DESIGN PROCESS DELIVERY

Knowledge Process Outsourcing:

The Philippine Experience

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Design Process Delivery: Knowledge Process Outsourcing

- What is design process delivery
- Status of the sector
- Things to consider

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What is DESIGN PROCESS DELIVERY

The delivery of technical services which primarily applies the principles of a technical discipline in the design, development and utilization of machines, materials, instruments, structures, processes and systems.

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Fields of Specialization *

- Engineering
- Architecture
- Interior Design
- Urban Planning

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Requirements Served

- Paper to Digital Conversion
- Design Documentation
- Graphic Visualization
- Schematic Design
- Proposal Preparation

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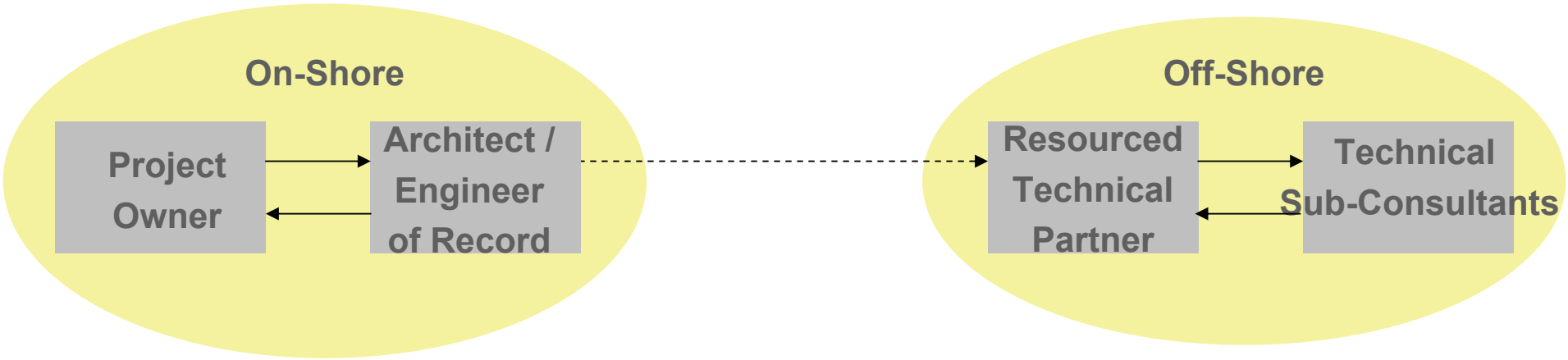

- Transfer of Information
- Project Review
- Establishment of Milesones

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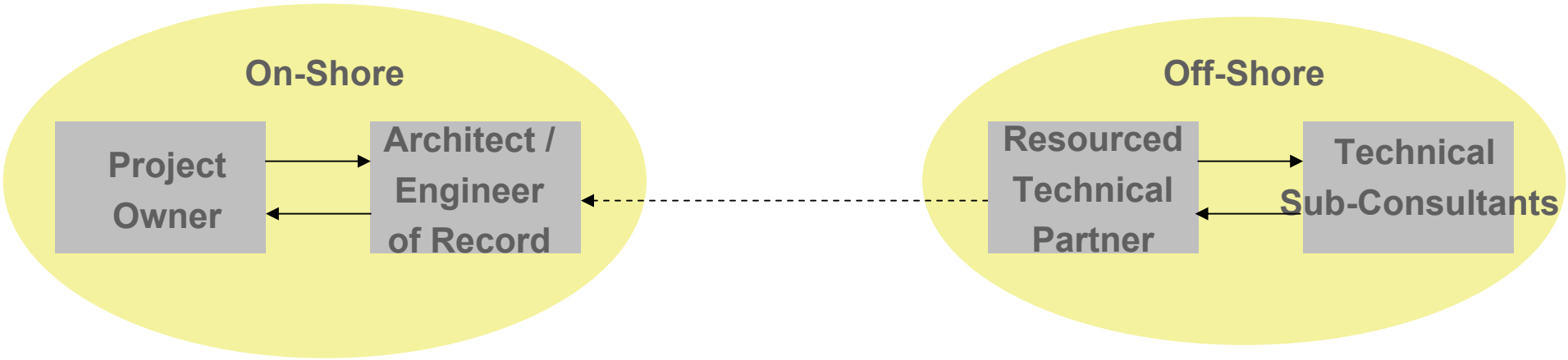

