



**Do  
Something  
Phenomenal**

**WITH TI DSP**

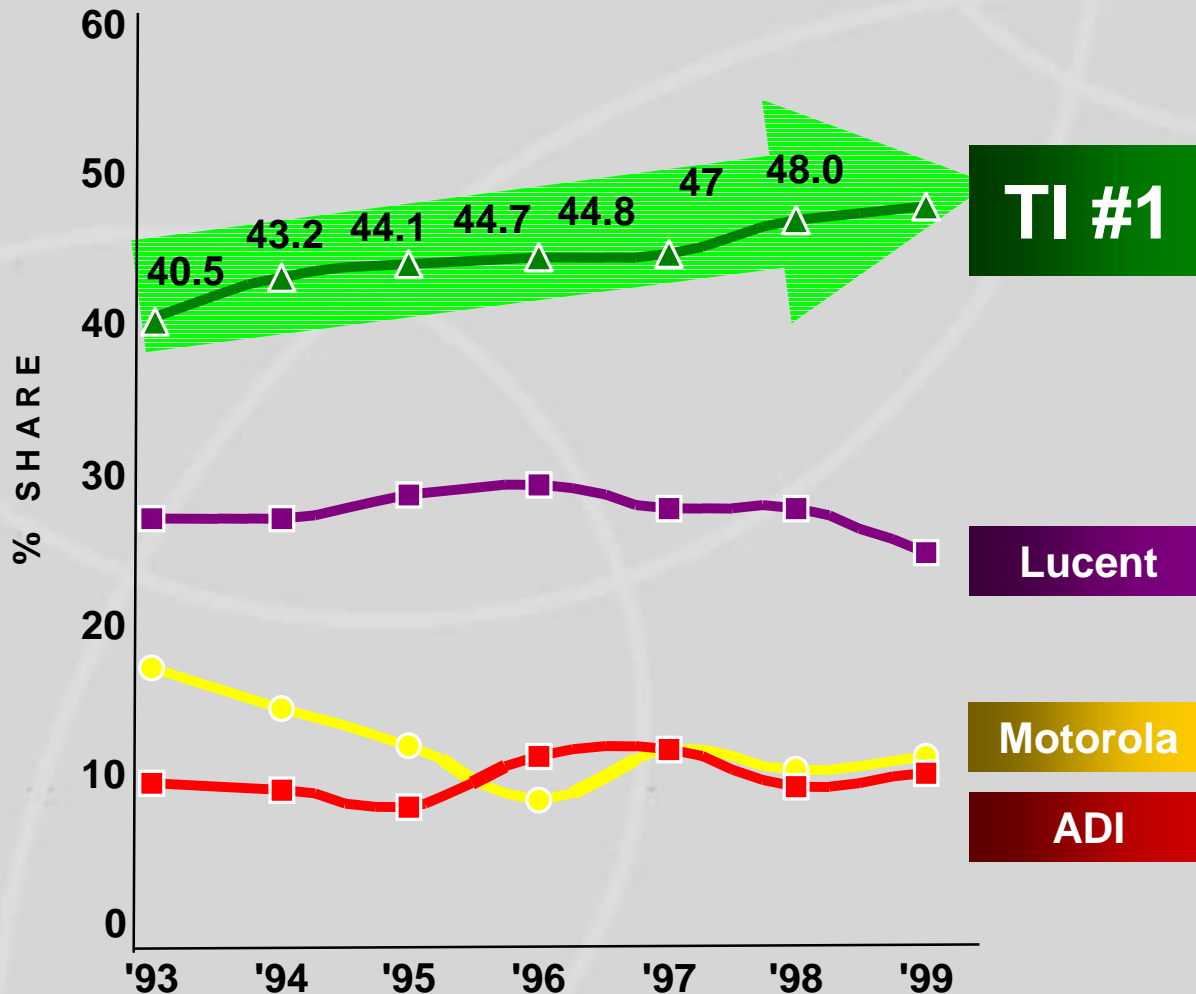
THE WORLD LEADER IN DSP AND ANALOG

 TEXAS INSTRUMENTS

# We're Extending Our DSP Lead

## DSP Market Share

DSPS Fest  
2000



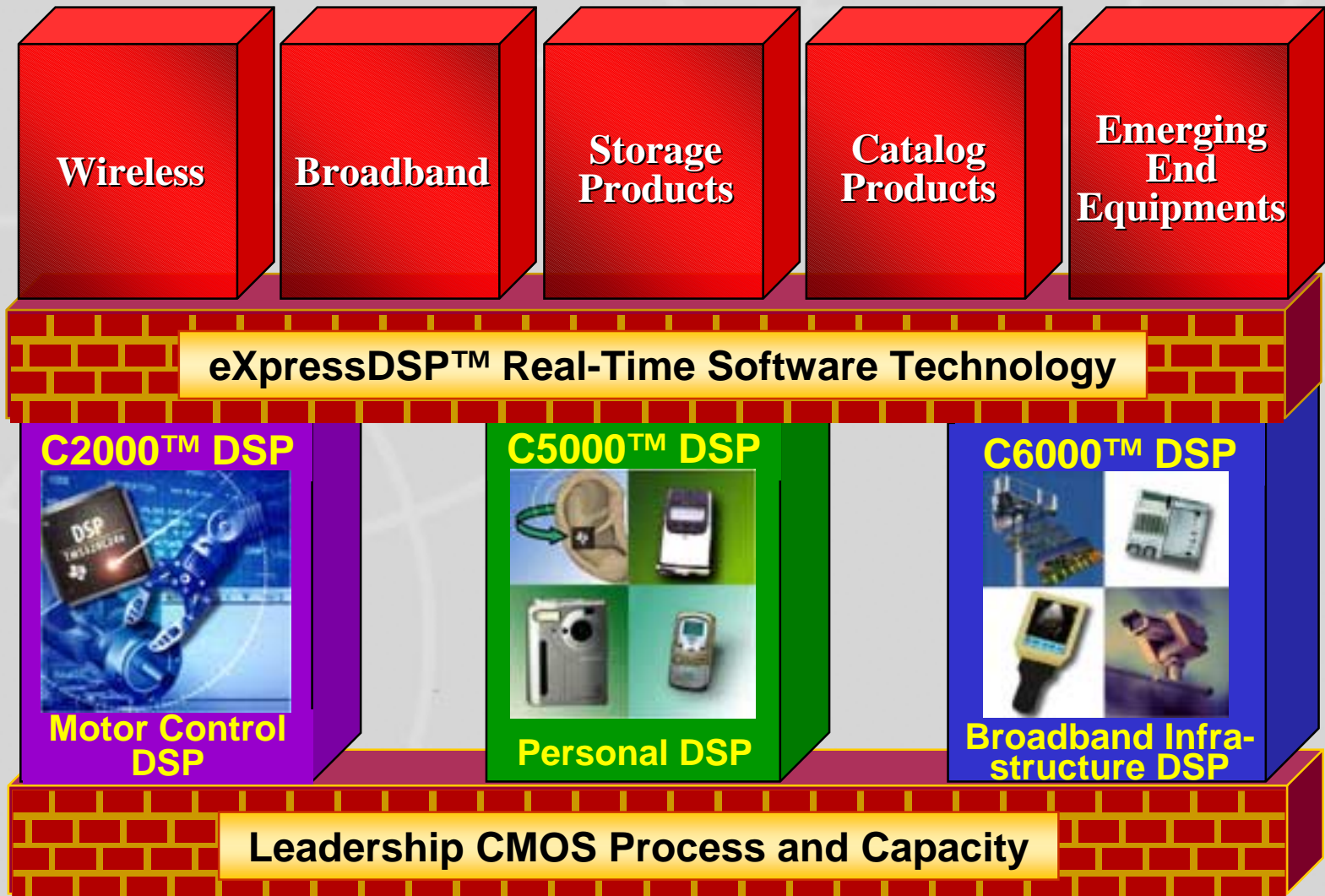
**TI #1**

TI gained DSP market share in 1999 for 6<sup>th</sup> year in a row

Source: Forward Concepts

# Strength of TI DSP Foundation Driving Phenomenal Opportunity

DSPS Fest  
2000



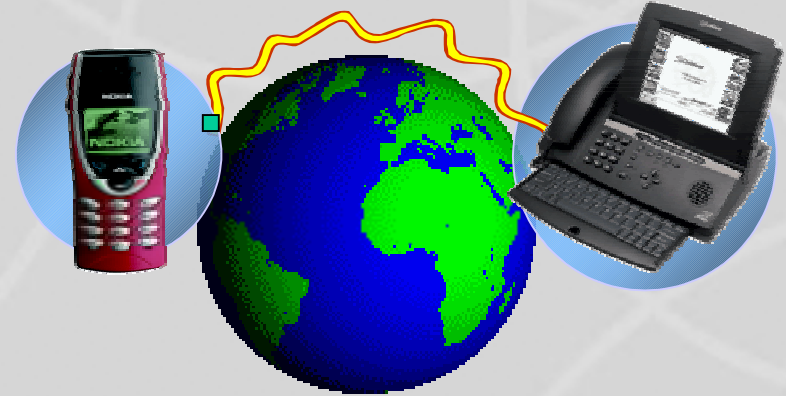
# TI SC Manufacturing Focus Matches Internet Age Requirements

DSPS Fest  
2000

PC Era: *uP + Memory*



Internet Era: *DSP+Analog*



W A S

I S

1980

1990

2000

2010

- High volume, internal FABs
- First to 10M units

- Performance

- Trickle down to lower end

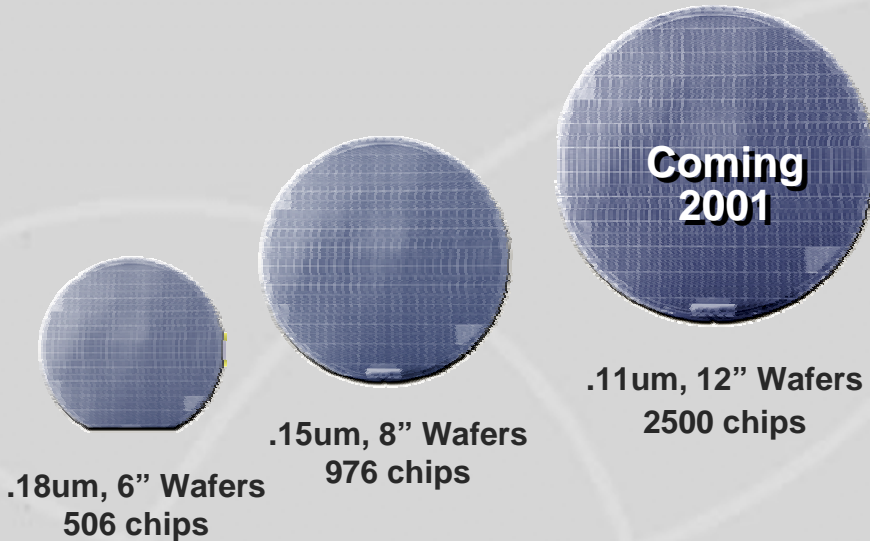
- High volume, internal FABs
- First to 100M units

- Performance, low cost, low power, SOC

- Quickly exploit major market scale for new markets.

