



Engineering Services, Strategic Sourcing, Business and Technology
Services and Solutions

Portland | Dallas | Orlando | Bangalore | Beijing

iBridge Product Engineering Services, LLC



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- ▶ iBridge PES LLC offers low cost, high value design services and consulting in support of our clients' business and product development needs.
- ▶ We focus on delivering business applications and services and embedded systems for a variety of product verticals including: handheld devices; industrial controllers; display devices; medical devices; networking and telecommunications; data communications; and information systems

We provide:

- ▶ **Software Design Services**
- ▶ **Industrial Design and Mechanical Engineering Services**
- ▶ **Electrical Design Services**
- ▶ **Consulting Services (in support of your product development)**
 - ▶ **Engineering Management**
 - ▶ **Marketing**
 - ▶ **Program/Project Management**
 - ▶ **NPI/Manufacturing (sourcing, management, hand-off, facilitation)**

iBridge PES engineers and project managers have extensive development experience in delivering the following:

- ▶ **Business IT and Database/Document Management Applications and Technologies**
- ▶ **E-Commerce/Web Services Applications and Technologies**
- ▶ **Mechanical Design – drawings (2D-3D), models, prototypes, parts design, tooling**
- ▶ **EE Design (chip level, board level, system level)**
- ▶ **Embedded Software (RTOS, BSP, Device Driver, Comm Protocols, DSP, Firmware)**
- ▶ **Embedded Application development (embedded, Real-time, GUI)**
- ▶ **Manufacturing – due diligence, selection, management, engineering hand-off/technology transfer**
- ▶ **Accelerated turnaround time**

iBridge PES delivers software designs services into the following areas:

- ▶ **Web-based Enterprise Solutions**
- ▶ **Transaction-based Web Applications**
- ▶ **E-Commerce Web Sites**

Utilizing the following technologies:

- ▶ **Microsoft .NET**
- ▶ **Java/J2EE**
- ▶ **C/C++/C#**
- ▶ **ASP.NET**
- ▶ **SQL Server**

- ▶ **Real-time OS/Kernel**
 - ▶ BSP and device driver development - includes Board Support Package with diagnostics, driver development for peripheral devices including networking and telecom devices
 - ▶ development of Communication protocols like OSPF, RIPv2, PPP, etc.,
 - ▶ Porting services such as RTOS to target Hardware platforms, porting from one OS to another, and porting applications
- ▶ **DSP Algorithms**
 - ▶ Implementation of DSP algorithms for Audio and Embedded Control
 - ▶ Performance sensitive functions such as Mathematical functions, library modules, etc.
- ▶ **Firmware**
 - ▶ POST and Diagnostics
 - ▶ Assembly language based development and mixed C++/C/Assembly level development for RISC/DSP processor families
- ▶ **Real-Time Applications**
 - ▶ Turnkey Application development for real-time products ranging from Data communications to video security systems, and more

Industrial Design and Modeling Services:

- ▶ **Development and Market Testing of Design Concepts**
 - ▶ Concept Drawings
 - ▶ 2D and 3D drawings
 - ▶ Rapid Prototyping – SLA/SLS
 - ▶ Urethane – Rapid molds
- ▶ **Modeling**
 - ▶ Solid Modeling
 - ▶ Surface Modeling
 - ▶ Assembly and Interface checking
- ▶ **CAD/CAM/CAE Tools**
 - ▶ CAD/CAM - ProE, Solidworks, Catia, UG, Ideas, Delcam
 - ▶ CAE - Hypermesh, Ansys, Nastran
 - ▶ PDM – Windchill, Enovia
 - ▶ Other – Adams, LS-Dyna



Mechanical Engineering Services – Product Development

- ▶ **Product Development**
 - ▶ Part Design
 - ▶ Reverse Engineering – Part to Art
 - ▶ Press Tools
 - ▶ Jigs and Fixtures
 - ▶ Mold and HPDC die design
- ▶ **Analysis**
 - ▶ Stress Analysis
 - ▶ Thermal Analysis
 - ▶ Structural Analysis
 - ▶ Dynamic Analysis
 - ▶ Finite Element Meshing
 - ▶ Mold Flow Simulation
- ▶ **Production Support**
 - ▶ Tooling Development
 - ▶ First Article, prototypes, and small volume supply
 - ▶ Manufacturing Support

