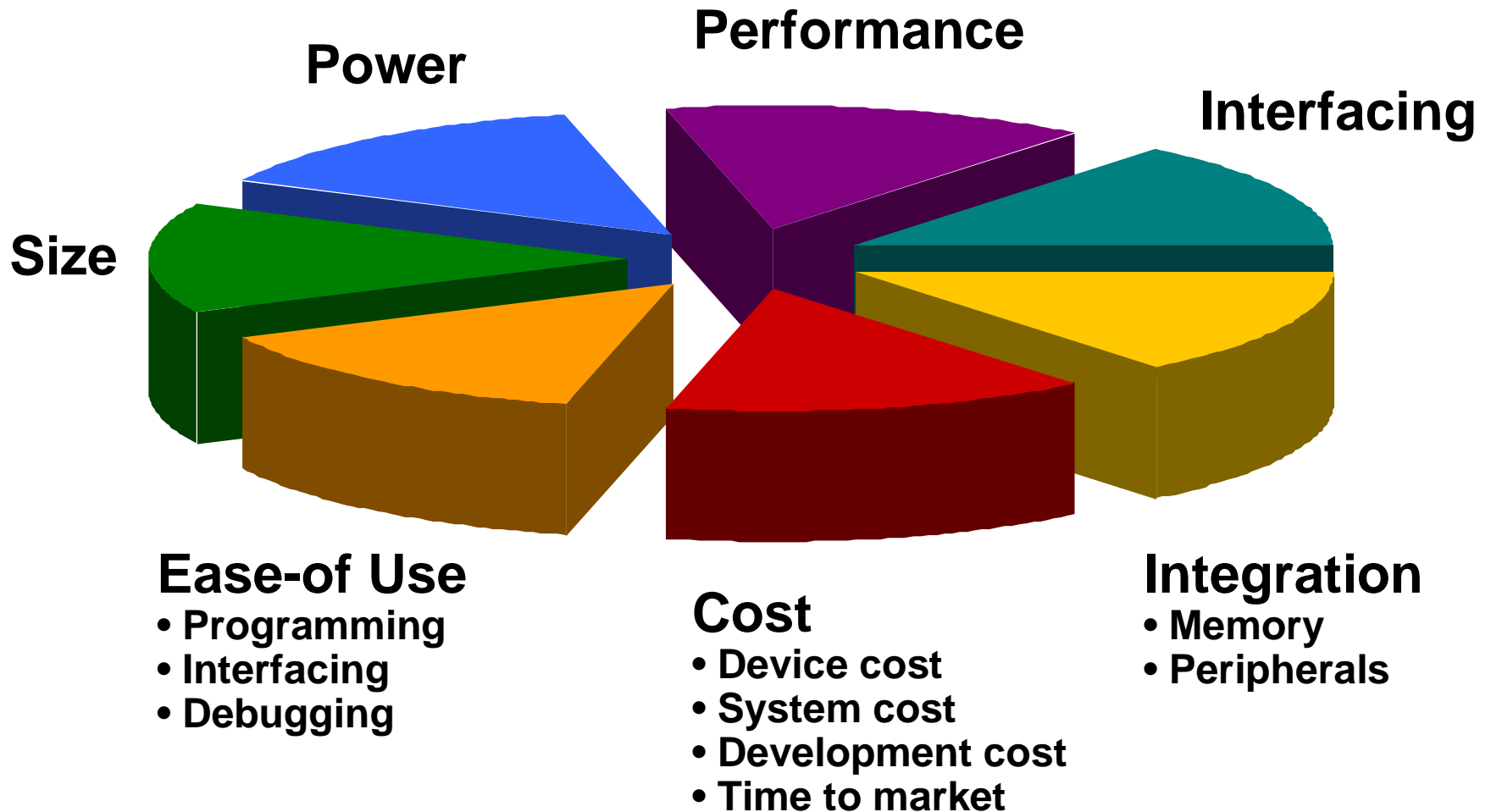
How do I work with TI's 'C5000?

How do TI's tools make my development easier?

What support can I count on?