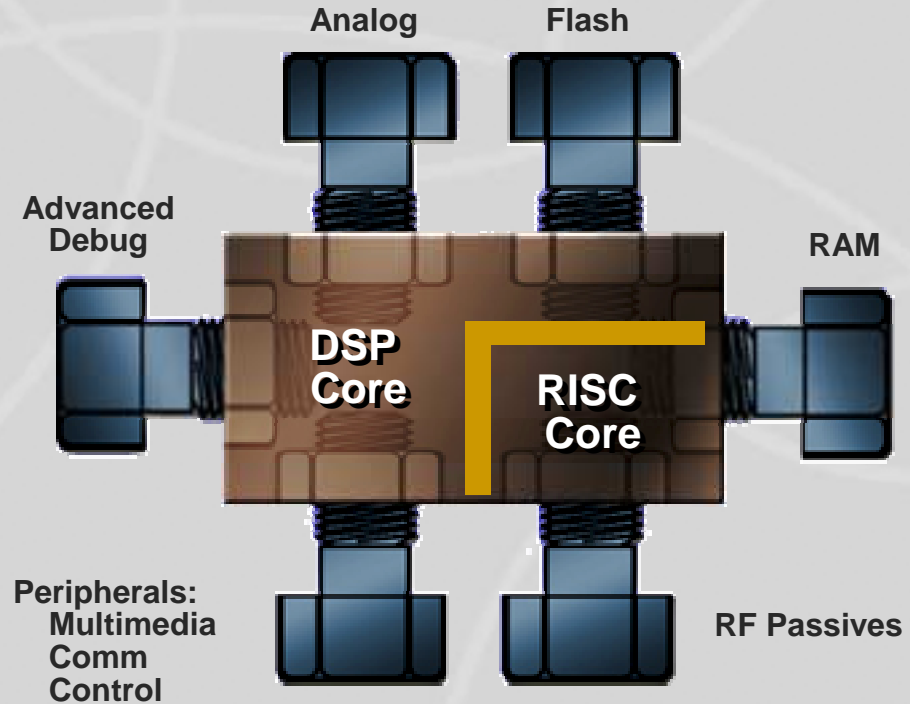
# TI Leading the DSP Industry in Manufacturing Muscle & SOC Integration

DSPTS Fest  
2000



## Fast Time to Volume for Leadership CMOS

- Highest processing speeds
- Slashed power consumption
- Lower price per chip
- Multiplied manufacturing capacity



## Advanced Technology for DSP Based SOC Integration

- Maximum integration
- Chip size system solutions
- Faster, easier system design and debug



# Three DSP Breakthroughs Announced in 2000

Impacting Future of Broadband, Emerging & Mass Markets

DSPS Fest  
2000

## C2000™ DSP

Motor  
Control  
DSP

TI C28x™ DSP Core:  
The world's first control  
optimized DSPs

- Up to 400 extended precision MIPS
- Best C/C++ Control Code Efficiency
- Software compatible with C24x™ DSP

## C5000™ DSP

Personal  
DSP

TI C55x™ DSP Core:  
The world's lowest  
mW/MIPS DSPs

- As low as 0.05mW/MIPs for longest battery life
- Best code density
- Software compatible with C54x™ DSP

