



# IBM Collaborative Innovation

*Hur företag kan använda IBM för att förbättra sina produkter med avancerad elektronik och programvara*

PLM Forum 2006

Carl G Tengwall



# Agenda

- Innovation to Drive Business Value
- An Overview of IBM E&TS
- Collaborative Innovation with IBM E&TS
- IBM E&TS Offerings Portfolio



# Innovation Drives Business Value

## The facts:

Companies that generated 80% of their revenue from new products typically doubled their market capitalization in a five-year period

A 10% increase in the percentage of sales from new products and services was correlated with a 2.5% increase in revenue growth

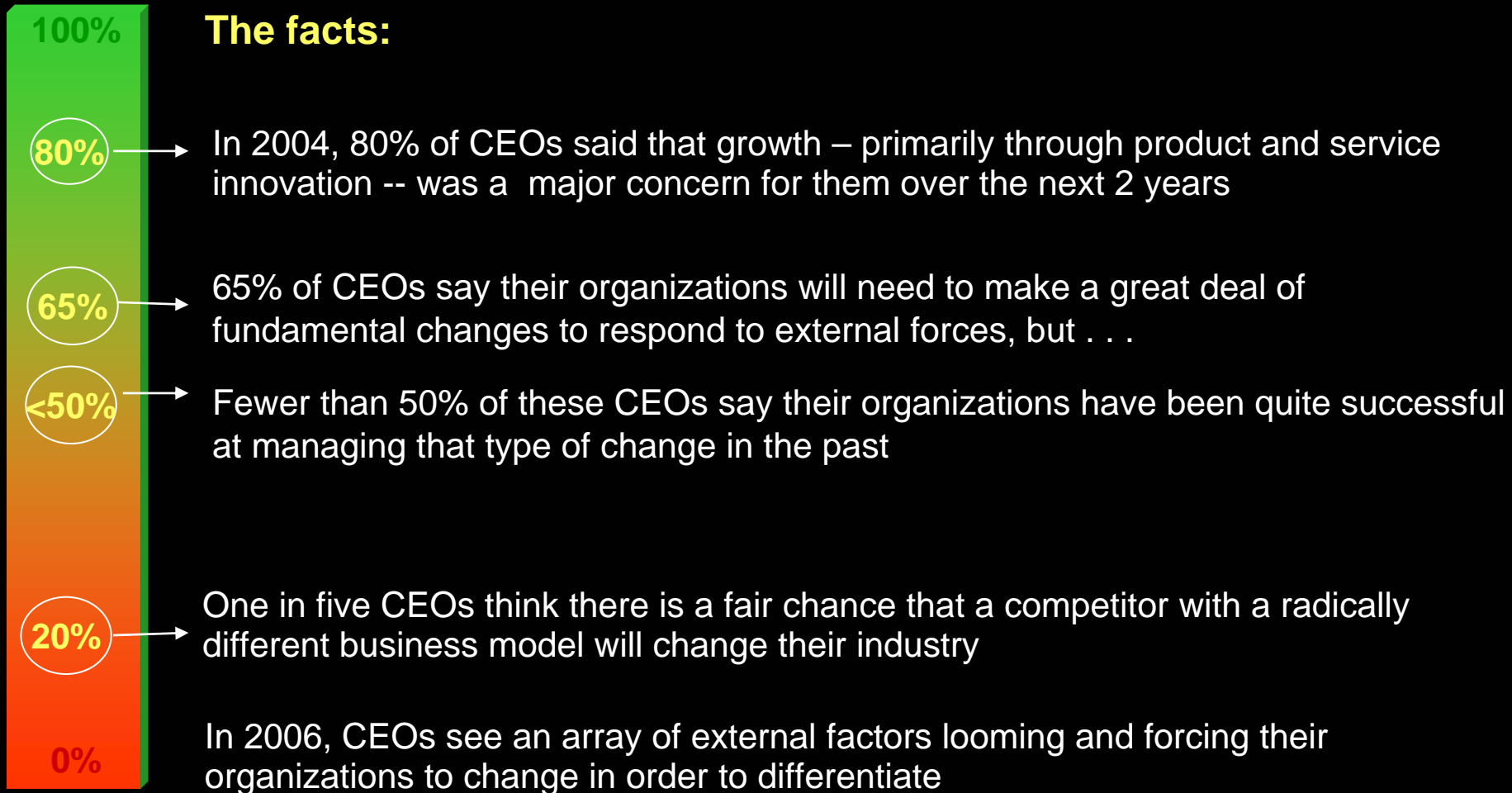
A 10% increase in percentage of sales from new products and services was associated with an increase in total shareholder returns of nearly 9%, yr-on-yr