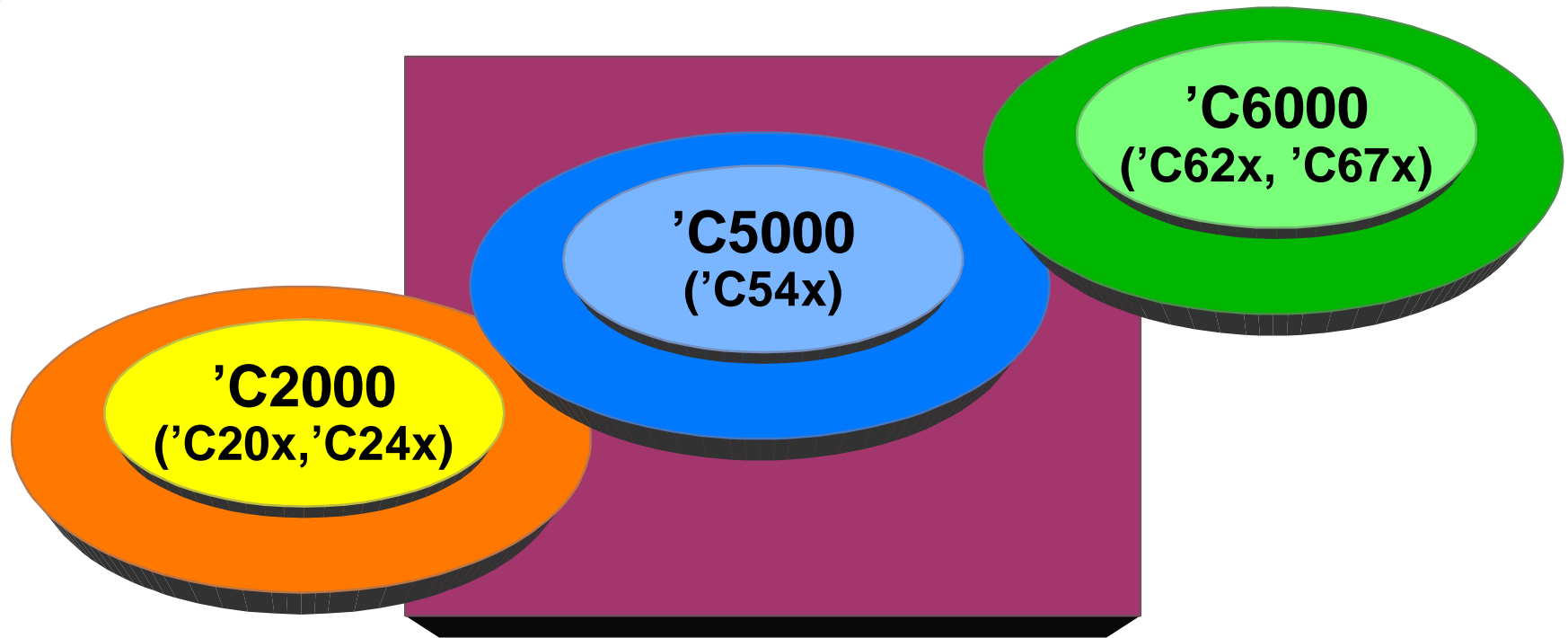


Tradeoffs: System requirements





Three Platforms: For different needs



**Control
optimized**

**Power/space
efficient
performance**

**Multi-channel
Multi-function
performance**

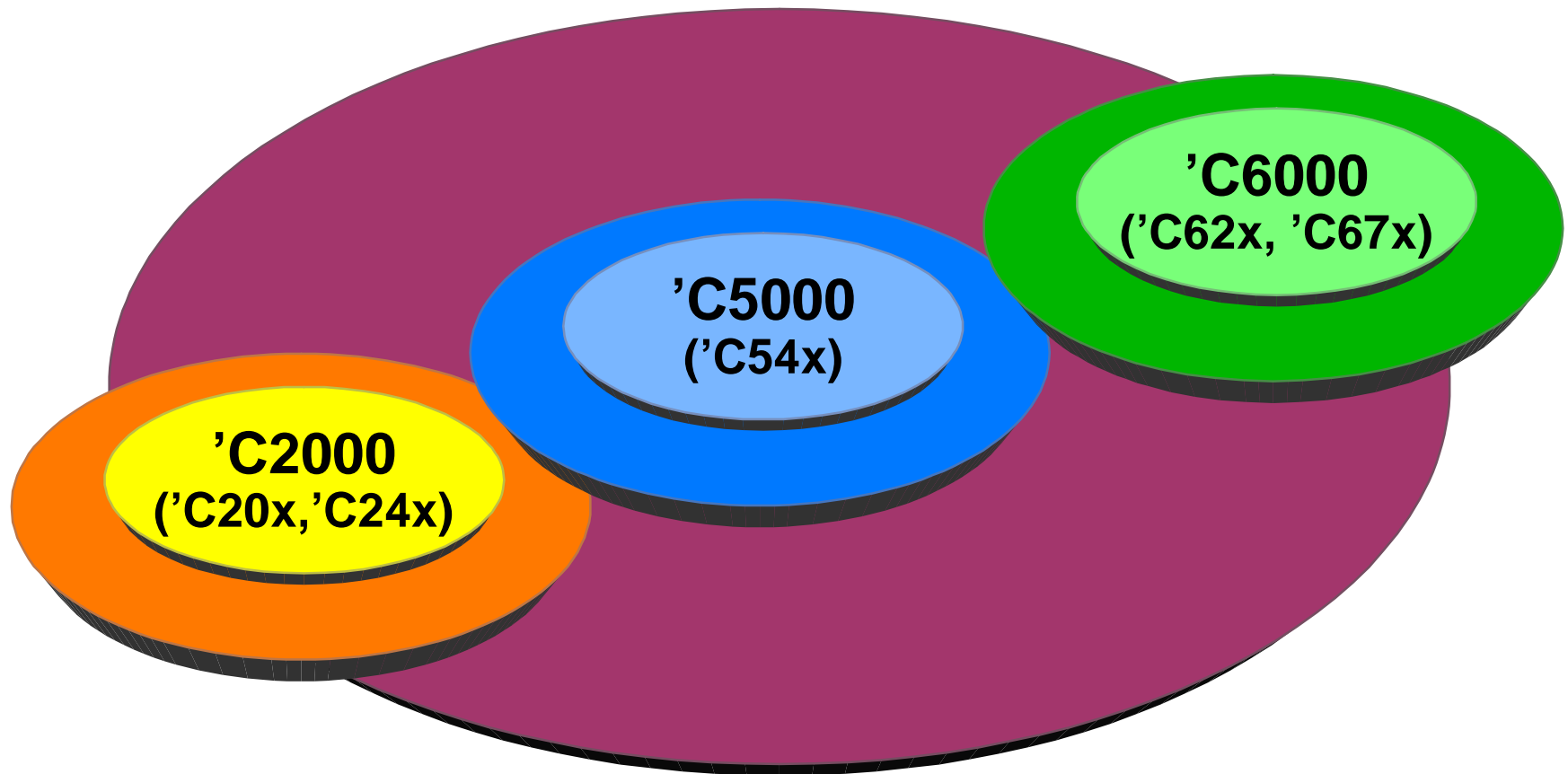


THE WORLD LEADER IN DSP SOLUTIONS

 **TEXAS
INSTRUMENTS**



Unified development environment



Three ISAs. One Development Environment.

THE WORLD LEADER IN DSP SOLUTIONS

 **TEXAS
INSTRUMENTS**



Tools: State-of-the-art IDE

The screenshot displays the C54X Code Composer IDE interface for the project AUDIO.MAK. The main workspace is divided into several analysis windows:

- Source FFT:** A green plot showing the magnitude spectrum of the source signal. The y-axis ranges from 0 to 5000, and the x-axis ranges from 0 to 0.496. The plot shows a complex spectrum with multiple peaks.
- Sink FFT:** A green plot showing the magnitude spectrum of the sink signal. The y-axis ranges from 0 to 5000, and the x-axis ranges from 0 to 0.496. The plot shows a smoother spectrum with a dominant peak at the beginning.
- Source Data:** A yellow plot showing the time-domain waveform of the source signal. The y-axis ranges from -5000 to 5000, and the x-axis ranges from 0 to 63.0. The plot shows a complex, oscillating waveform.
- Sink Data:** A yellow plot showing the time-domain waveform of the sink signal. The y-axis ranges from -5000 to 5000, and the x-axis ranges from 0 to 63.0. The plot shows a smoother, lower-frequency waveform.
- Filter:** A vertical slider control labeled 'Filter' with a value of 1.
- Noise:** A vertical slider control labeled 'Noise' with a value of 2.

At the bottom of the IDE, a code window shows the following code:

```
noise_sw = 2  
filter_sw = 1  
loadVal = 0
```

The code window also includes watch points (Watch 1, Watch 2, Watch 3, Watch 4) and a status bar indicating 'DSP RUNNING' and 'For Help, press F1'.