## C6000™ DSP

Broadband  
Infrastructure  
DSP

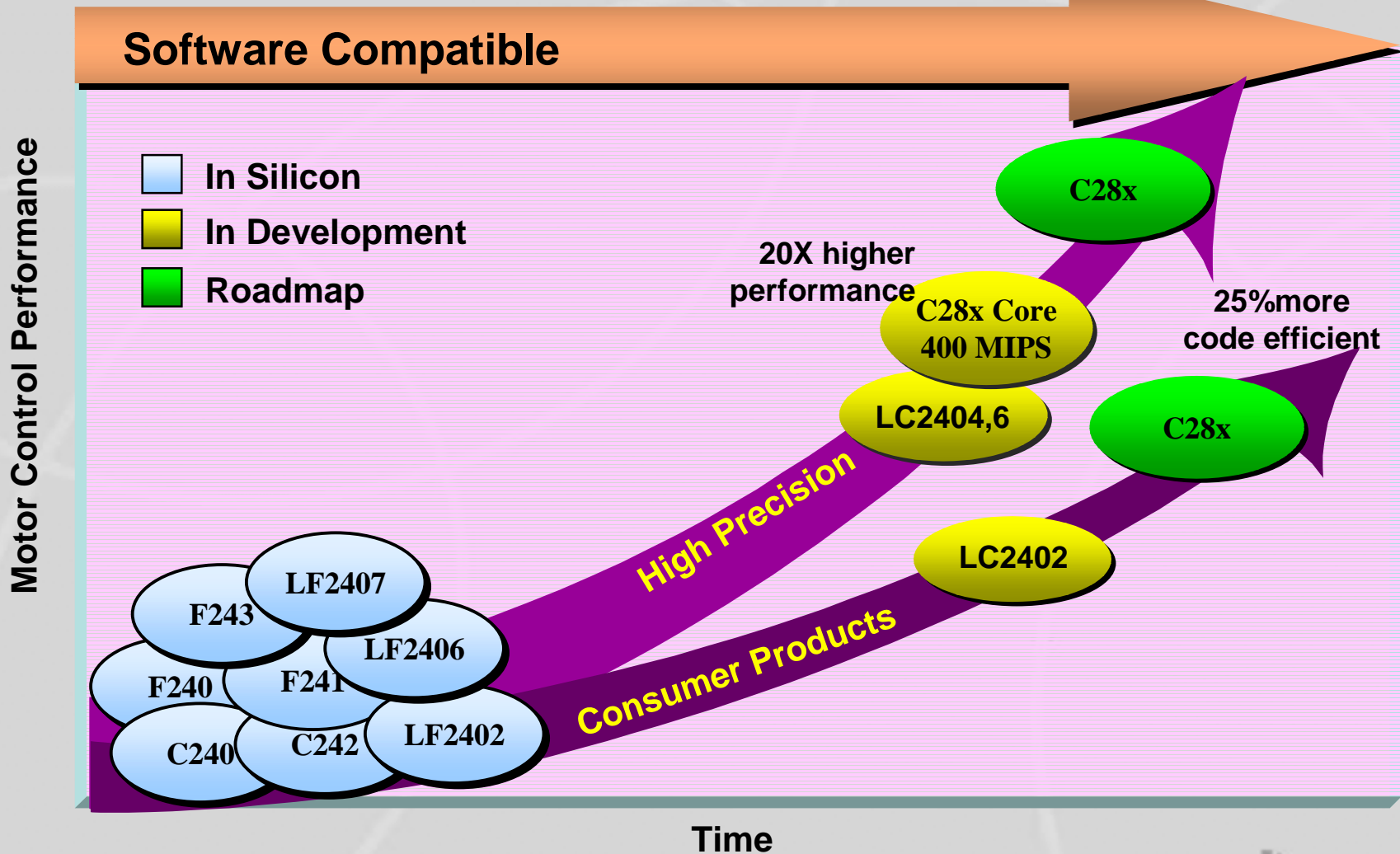
TI C64x™ DSP Core:  
The world's highest  
performance DSPs

- Scalable to 1.1GHz
- Best DSP compiler, ease of use
- Software compatible with C62x™ DSP