- Coordination Meetings
- Periodic Quality Check
- Post Project Evaluation

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Operation Models

- Captive Operation
- Project Model
- Team Model
- Exclusive Site Model

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The most important reasons for outsourcing

- To save on costs (77%)
- To gain outside expertise (70%)
- To improve services (61%)
- To focus on core competencies (59%)
- To gain access to technology (56%)*
- To enlarge market coverage

*** Based on a survey of 52 major corporations (43 of them US firms) by Schniederjans, 2005**

Demand for DPD

- McKinsey & Company studied eight sectors, namely, packaged software, IT services, banking, insurance, pharmaceuticals, automotive, health care and retail.
- As a rule, the less customer-facing function a sector has the higher its potential to resource those functions remotely.
- Percentage-wise, techincal design is the occupation most amenable to remote employment (*i.e.*, offshoring)
- The report estimates that 52% of technical design jobs may be globally resourced; therefore, this is a high-opportunity area.

Demand for DPD

- Technical design profession's share of employment in the eight sectors is about 3.8 %
- The projected total service jobs worldwide by year 2008 are 1.46 billion. The technical design ring jobs, at 3.8% of the total, are therefore is 55,480,000.
- The offshoreable technical design jobs, at 52% of all jobs, would be 28,849,600, say 30 million.

Demand and Supply

McKinsey concludes that the potential suitable supply exceeds the likely demand for globally resourced talent in most young ("7 years or less" experience) professional occupations.

In the case of technical design the likely low-wage demand in 2008 is about 596,000 while the supply is 946,000, representing 63% demand as a percentage of supply, the largest among all the professions.

However, at current suitability rates and an aggressive rate at which companies are pursuing offshoring the supply of engineers could be constrained by year 2015.

Competitive Engineering Fundamentals

- University system produces qualified graduates with the necessary basic engineering skills.
- The Philippines has good basic engineering curriculum - Fluor Daniel Inc Phils & JGC Philippines.
- Over 40,000 graduates annually (in Math, Information Technology and Engineering)

Quality and Availability of Engineering Skills

- In the case of technical design the likely low-wage demand in 2008 is about 596,000 while the supply is 946,000, representing 63% demand as a percentage of supply, the largest among all the professions.
- Over 75,000 licensed professionals (engineering field)
- Trained CADD engineers
- Skilled Construction Engrs., Technicians, etc.
  - Easily trainable in new technology
  - Exposed to big-ticket projects overseas

Competitive Edge

English Proficiency

- Most widely-used Engg Design software / technology is English & French

Knowledge in use of Softwares

- General Office Automation (Novell, Windows, Oracle, etc.)
- Design and Engineering (STAAD, Frameworks, X-Steel)
- Mechanical, Process, Electrical, Instrumentation, Autocad
- Project Management: IDOC, BQR, J-DOME, MSR, IVIS,
- Project Control System, Material Control System, Piping
- Management System, etc.

Competitive Edge

Technological/Level of expertise of local workers in engineering design

Adherence to internationally accepted engineering standards

- Computer-Aided Design & Drafting Skills (CADD)
- Computer-Integrated Manufacturing Skills (CIM)
- ISO Certification (Milestone: July 2001 =1000 firms certified)