THE WORLD LEADER IN DSP SOLUTIONS





'C2000: Optimized for control



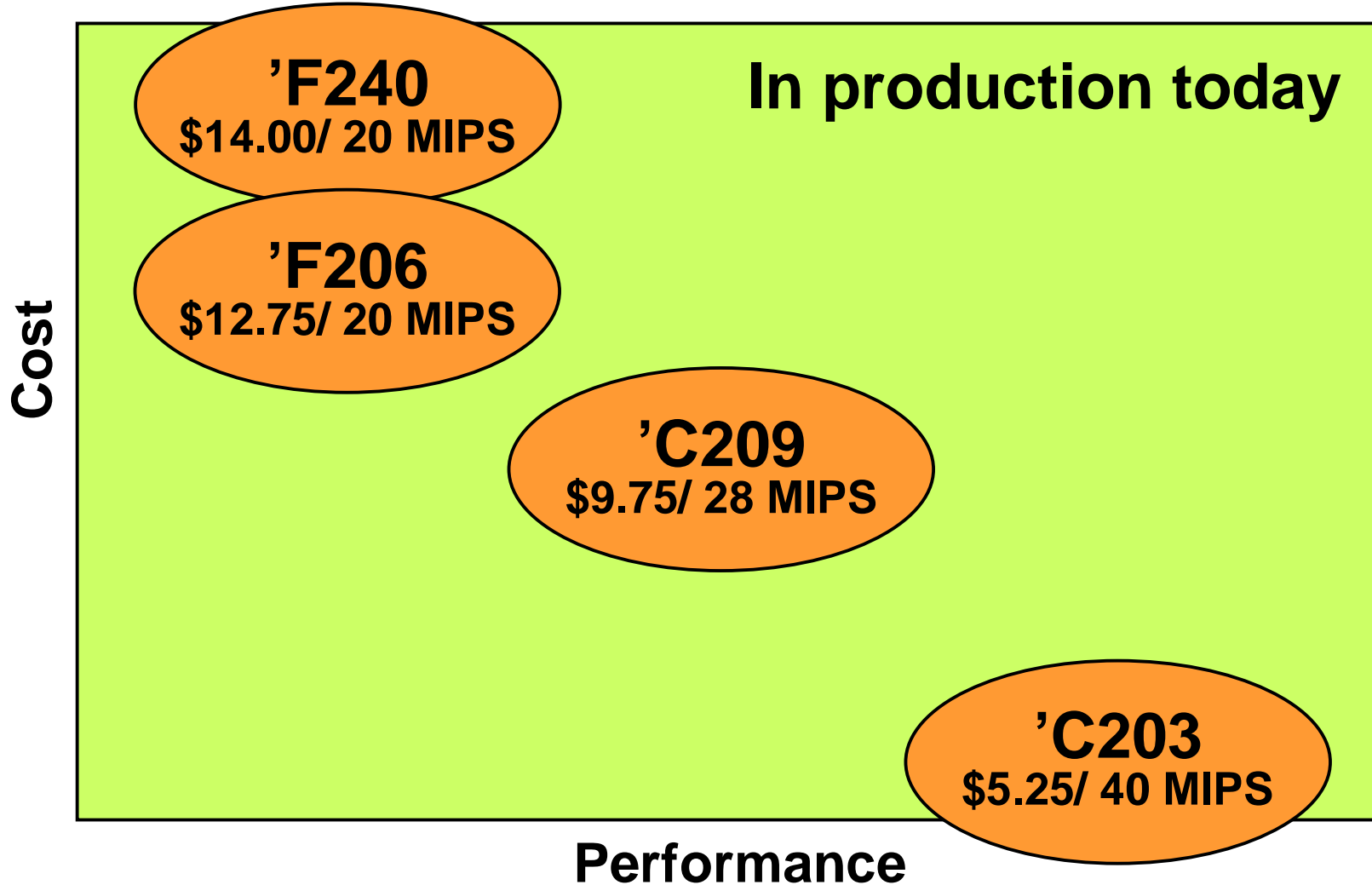
**Control + DSP in a uniprocessor
for embedded real-time applications**