# C2000™ Motor Control DSPs

The World's First Control Optimized DSPs

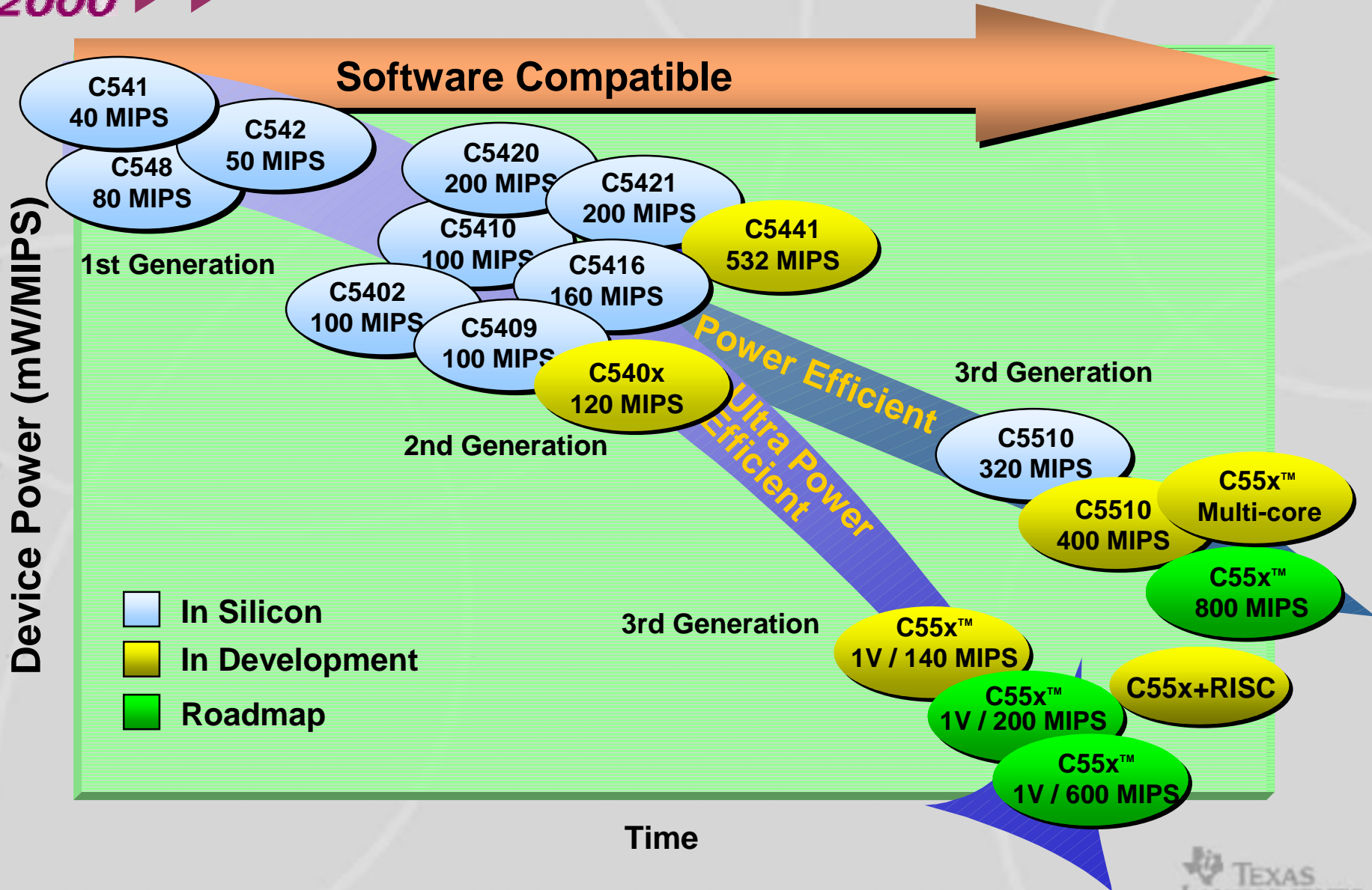
DSPS Fest  
2000



# C5000™ Personal DSPs

## The World's Lowest mW/MIPS DSPs

DSPS Fest  
2000





# C6000™ DSP Broadband Infrastructure & Imaging

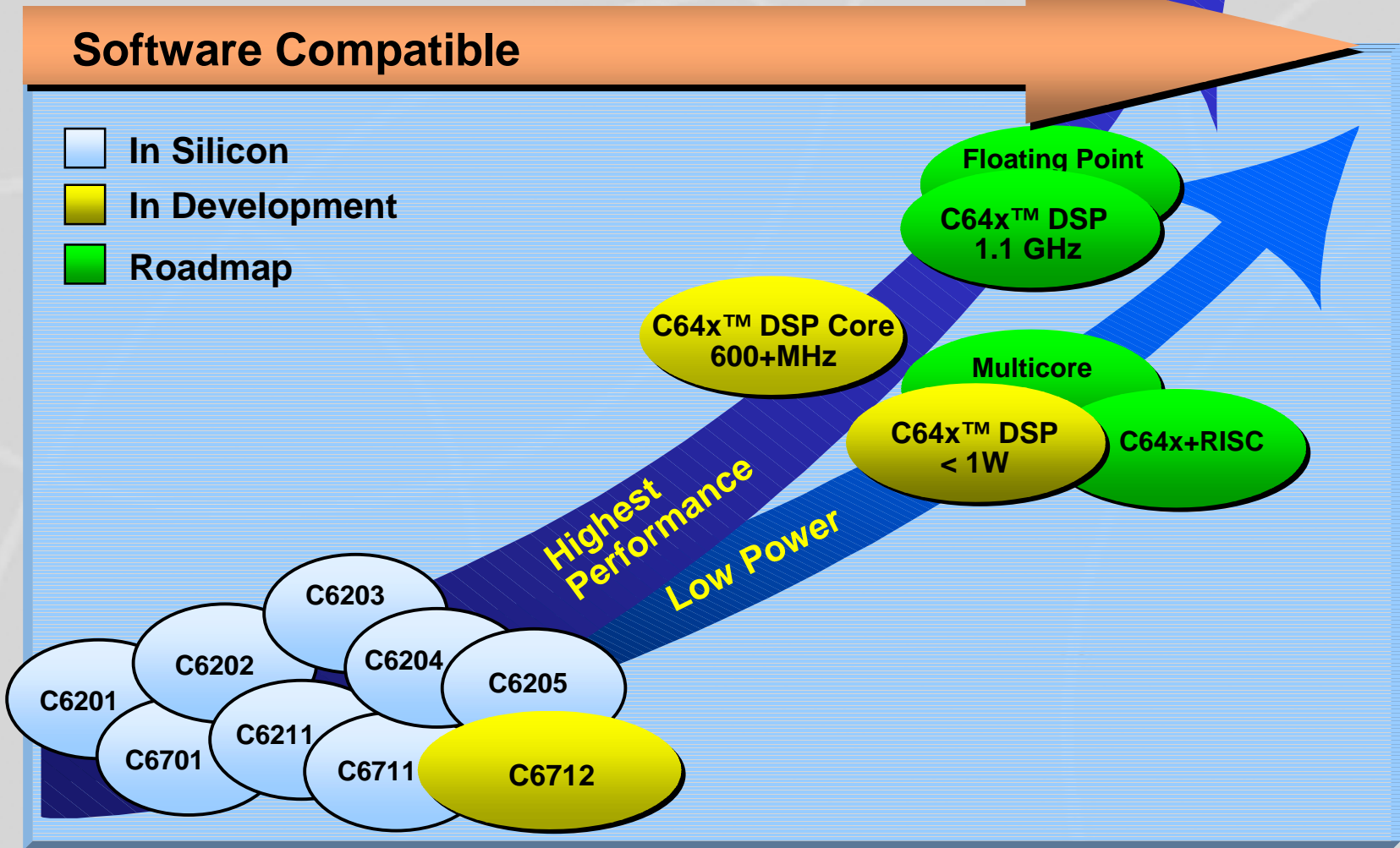
The World's Highest Performance DSPs

DSPS Fest  
2000

Software Compatible

- In Silicon
- In Development
- Roadmap

Performance



Time

# eXpressDSP™ Award Winning Real-Time Software Technology

DSPS Fest  
2000

**EETIMES**

“Tool sets shorten time from algorithm development to silicon”

**semiconductor  
BUSINESS NEWS**

“TI offers new kernel, compiler tools to cut DSP development costs, time-to-market”

## EDN's 1999 Innovation of the Year Award

**EDN**



**eXpressDSP™**, an open software-development environment for Texas Instruments DSPs, gives users a real-time make-versus-buy choice for DSP algorithms.

The Center of the Electronics Universe  
**ChipCenter**™

“New real-time DSP tools from TI increase developer productivity -- enhanced kernel gives DSP system developers greater flexibility, scalability and ease of implementation”

# eXpressDSP™ Adoption — 2000 Goals

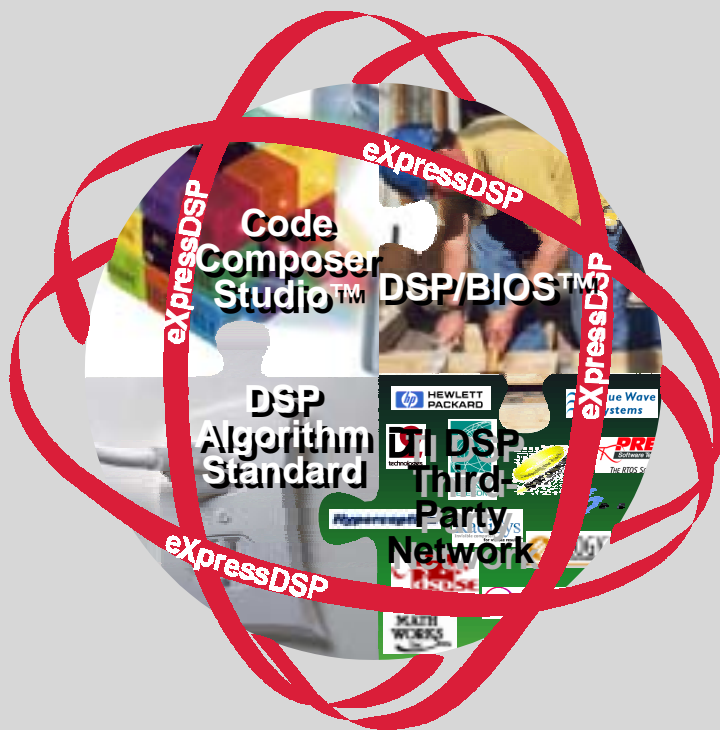
DSPS Fest  
2000

## Code Composer Studio

*13,000 new seats*

## DSP/BIOS II

*1,500 new sockets*



## TMS320™ DSP Algorithm Standard

*250 new compliant  
algorithms*

## Third Party Network

*Win new sockets with  
eXpressDSP compliant  
software products*

# eXpressDSP™ - Staying Out in Front

DSPS Fest  
2000

1999

- CCS v1.0, 1.1 - acquisition integration
- DSP Algorithm standard - XDAIS
- eXpressDSP™ Real-Time SW Technology

2000

- CCS 1.2 – better code plus support for C64x™, C55x™
- DSP/BIOS II
- C5000™ XDAIS Dev Kit
- [www.dspvillage.ti.com](http://www.dspvillage.ti.com)
  - SW developer focus
  - E Store co-marketing
- XDAIS/Plug-in compliance testing