- ▶ **Board Level Design Services and Solutions**

- ▶ Embedded Controller/DSP Board Development including multi-layer PCB Cadding and Fabrication
- ▶ FPGA Development for higher-end protocols and interfaces
- ▶ Bus based Hardware Platforms
- ▶ Support and Maintenance

- ▶ **ASIC/FPGA/HDL Design Services**

- ▶ ASIC Services – Design/Development and Testing/Verification for functional verification, Test Suite development, and RTL coding
- ▶ FPGA Services – Turnkey development for High Speed bus interfaces, integration of modules, Complex Multi-million gate design from concept to specification to chip to final board level target hardware
- ▶ HDL Services – Model development in support of VHDL/Verilog/C simulation models, simulation and verification of models on memories, processors, and peripheral devices

- ▶ **Processors**

- ▶ ARM
- ▶ X-Scale
- ▶ PowerPC
- ▶ TI-DSP
- ▶ Freescale

- ▶ **FPGA**

- ▶ Xilinx
- ▶ Altera
- ▶ Actel

- ▶ **ASIC – VHDL/VERILOG**

- ▶ Modeling, Test Suite Development, Verification

- ▶ **Bus and Peripherals**

- ▶ PCI, CPCI, VME, PMC, T1/E1/J1, Ethernet, OC48, Host and Device

- ▶ **Enterprise Business Solutions**

- ▶ E-Commerce, Web Services, Microsoft .NET, Java/J2EE, ASP, C++, SQL Server

- ▶ **RTOS**

- ▶ Embedded Linux, WinCE, VxWorks, ITRON, and more

- ▶ **Device Drivers and Firmware**

- ▶ ISDN, SCC, HDLC, LAP-B, USB, IrDA, MP3, 802.11a/b/g, GPS, CF / SD-Memory, Bio-metric Sensor, Micro-Windows GUI, LCD, Touchpanel, Camera, Power Management, and Smartcard

- ▶ **Protocol Stacks**

- ▶ TCP/IP, PPP, IPSec, IPv6, NAT, SNMP, MobileIP, OSPF, RIP, BGP-4, PHS

- ▶ **DSP and Real-time Applications**

- ▶ H.323, SIP, G.167 & G.168, V.34, Audio and Video CODEC, (G.723.1, G.729, JPEG, MPEG2, MPEG4)

We have experience consulting on all phases of the Product Development Lifecycle. We offer our experience and leadership in the areas of:

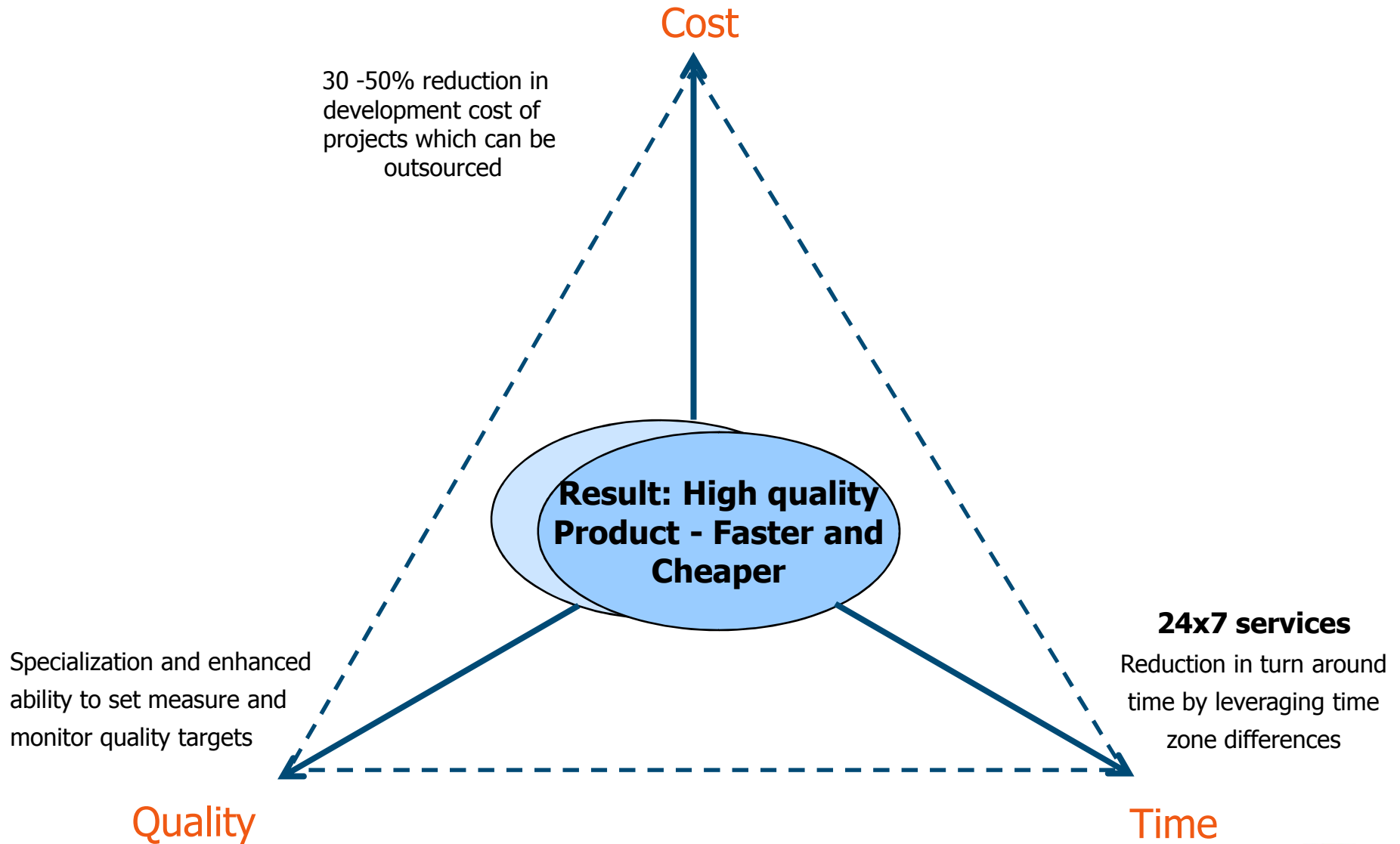
- ▶ Engineering Management
- ▶ Marketing Services
- ▶ Program Management
- ▶ NPI Services - Manufacturing

We manage or facilitate all aspects of product development:

- ▶ Product Vision – Marketing requirements, technology assessment
- ▶ Business Case Development – Pricing, Costs, ROI analysis, feasibility, risk analysis
- ▶ Product Definition – Marketing and Engineering requirements
- ▶ Product Development – Engineering and Program management, facilitate and coordinate local and/or offshore development, Prototypes, Demo's, Product Acceptance, ROHS compliance, Quality, Regulatory, IP Protection, risk mitigation, scheduling, budgeting
- ▶ Product Manufacturing – Source and manage outsourced (local or offshore) manufacturing, facilitate and manage technology transfer from design to manufacturing
- ▶ Product Launch – Product Availability, Product Support , Sales Support

Our focus is on accelerating your product development in a low cost, low risk, high quality manner

- ▶ iBridge PES offers software, electrical, and mechanical design and consulting services in a variety of industry verticals:
- ▶ **Business applications (Document Management, Finance, E-Commerce, Web Services)**
- ▶ **Aerospace**
- ▶ **Automotive**
- ▶ **Consumer Electronics/Handhelds (smart phones, media players, gaming, GPS)**
- ▶ **Data Communications**
- ▶ **Telecommunications**
- ▶ **Wireless Devices**
- ▶ **Display Devices – LCD, Touch screen**
- ▶ **Industrial Controllers**
- ▶ **Network Devices – routers, etc**
- ▶ **Medical Measuring and Monitoring Devices**



- ▶ **Our management team has deep experience in all phases of local and offshore product development from Product Concept to End of Product Life.**
- ▶ **Our development team and our development partners' teams have strong technical, process, and product expertise.**
- ▶ **Our background, experience, partnerships, and focus allows us to provide our customers with low cost, low risk, accelerated product development to enhance their bottom line in a reliable and predictable manner.**

To start a dialogue to discuss your company's product development and design needs contact us today.

Mark Porter

Manager Partner

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Thank You.