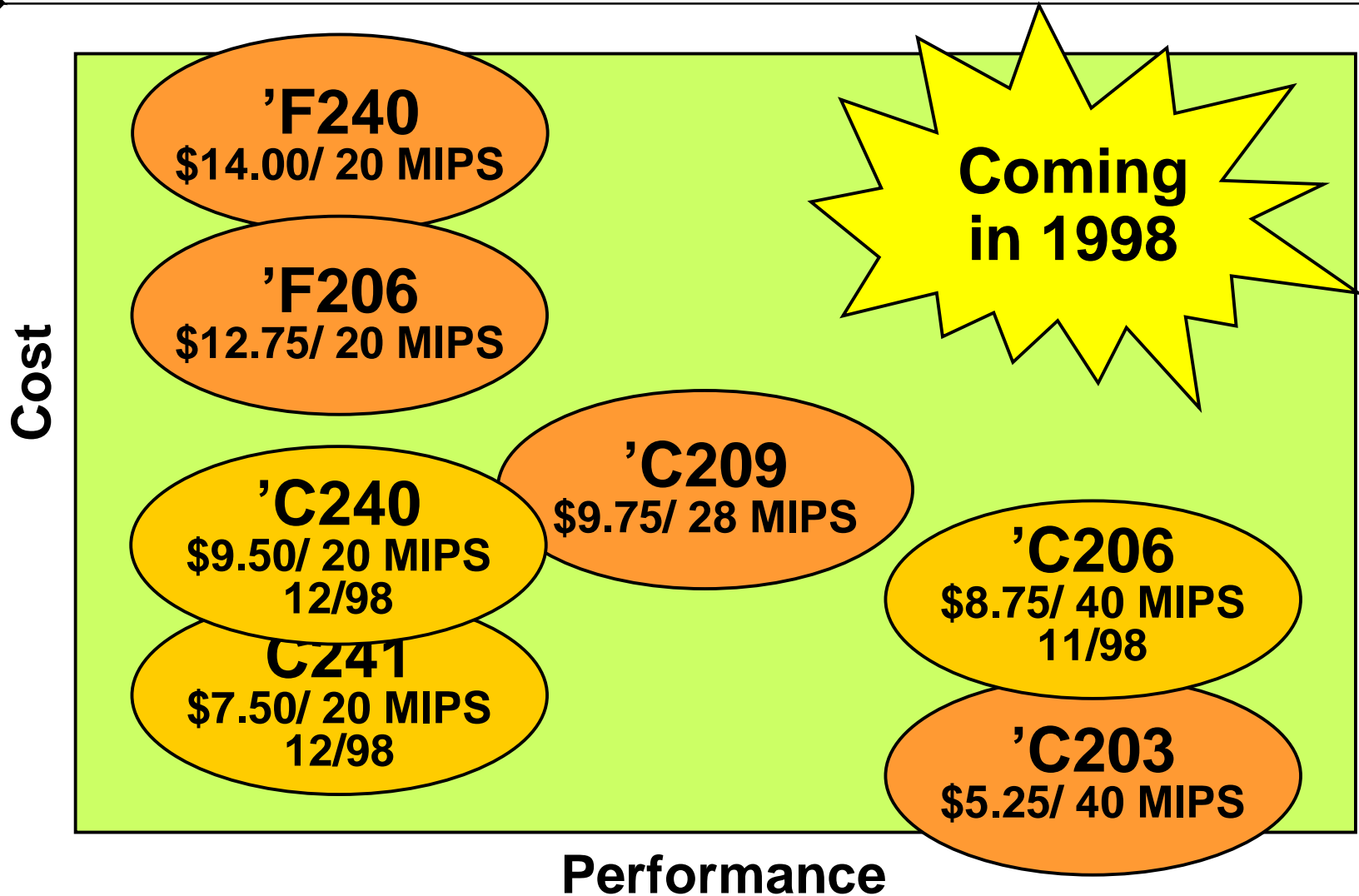
THE WORLD LEADER IN DSP SOLUTIONS



'C2000: Optimized for control



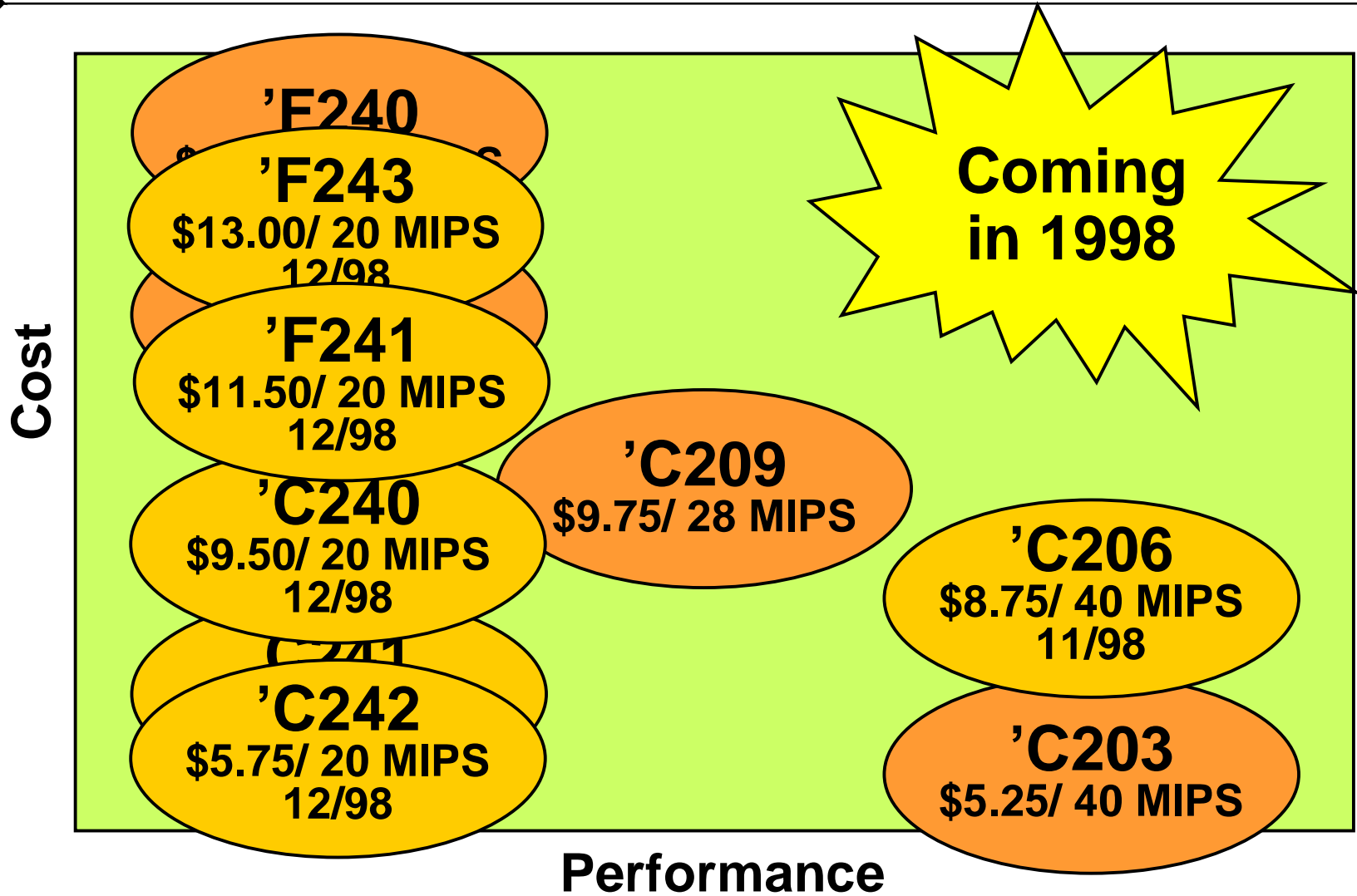
'C2000: As low as \$5.25 for 40 MIPS



THE WORLD LEADER IN DSP SOLUTIONS

TEXAS INSTRUMENTS

'C2000: As low as \$5.25 for 40 MIPS



THE WORLD LEADER IN DSP SOLUTIONS

TEXAS INSTRUMENTS

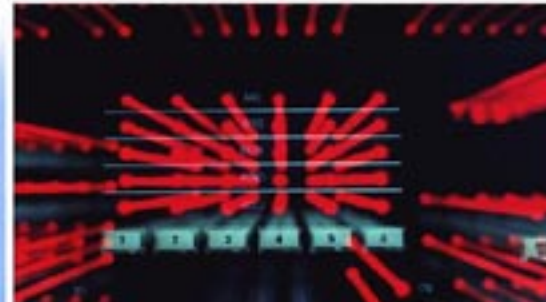


'C2000: Optimized for control

- ◆ For more information on TMS320C2000:
 - Go to www.ti.com for device information, application notes and technical documentation
 - Attend training courses listed on web site
 - Request a *"Migrating μ C-based Control Systems into the New Millennium"* seminar for your company