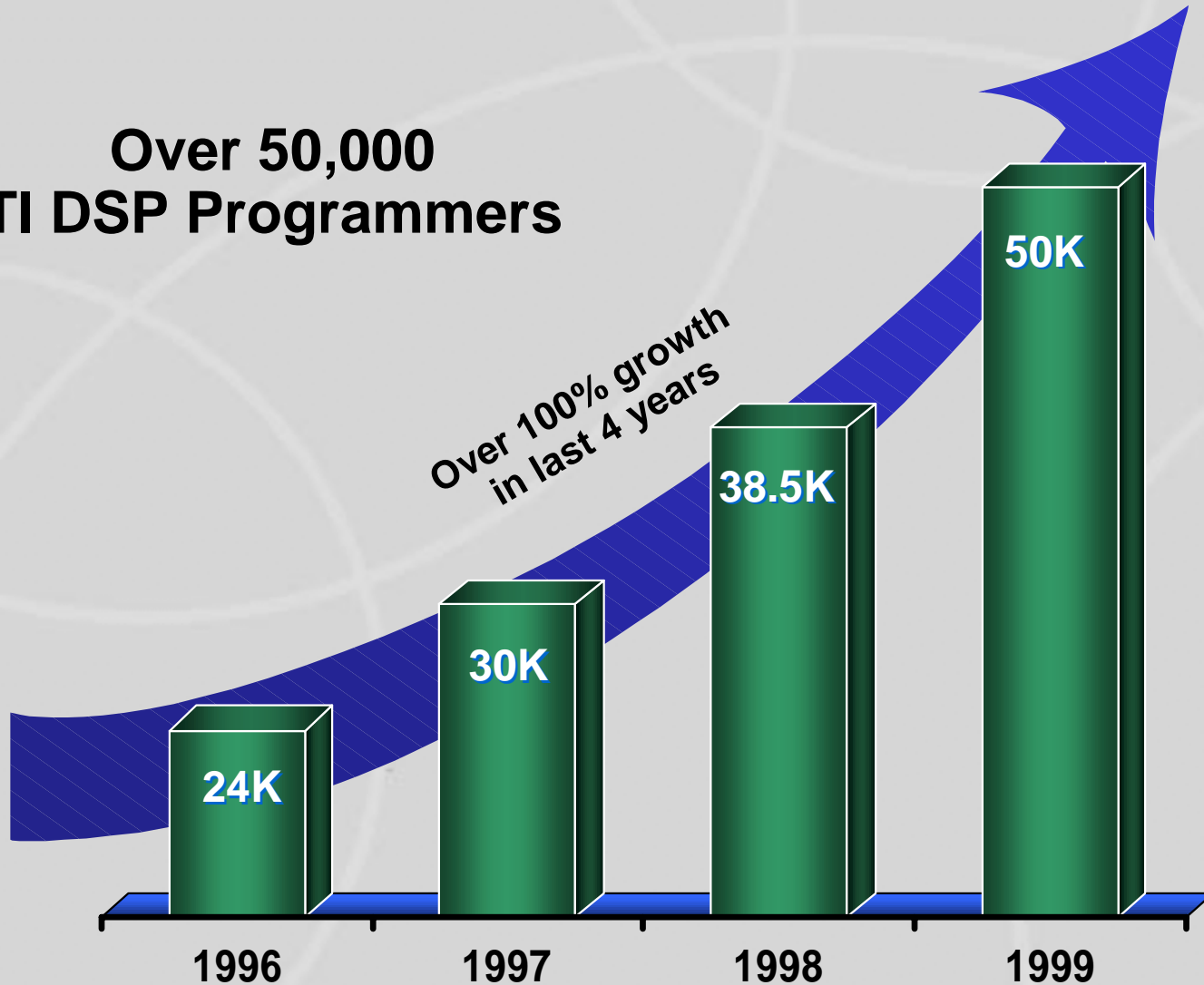
2001

- CCS v2 for C2000, C5000, C6000, ARM
- Emulation innovation XDS560
- DSP/BIOS for C28X™
- Extending CCS with plug-ins
- eXpressDSP for vertical markets

# Together We're Growing the DSP Software Base

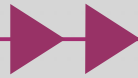
*DSPS Fest  
2000*

**Over 50,000  
TI DSP Programmers**



# TI's Staking a Claim in Broadband

DSPS Fest  
2000



## DSL



- Acquired Amati Communications 12/97
- ADSL pioneer

## Cable Modems



- Acquired Libit 6/99
- DOCSIS-certified technology

## Wireless

- SC wireless leader, >60% share
- Acquiring Dot Wireless
- Acquiring Alantro Communications



## Short Distance Wireless



- Acquired Butterfly VLSI 2/99
- Short Distance Wireless pioneer

## Voice Over Packet



- Acquired Telogy 6/99
- VOP pioneer



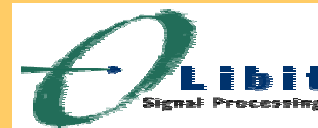
# TI Offers Complete Cable Modem Solution