High performing companies - those which generate annual total shareholder return in excess of 37% and have seen consistent revenue growth over the last five years - average 61% of their sales from new products and services. For low performers only 26% of sales comes from new products and services



Source: IBM Institute for Business Value

# ...and is at the core of the CEO agenda



Source: IBM Institute for Business Value, Survey of over 350 CEOs

# But managing innovation successfully presents a challenge

## The Innovation Implication:

- No single company, in any industry, can create all the innovations needed to compete
- Individuals and companies are deploying new knowledge in unpredictable ways
- To harness this innovation you need lots of partners, and lots of people developing designs and putting them together as customer solutions
- This means tapping into a broad ecosystem, and it means rethinking your R&D
- 'IBM Collaborative innovation' enhances the leverage gained from R&D expenditures, solidifies alliances, and helps you expand into new markets and deliver more comprehensive customer and competitive solutions



## Collaboration enables more powerful innovation and a greater competitive edge in the global market place

- 76% of CEOs consider internal and external collaboration indispensable to innovation – but many organizations are only beginning to practice it.
- Market and industry outperformers are significantly more likely to generate ideas from external sources than underperformers.
- Innovation leaders defy collaboration limits and force an outside look ...every time - building internal and external collaboration and partnering as a prerequisite
- Business and technology integration ignites innovation, and technology is both a driver & enabler for innovation



# Examples of IBM Collaborative Innovation

**Medical  
Electronics:**



*MHealth making  
healthcare more  
efficient and  
reliable*

**Consumer  
Electronics:**



*Revolutionizing game  
systems and media  
devices*

**Communications  
Infrastructure:**



*Tapping into  
new market  
opportunities*



*Joint SW dev  
center to  
enhance  
automotive  
safety &  
convenience*

# IBM Engineering & Technology Services (E&TS)

Who  
We  
Are

***IBM Engineering & Technology Services is a team of 1,500+ highly skilled hardware and software engineers with a track record of delivering value-added engineering solutions to multinational clients***

What  
We  
Do

***IBM Engineering & Technology Services combines its engineering knowledge and experience to help bring our clients products to market faster while improving return on investment***

We help our clients take advantage of our design expertise and advanced technologies to meet design challenges and *transform technology into greater business value*





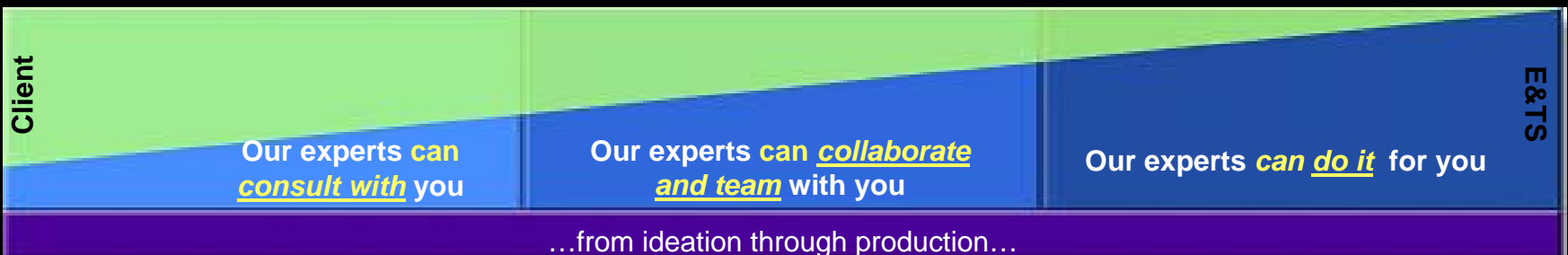
# E&TS Brings Together All of IBM's Strengths