'C5000: Power-efficient performance



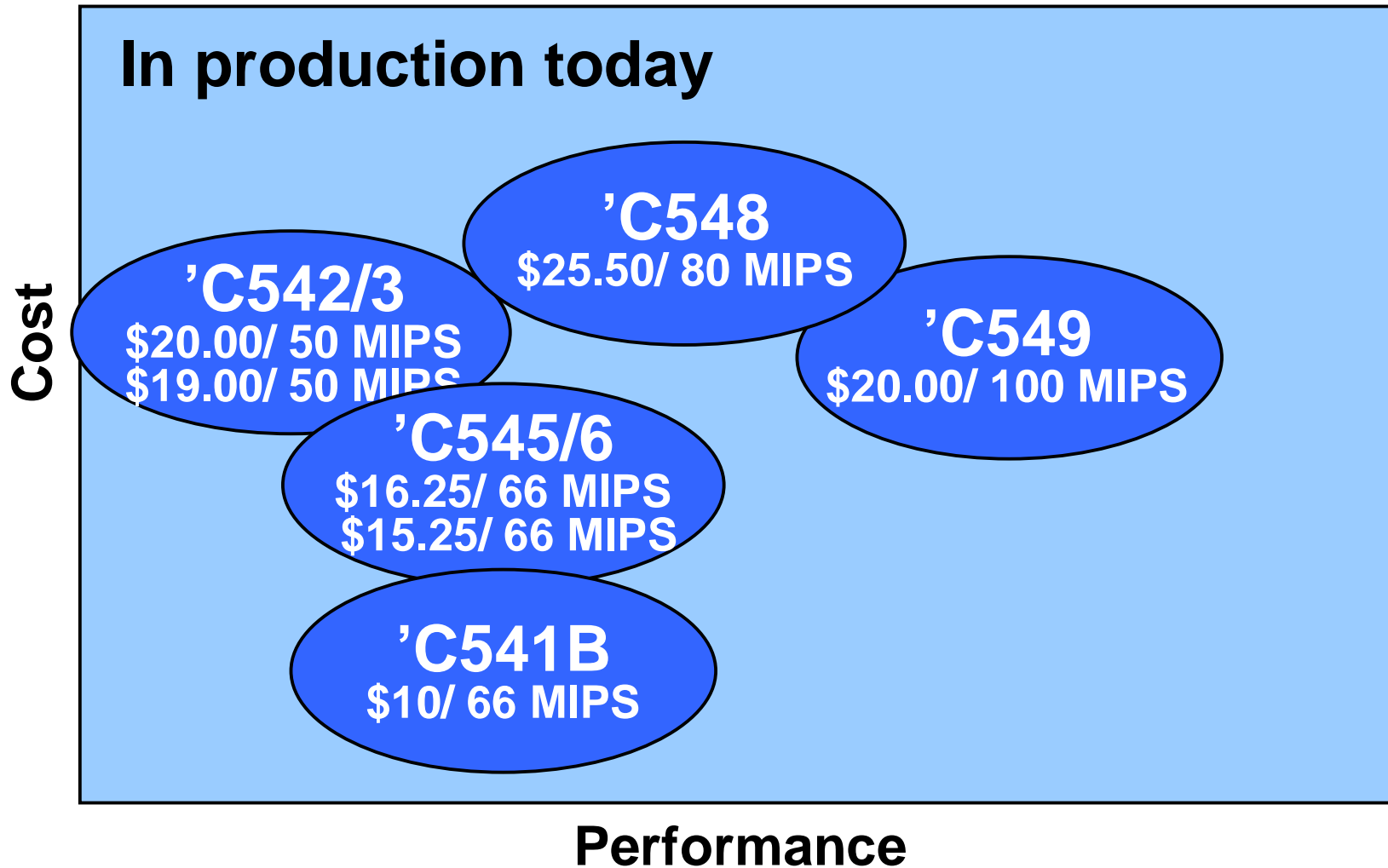
**Optimizing performance
in space/power/cost constraints**