DSPS Fest  
2000



Leading Voice  
Software

High-Performance  
Power-Efficient  
DSPs



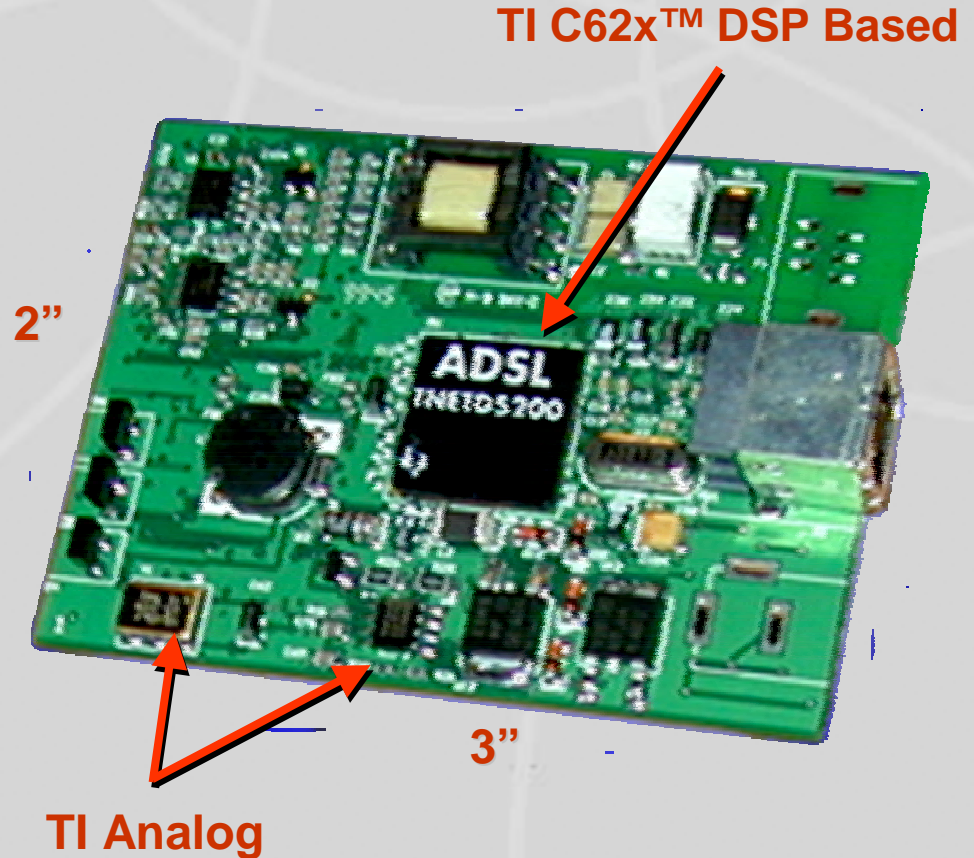
DOCSIS\* Certified  
Technologies

\*DOCSIS - Data Over Cable Service Interface Specification

# TI Creates Smallest Form Factor ADSL Client Modem



DSPS Fest  
2000

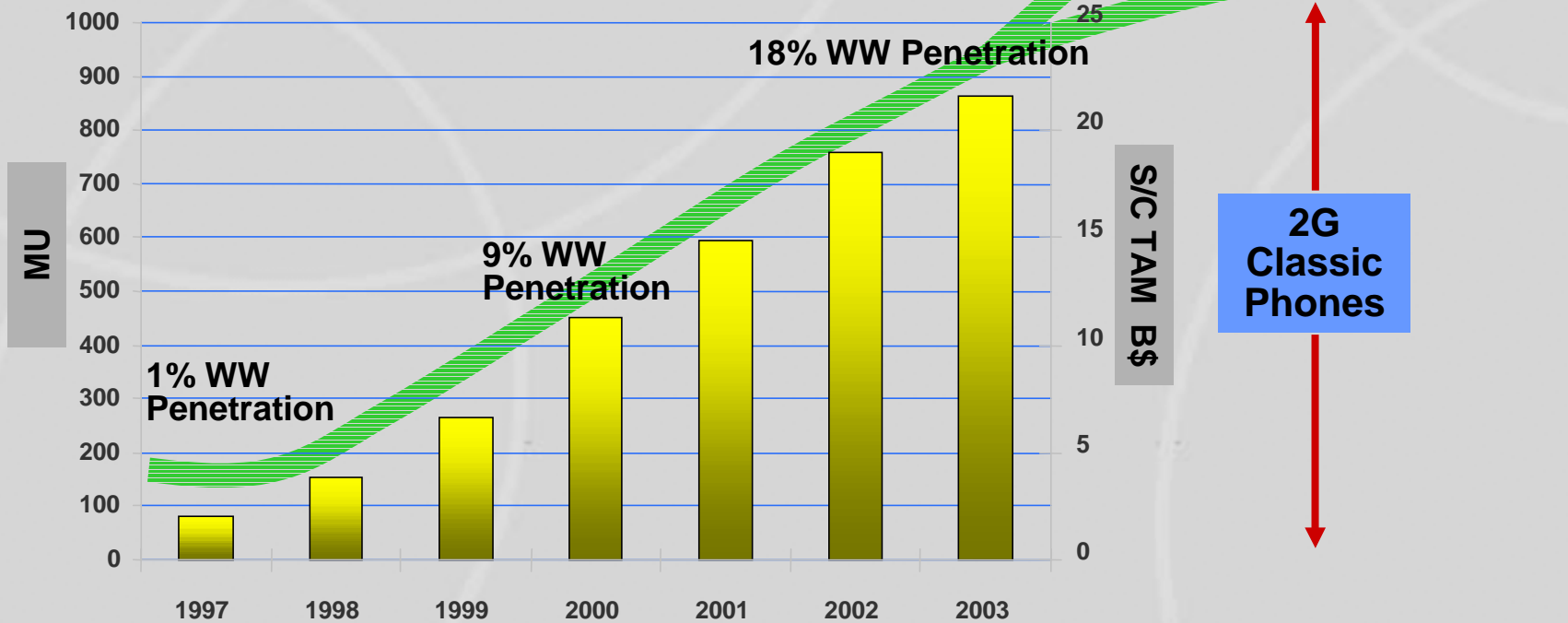
- 4 of 6 leading PC OEMs
- Complete HW/SW solution
- Future-proofed



# Wireless Market is Booming — TI Leading

DSPS Fest  
2000

-  S/C TAM B\$  
source Dataquest
-  Digital cellular handsets  
produced per year  
source TI/Dataquest