- E&TS is the **portal** to highly-qualified engineering skills, business expertise, and a broad portfolio of intellectual property (IP)
- E&TS also **offers** experienced business talent and advanced technologies to help you **reinvent** the way you tackle research, development and new product design - from concept through delivery



## ▪ Engagement Business Models

– Our services have **multiple engagement models** that fit your current design problems at hand

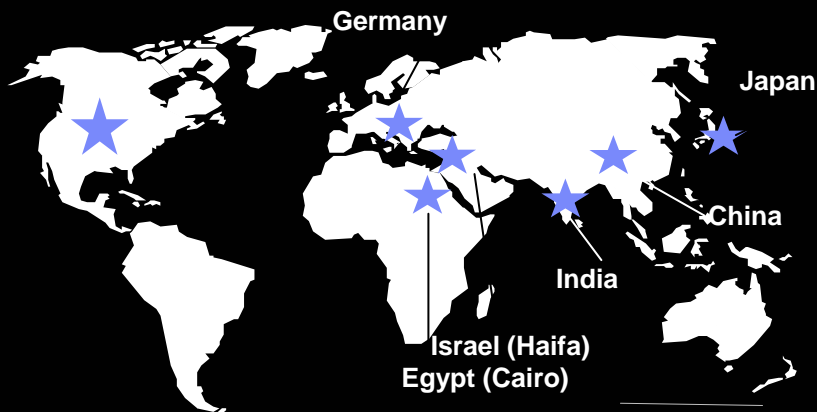


# A Profile of Technology Collaboration Capabilities

## E&TS Offerings Focus:

- Product Development**      How can we work **together** to improve your own products
- Product Differentiation**      What can we provide to you that makes your products stand out
- Product Delivery**      How can our knowledge and expertise enable you to deliver your products faster and better

## E&TS Global Presence



**1,500+ Professionals Worldwide**

## E&TS Practices

- |                          |                       |
|--------------------------|-----------------------|
| Aerospace & Defense      | Automotive            |
| Government               | Industrial Automation |
| Electronics              | Communications        |
| Semiconductor            | Education             |
| Life Sciences/Healthcare | Financial Markets     |
| Energy & Utilities       | Retail                |
| Travel & Transportation  | Media & Entertainment |
| Process Manufacturing    | Consumer Products     |

# Innovation, E&TS and You

## What clients are saying...



### Technology Leadership

*“We want to become the industry innovators, setting the pace for our competitors rather than playing catch-up.”*



### Time to Market

*“The pace of change is fast and customers have a diverse appetite of technology and functionality, causing significant challenges for us to keep up with, let alone develop the next big thing.”*



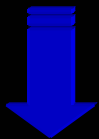
### Competitive Advantage

*“Our competitors keep changing the rules. If we don’t start getting some fresh thinking, I don’t know how we’re going to compete anymore.”*



### Operations Efficiency

*“My products require more technology to be competitive, but I don’t want to invest in more in-house engineering resources.”*