THE WORLD LEADER IN DSP SOLUTIONS



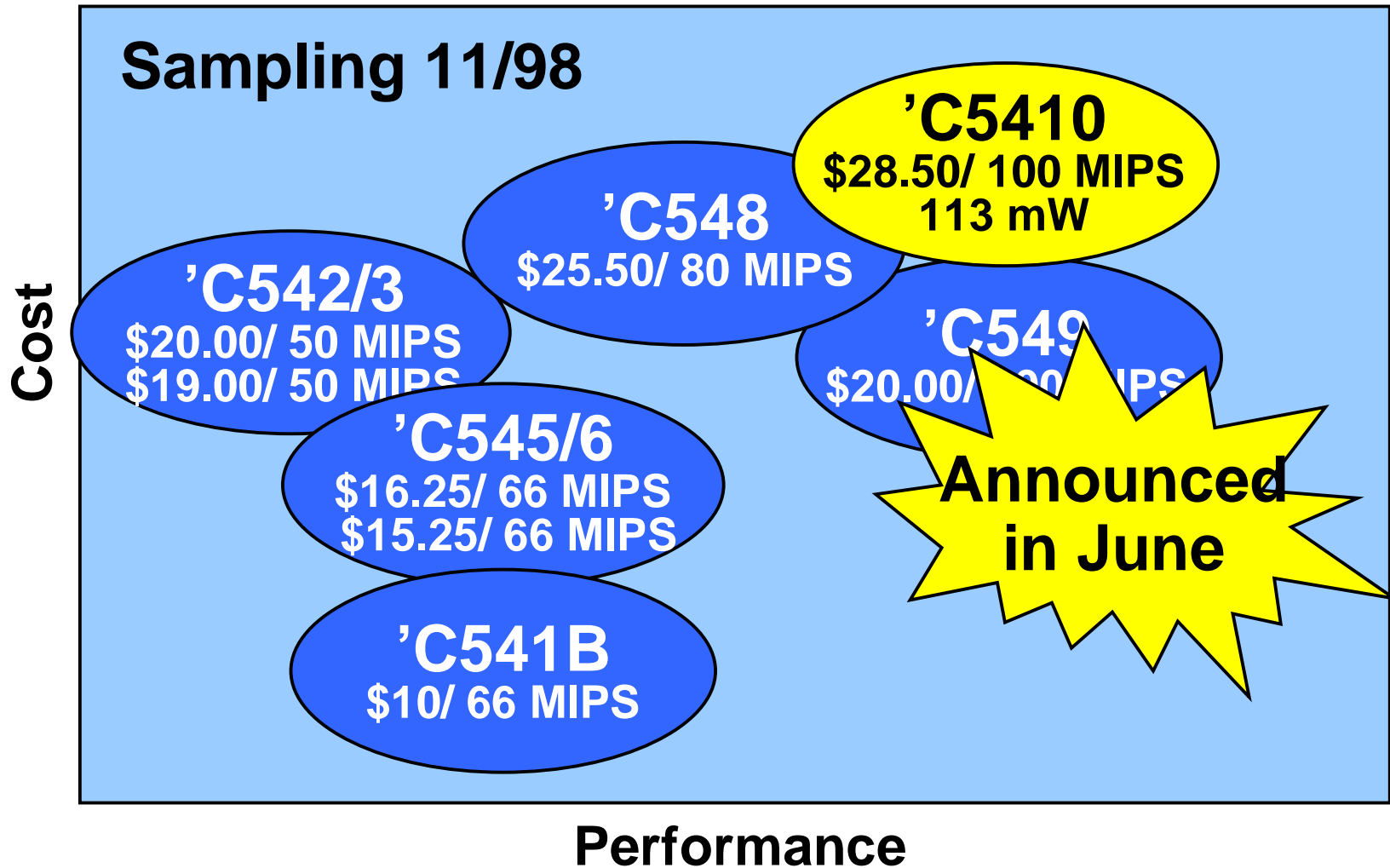
'C5000: Power-efficient performance



THE WORLD LEADER IN DSP SOLUTIONS

TEXAS
INSTRUMENTS

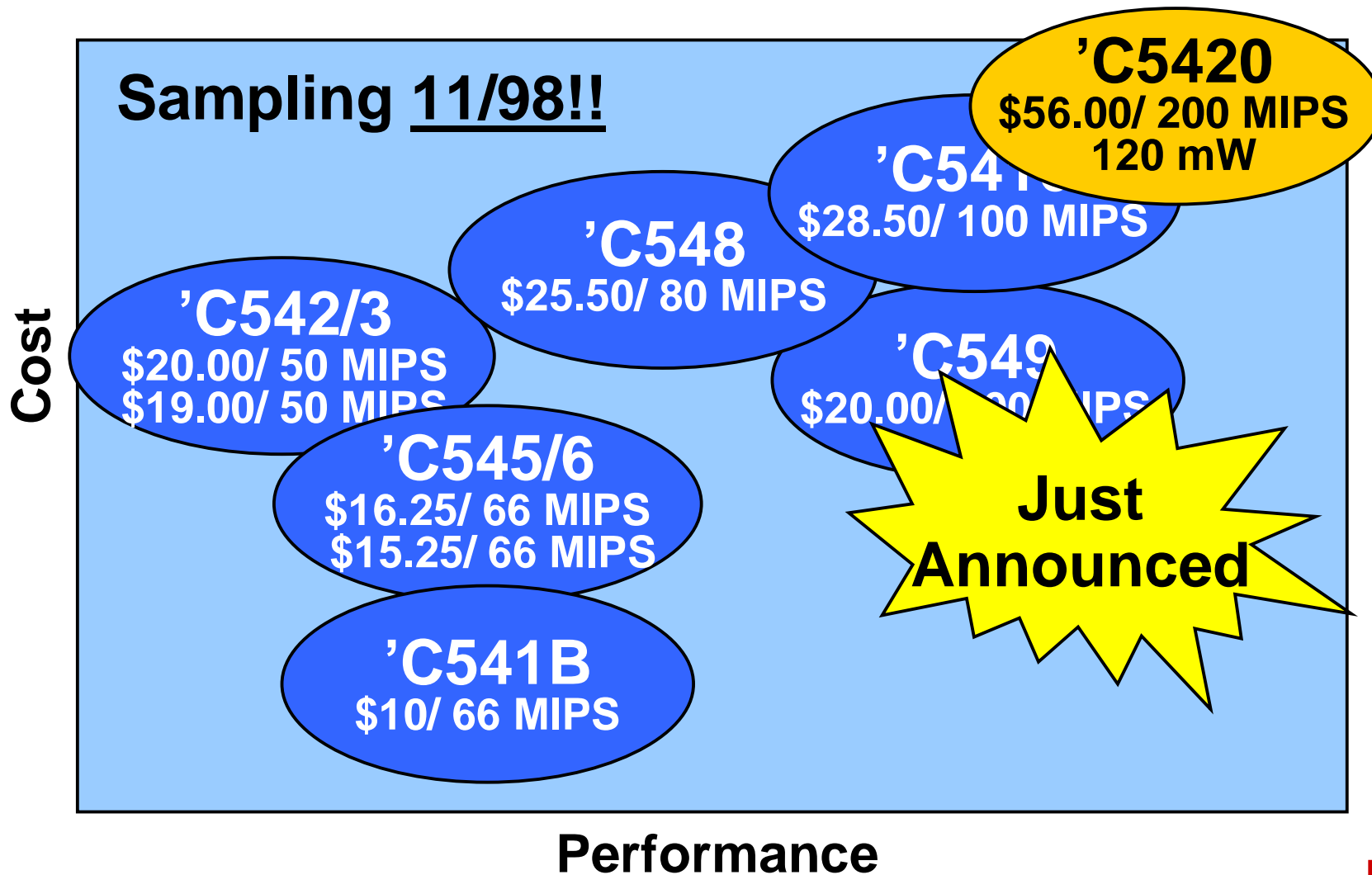
'C5000: Power-efficient performance



THE WORLD LEADER IN DSP SOLUTIONS

TEXAS
INSTRUMENTS

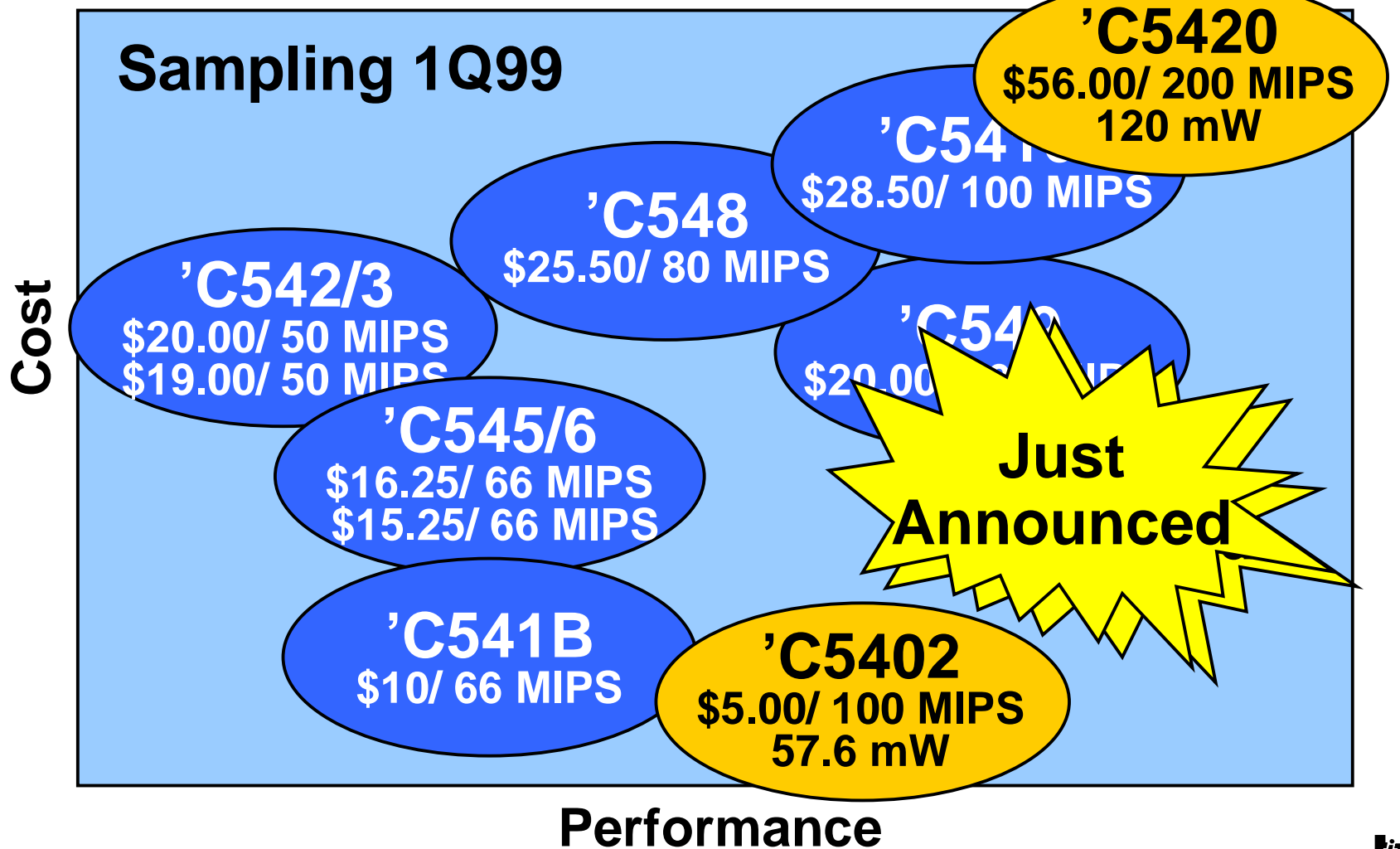
'C5000: Sub \$5 to 200 MIPS