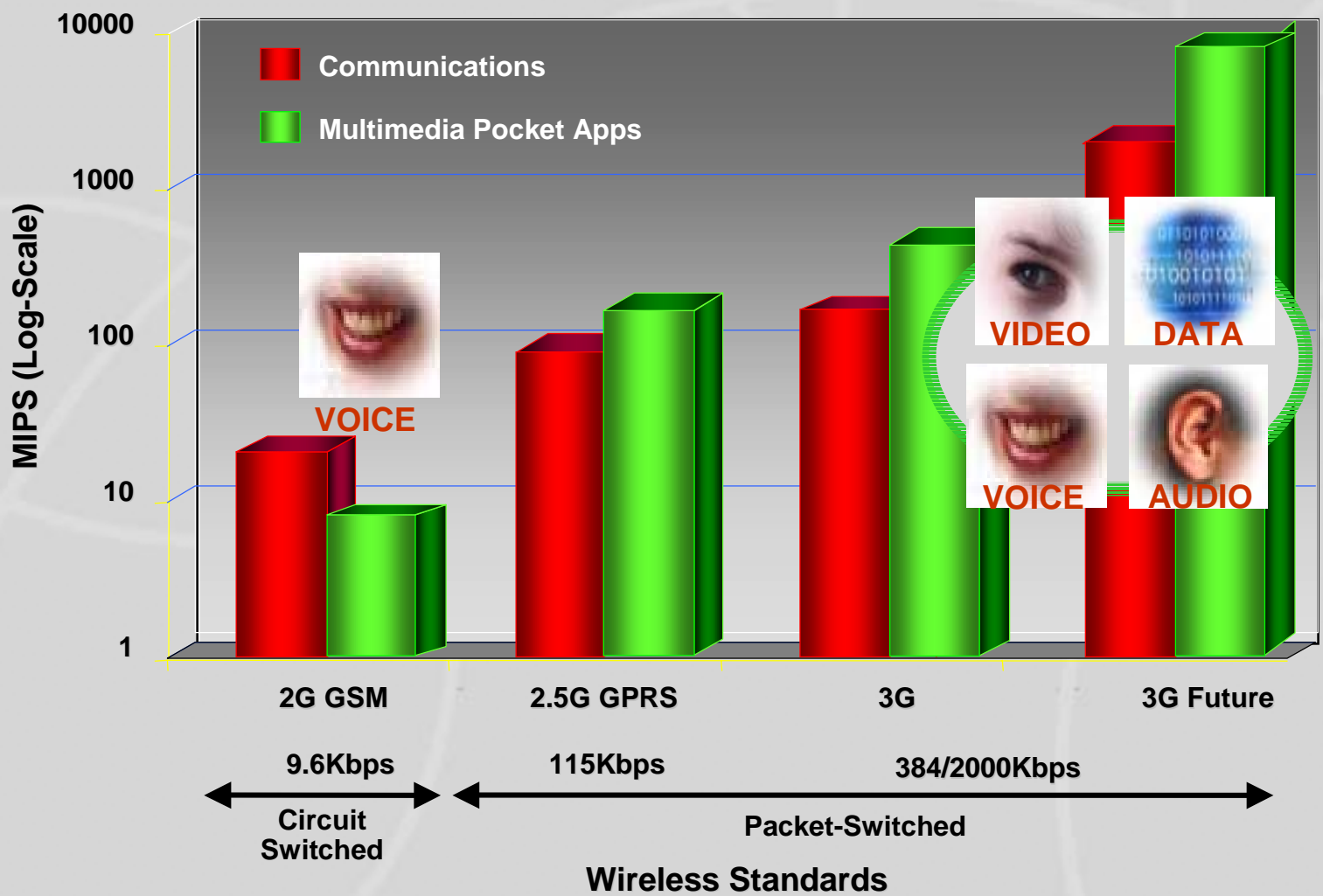


2.5, 3G  
Smart  
Phones

2G  
Classic  
Phones

# Pocket Internet Accelerating Demand for DSP Performance

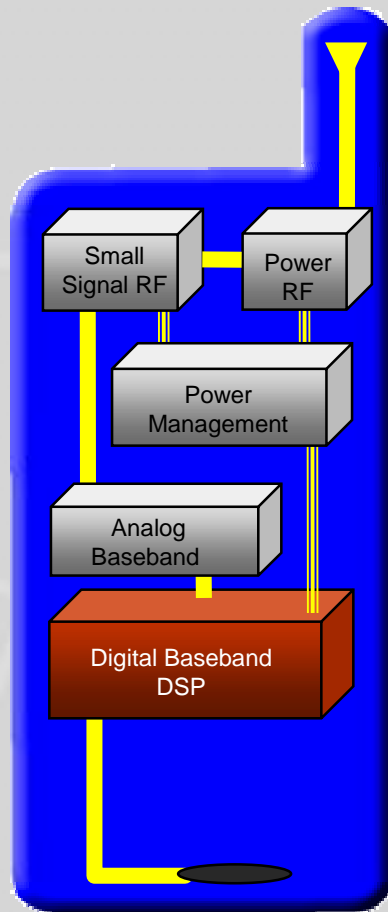
DSPTS Fest 2000



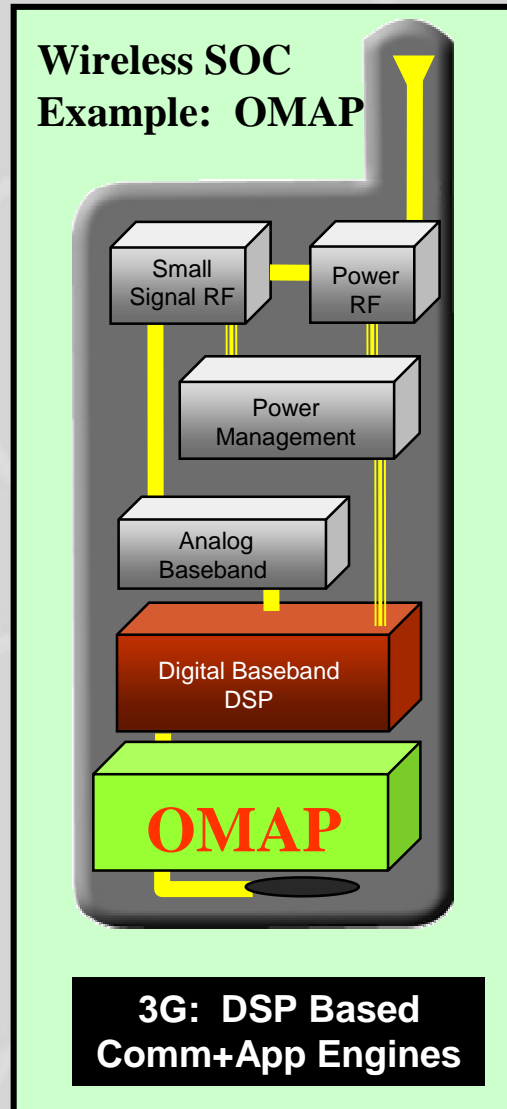
# TI Integrated DSP+RISC SOCs

Expanding Our Leadership

DSPTS Fest  
2000



**2G: DSP Based  
Comm Engine**



**3G: DSP Based  
Comm+App Engines**

## TI DSP + RISC Focus

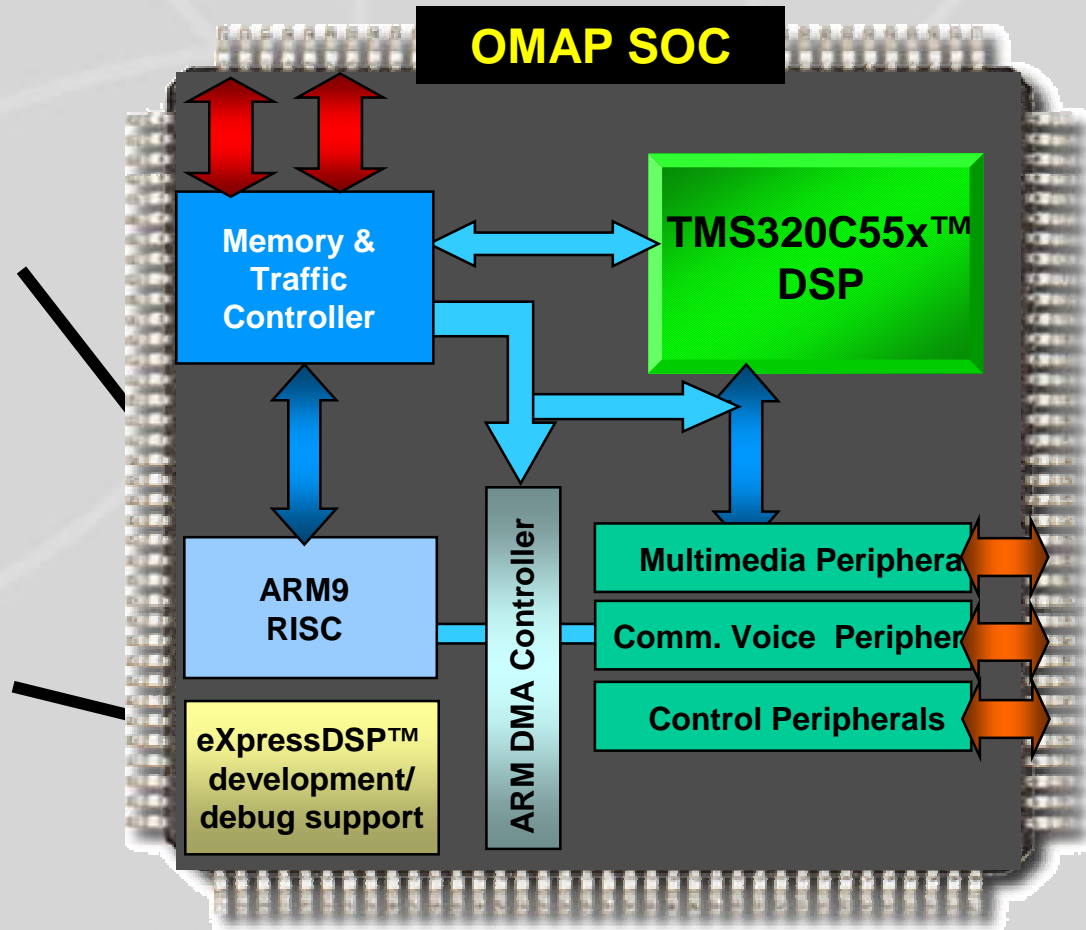
- Leveraging TI leadership and volume in Wireless and Broadband
- eXpressDSP™ is the SW foundation
- Evolving TI DSP+RISC combos driven by emerging markets

# OMAP

## Our First Open DSP+RISC Platform

DSPS Fest  
2000

- Accelerates 3G pocket apps.
- Open software interface for ISVs
- Most powerful, longest battery life, easiest to use



3G: DSP Based  
Comm+App Engines



# Leading HW/SW OEMs Pick OMAP for 3G Handsets and PDAs

DSPS Fest  
2000

## TRENDS

By Robert Henkel

### TI WINS BIG: MAYBE \$1 BILLION A YEAR

When someone's talking \$1 billion, they're talking real money — even when it's Texas Instruments Inc. doing the talking. That's the kind of annual DSP revenues the chip maker expects for next year because the Finnish cellular-phone manufacturer selected a TI platform for its next-generation devices.

18 ELECTRONIC NEWS S JANUARY 17, 2000 C1

## TI, Ericsson Make Beeline to 3G

### Advanced cell phones to use TI device

BY TOM MURPHY

In another indication that Texas Instruments Inc. (TI) plans to lead its considerable share of the wireless handset chip market, the company says it has selected TI's OMAP processor for its next-generation devices. "The device TI announced that it had with Nokia a couple of months ago. The company gets to be the first to market with this device. Coverage, TI will work with Ericsson to develop solutions going to be different from Nokia's approach, but TI will support it and they will certainly maintain their relationship with Nokia."