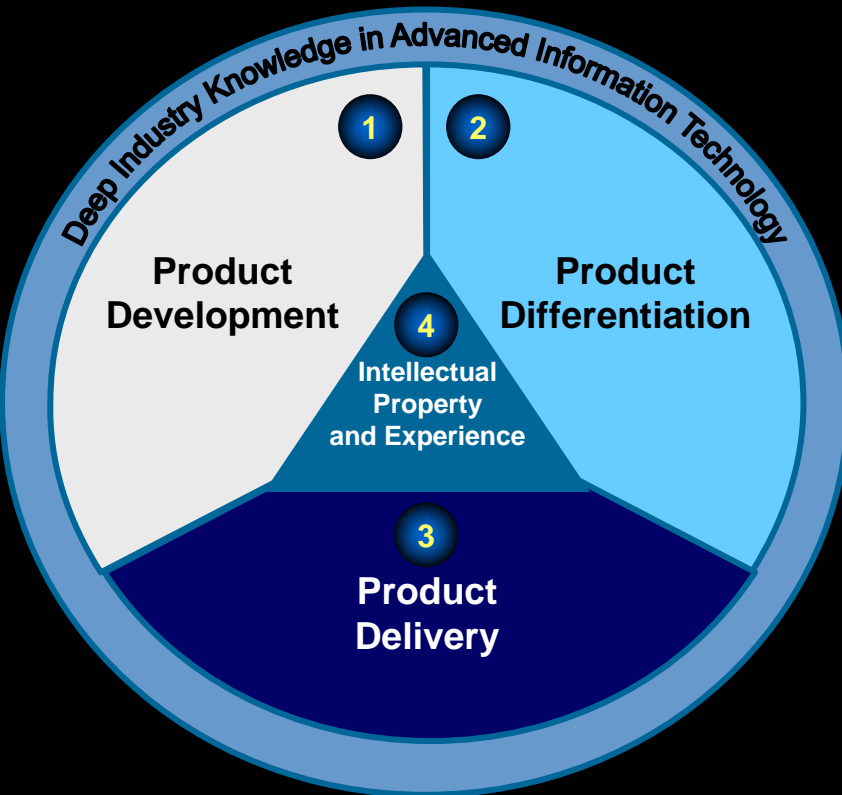


**Establishing a *IBM Collaborative Innovation* partnership**  
**Can help drive more effective transformation of your products**

**Generate greater business value for you**

**And result in *stronger leadership* for you in your markets**

# E&TS Collaboration to Create Meaningful Innovation



- 1
  - Enable the creation of strategic design operations through Joint Innovation Centers
  - Developing/applying advanced IT solutions, integrating it into your products to improve the speed and quality of your technical processes.

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- 2
  - Collaboration for advanced customized systems solutions and customized components including featuring IBM's latest Cell Broadband Engine™ technology
  - Differentiating your product by applying IT e.g. BlueGene, Customized Blades, to create new functions with more value, flexibility.