THE WORLD LEADER IN DSP SOLUTIONS

TEXAS INSTRUMENTS

'C5000: Sub \$5 to 200 MIPS

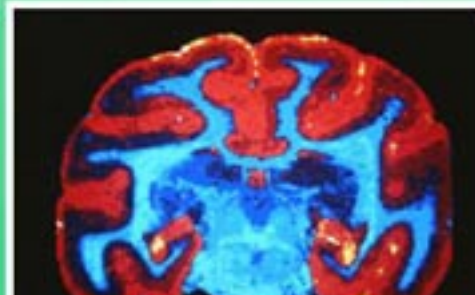


THE WORLD LEADER IN DSP SOLUTIONS

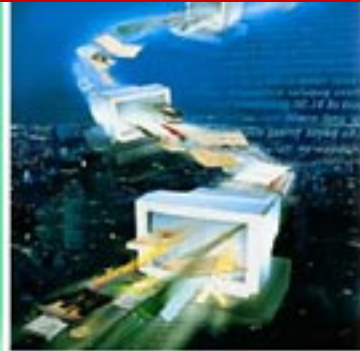
TEXAS INSTRUMENTS



'C6000: Maximizing channel / \$



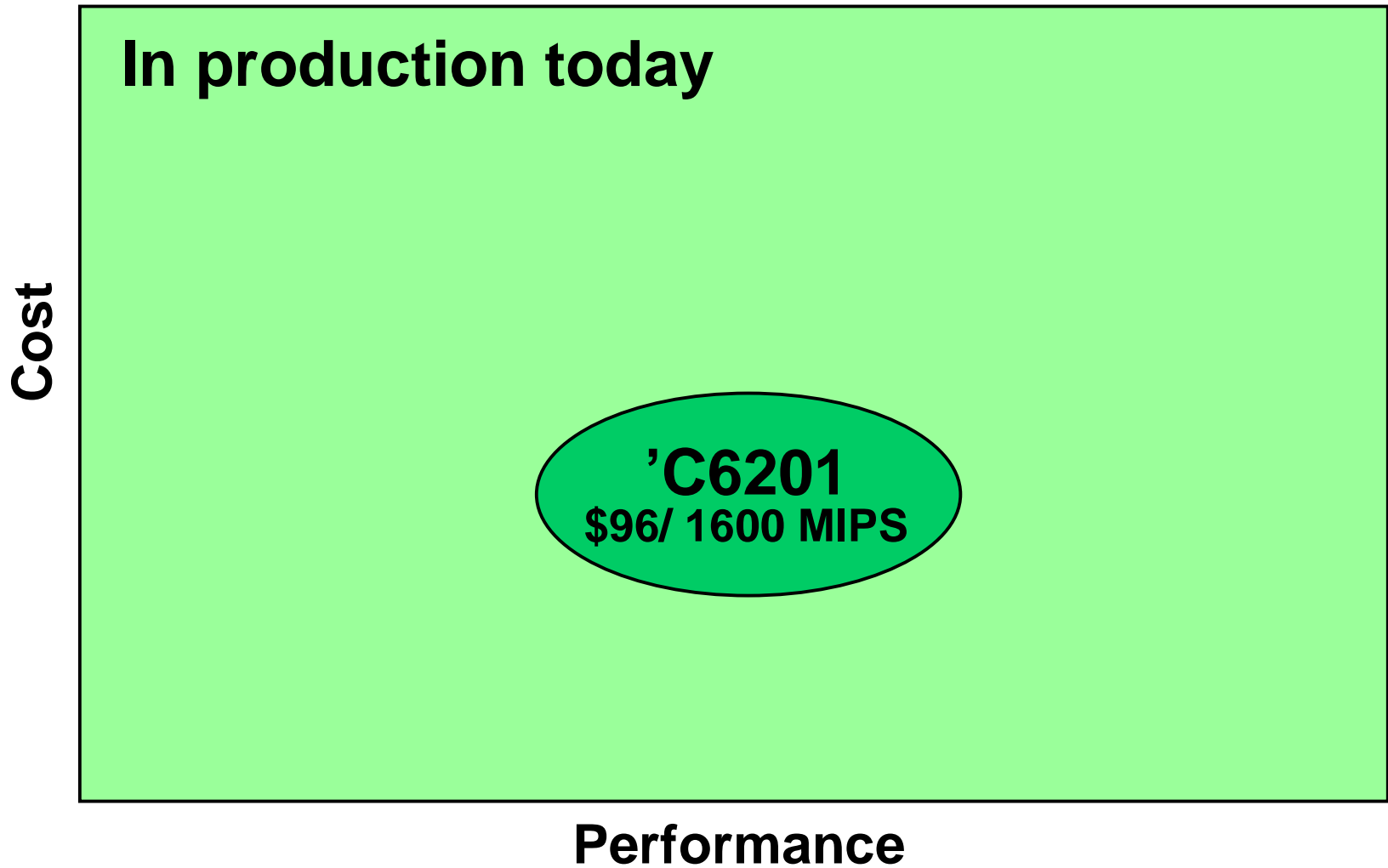
**Maximum raw performance
in a C code environment**