## Ericsson picks TI as DSP standard

DALLAS — L.M. Ericsson has agreed to use TI's OMAP processor for its 3G phones and Internet access devices. The agreement is part of the company's Open Platform, an architecture for developing applications for mobile devices.

EDTN Network

# EETIMES.COM

THE TECHNOLOGY SITE FOR ENGINEERS AND TECHNICAL MANAGEMENT

Home : Systems & Software

McCormick Place South Chicago

## NEWS CHANNELS

### SYSTEMS & SOFTWARE

## TI, Symbian and Nokia announce a platform

By Peter Clarke  
EE Times  
(05/27/99, 2:52 p.m. EST)

NICE, France — Texas Instruments Inc., Symbian and Nokia have developed and will broadly promote a new next-generation wireless phone. Nokia said it will use the jointly developed Open Multimedia Application Platform (OMAP), which includes an ARM processor and TI's real-time operating system, the Epoc. The companies hope to make the platform an industry standard for next-generation phones.

## Sony endorses TI's OMAP for 3G cellular phones

By Darrell Dunn  
Electronic Buyers' News  
(04/26/00, 02:45:25 PM EST)

Sony Corp. today became the third cellular phone manufacturer to announce it will use TI's Open Multimedia Application Platform (OMAP) for its emerging mobile communications devices.

## Microsoft and TI Announce OMAP Collaboration on WinCE

### Relationship to Further the Development of Internet Appliances and Embedded Solutions

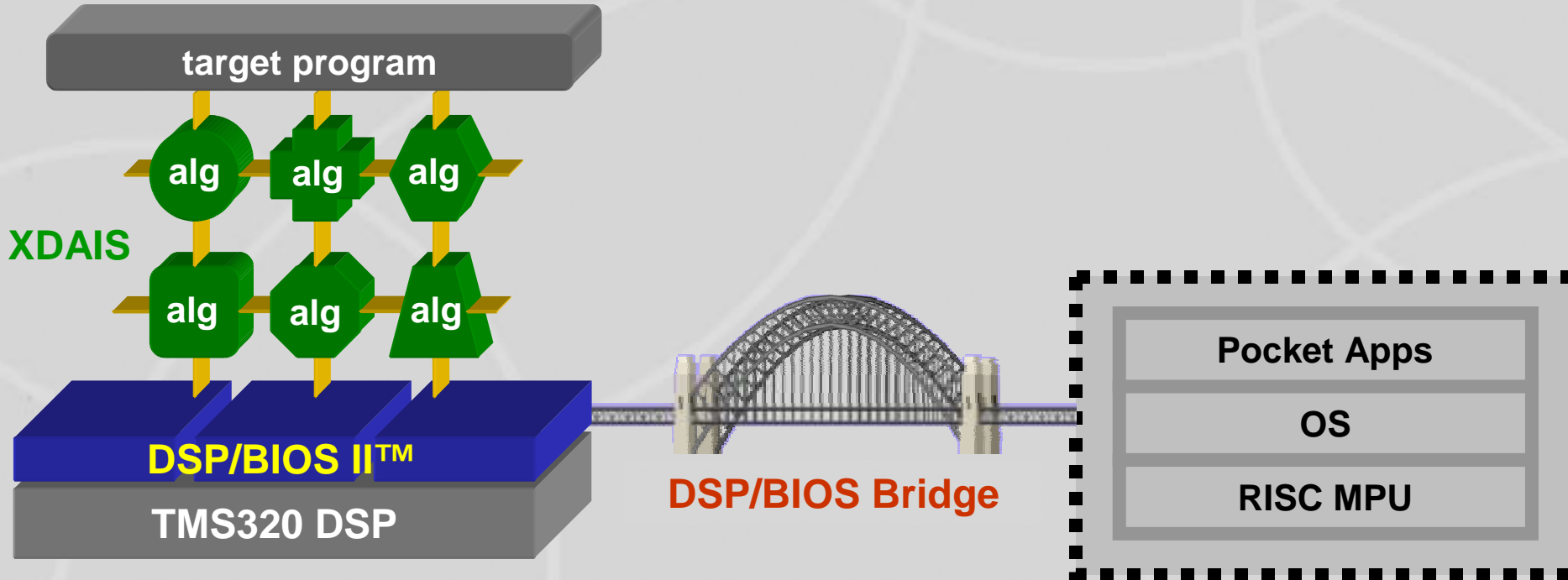
REDMOND, Wash., and DALLAS - March 22, 2000 - Microsoft Corporation (NASDAQ: MSFT) and Texas Instruments (TI) Incorporated (NYSE: TXN) today announced that both companies will collaborate to enable Microsoft(r) Windows(r) CE-based application and embedded system development utilizing the real-time functionality and performance of TI's market-leading programmable digital signal processors (DSPs). As a result of this collaboration, Windows CE developers will soon be able to directly target TI's Open Multimedia Application Platform (OMAP™), enabled by the recently announced TMS320C55x DSP, to design programs for advanced wireless Internet access, including future voice, data and video functions such as digital audio, e-commerce and real-time video streaming on wireless handsets.

# TI DSP+RISC SOCs – Software View

DSPS Fest  
2000

DSP

RISC

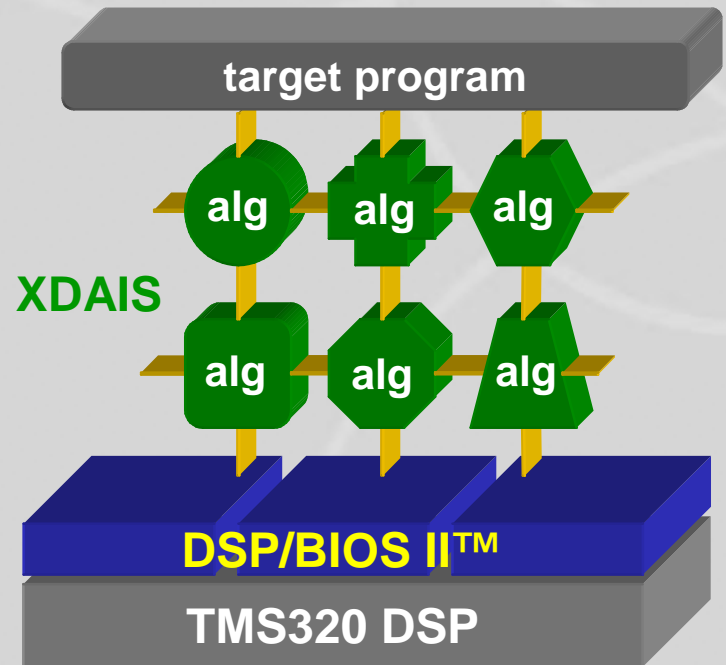


- DSP+RISC SOCs use eXpressDSP™ SW components
- DSP RTOS = DSP/BIOS II
- RISC OS agnostic

# Act Today with eXpressDSP™ for DSP+RISC Opportunity

DSPS Fest  
2000

- Accelerate eXpressDSP™ Software:
  - DSP/BIOS based target software
  - Availability of XDAIS certified algorithms
  - Join the DSP Village E-Store.
  - Win more TMS320 sockets
  
- Coming in Q101: OMAP 3<sup>rd</sup> Party SDK



- **The best DSPs**
- **The best software technology**
- **The most innovative 3<sup>rd</sup> parties, universities and OEMs**
- **Huge markets**

**Do  
Something  
Phenomenal**

**WITH TI DSP**