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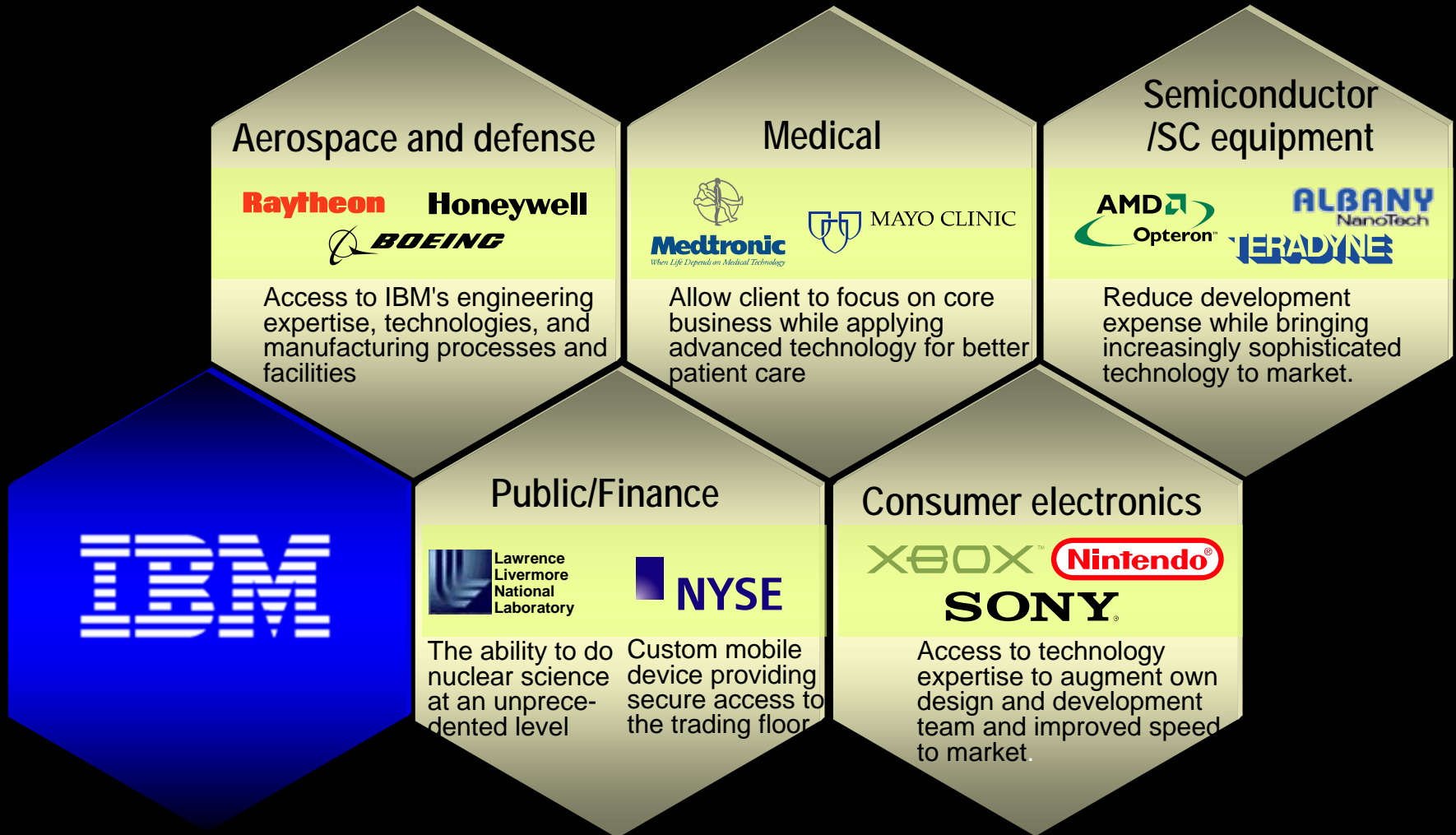
- 3
  - Solutions to enable flow and process optimization
  - Technology Collaboration offerings to enable improvement leveraging our experience.
  - Advanced IT solution to enhance the speed and efficiency of product delivery

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- 4
  - Accessing the IBM IP portfolio
  - Addressing challenges with accelerated and more reliable value

# E&TS is at the heart of "Collaborative Innovation" that matters

... Deep technology, engineering and research skills combined with industry expertise to help create client business value



# Customized Systems

- **Provide customized solutions for clients from deeply embedded devices to general purpose systems.**
  - We utilize IBM's system design methodologies, skills, and assets in electronics, electrical, mechanical, power, cooling, packaging, & software to deliver a device, product, or system tailored for your need
  - Our world-class development practices, project and quality management, & IP portfolio give you a competing edge in the marketplace
- **Customized & embedded systems design**
  - New or proven platforms development
  - Complex technologies integration
  - Engineering expertise on chips, boards, packaging, and systems
  - System level co-development best practices
- **Embedded SW Design Services**
  - We leverage IBM expertise, to bring you services in software process development, architecture design, development tools, middleware, integration and testing, project management, and quality assurance
  - Embedded software services
    - Point or total software stack development
    - System delivery optimization and quality improvement
    - Joint development center or joint innovation center model



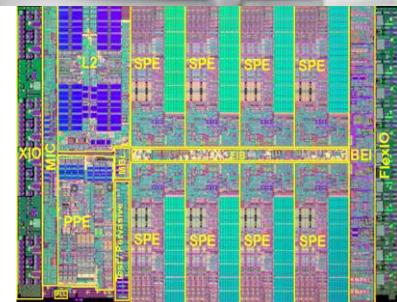
# Customized Systems Cont'ed

## ■ Customized Blades

- Specialize in IBM eServer® BladeCenter® and PICMG AdvancedTCA® platforms
- Processor blades with x86, Power™, and Cell Broadband Engine™ (Cell BE) architectures
- General purpose & fixed function blades, I/O expansion adapters, switching modules
- System management
- Ability to utilize IBM Blade CoC (Center of Competency)