THE WORLD LEADER IN DSP SOLUTIONS

 **TEXAS
INSTRUMENTS**

'C6000: Maximizing channel / \$

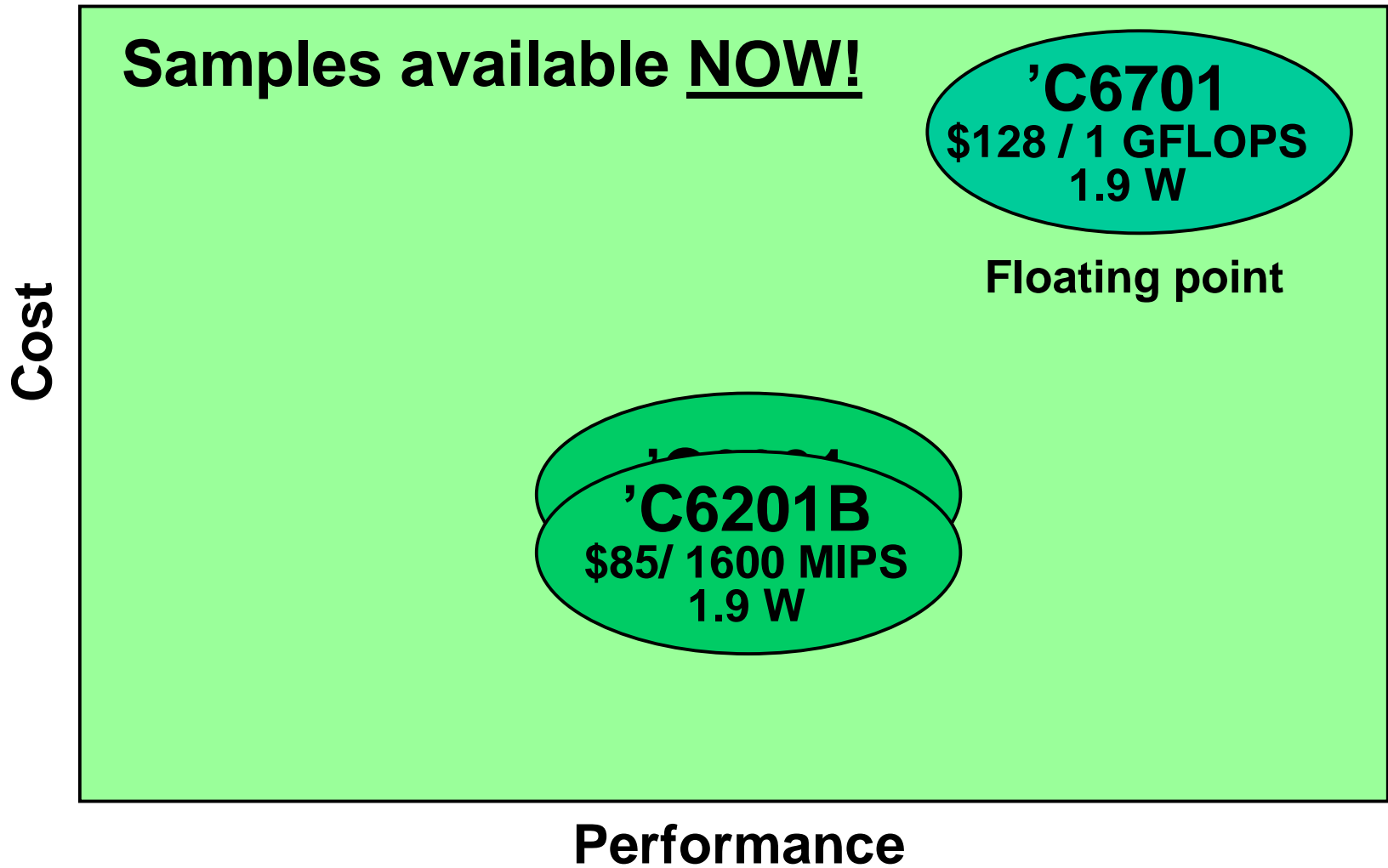


THE WORLD LEADER IN DSP SOLUTIONS

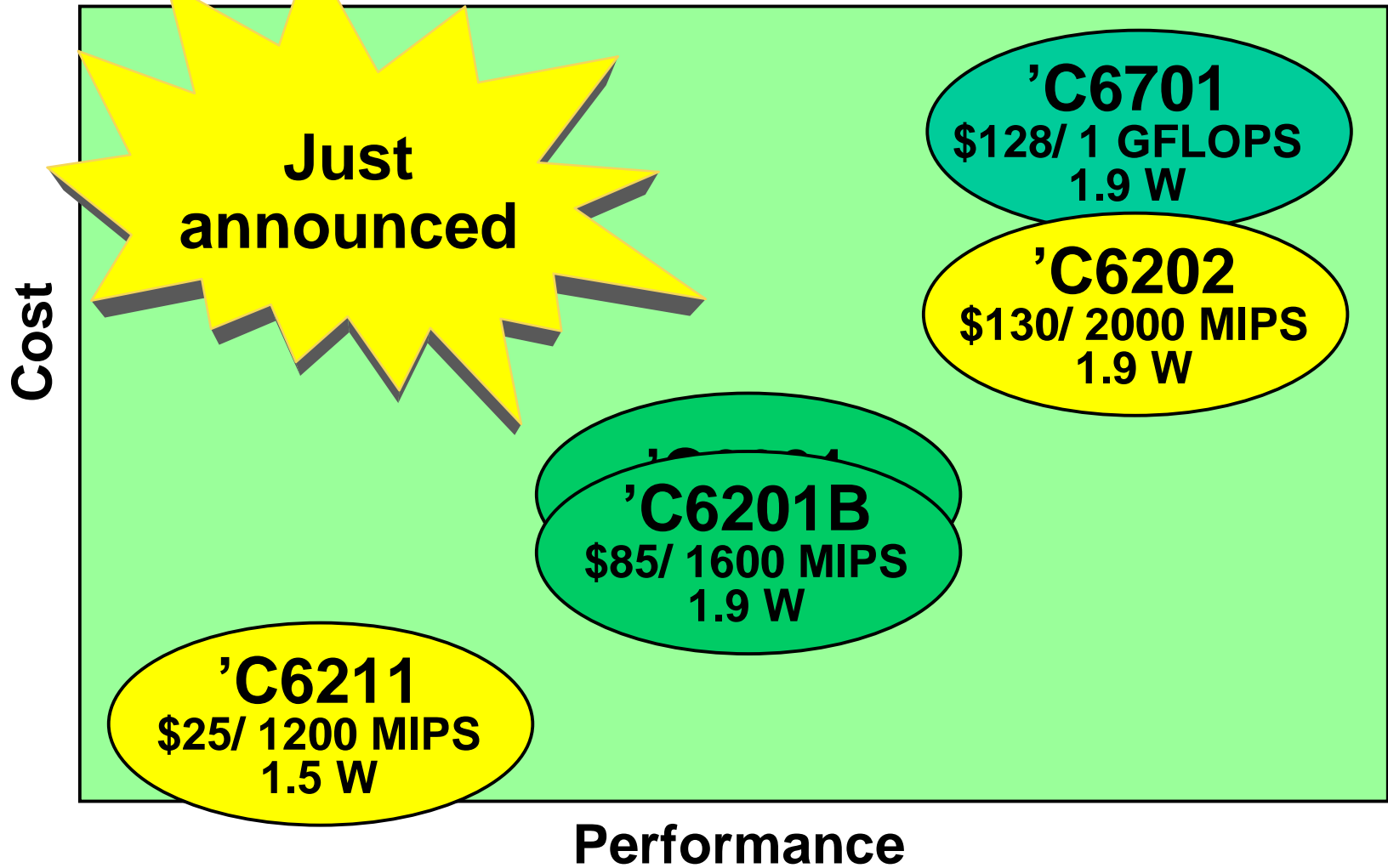
 TEXAS
INSTRUMENTS



'C6000: Maximizing channel / \$



'C6000: \$25 to 2000 MIPS



THE WORLD LEADER IN DSP SOLUTIONS

 TEXAS
INSTRUMENTS



Handouts: Full device listing

- **See your handout for a complete table of all TMS320C5000 and TMS320C6000 devices:**
 - ◆ Price
 - ◆ Availability
 - ◆ MIPS/MFLOPS
 - ◆ Process technology
 - ◆ On-chip memory
 - ◆ Typical internal power consumption
 - ◆ Clock rate
 - ◆ Voltage
 - ◆ Package
 - ◆ Peripherals
- **Also see Selection Guide**