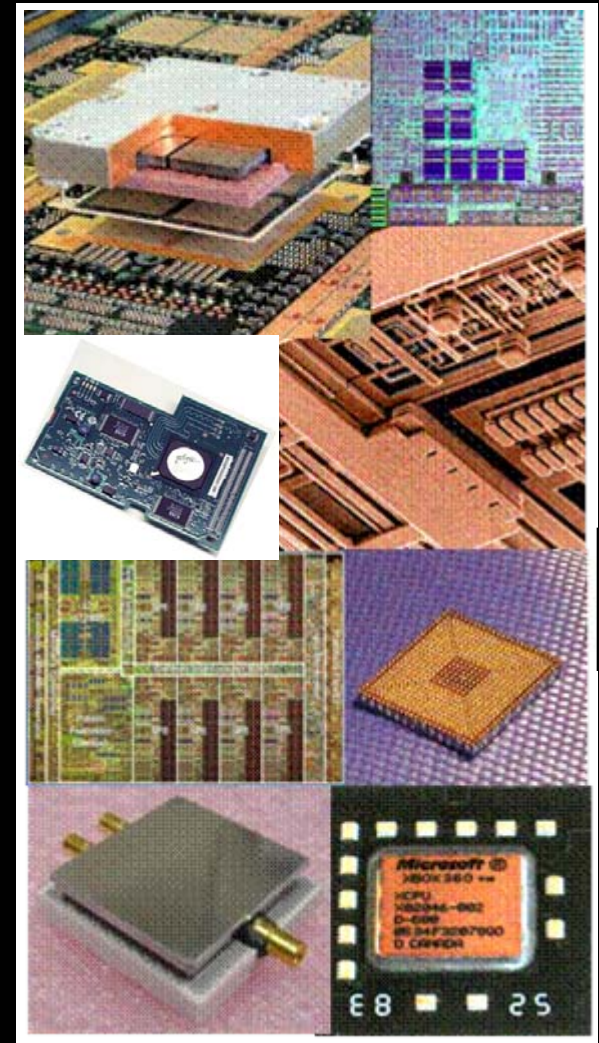
## ■ Cell Broadband Engine™ (Cell BE) Services

- Cell BE chip offers 10X or greater performance in various image and signal processing applications
- Services
  - Architecture Training and Consulting
  - Cell BE Blade Product for Early Adopters
  - Cell BE-based Custom Systems
  - Chipset Design Services for Cell BE Systems



# Component Design and Fabrication

- **E&TS provides a full range of component services:**
  - Architecture, functional design & verification, semiconductor technology & design methodology, circuit design, physical implementation, DFM and packaging/SI design-analysis
  - **Consulting:** Our experts can guide you
  - **Collaborative:** Our experts can team with you
  - **Turnkey:** Our experts can do it for you
  
- **E&TS enables you to focus on your core competencies while leveraging IBM's design expertise**
  - Can speed time-to-profit by improving design and delivery processes
  - Leverage specialized talent on an as-needed basis



## Range of Component Services





# Technology Process Collaboration

**E&TS provides a range of services and software-based solutions that enable clients to bring up new fabs or optimize existing fabs rapidly and to improve their economic return**

- **Process Technology Consulting Services Offering**
  - Manufacturing and Yield Improvement/DFM Consulting
  - Factory Set-up Consulting
- **Process Technology Collaboration Offering**
  - Technology Fab Install
  - Digital and Analog Design Centers Tailored for the Fab
- **Factory Control Automation Software & Services**
  - Manufacturing Execution Systems (MES) – SiView
  - Advanced Process Control and Fault Detection & Classification
  - Arc Detection
  - Manufacturing tooling simulation and optimization based on advanced mathematical methods (Enterprise Planning & Optimization System)
  - Supplier quality management system for preventative quality control & yield improvements (Supplier Quality User Interface for Traceability)
- **Supply Chain SW & Services**



# IBM Engineering & Technology Services

*IBM Engineering & Technology Services combines the deep engineering knowledge and experience you need to help you bring more profitable products to the market place faster and help you improve return on investment.*

**Contact us:** [ibm.com/technology](http://ibm.com/technology)





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