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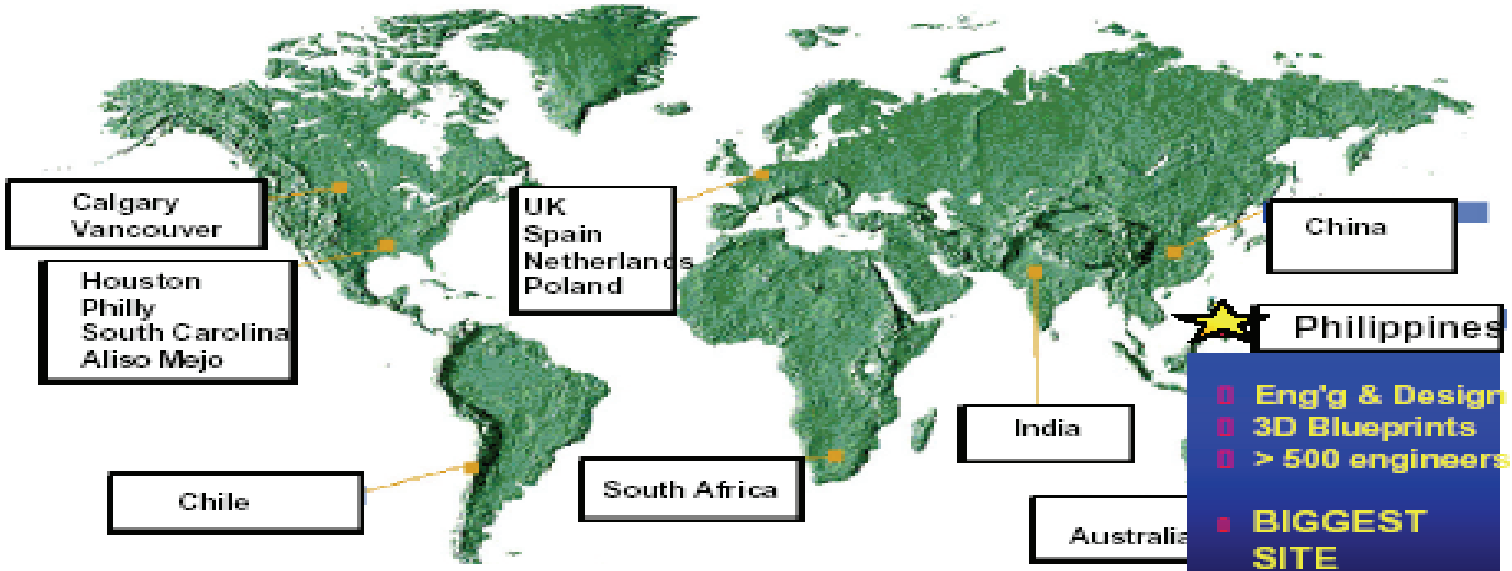
eServices: Design & Engineering Services

FLUOR

Outsource Philippines

Network of Competitive Eng'g & Design, 24/7, Globally



- Eng'g & Design
- 3D Blueprints
- > 500 engineers
- BIGGEST SITE

" We picked the Philippines because of its engineering talent. They're more cost effective and competitive globally. Its been a win-win situation for us.." - VP Robert Fluor

SOURCE: Outsource Philippines Inc. Presentation (NY & London, May 2003)

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FIDIC

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Japan Gas Company Philippines

- *Started with 70 engineers in 1989*
- *Biggest engineering design services company in the Philippines*
- *Now, JGC Philippines operates as SE Asian regional base with about 600 engineers*
- *Ranked 16th for 2004 revenues earned outside of home office (ENR Magazine)*
- *Project 1,000 employees in 2005*

PROJECTS

- *BAPCO Kero-Merox Unit – Bahrain*
- *Bataan Polyethylene Plant – Philippines*
- *CALTEX IROC Project – Philippines*
- *CALTEX NSC Project – Philippines*
- *CALTEX Oil Wharf Expansion – Philippines*
- *G1 Project – Thailand*
- *K2U Project – Thaliand*
- *PASAR Uptake Replacement & Figitive Gas Handling System – Philippines*
- *Petron CNU Project – Philippines*
- *Rio Tuba Nickel HPP Project – Philippines*
- *SHELL GEI's Truck Loading Gantry – Philippines*
- *SHELL Bitumen Export Facility – Philippines*
- *TOYOTA Paint Inspection Shop – Philippines*
- *TOYOTA Welding Shop - Philippines*

ENGINEERING

Feasibility Study
Front End Engineering
Basic Engineering/Detailed Engineering
+ Process Work
+ Piping Work
+ Civil Work
+ Building
+ Mechanical Work
- Process Equipment (Static)
- Combustion
- Rotary Equipment
- System Equipment (Package)
+ Instrument Work
+ Electrical Work

PROCUREMENT

Vendor's List Preparation and Pre-qualification
Inquiry and Evaluation of Vendor's Quotation
Purchasing and Contracts Activities
Expediting
Inspection
Shipping and Transportation (Traffic)

CONSTRUCTION

Construction Management and Supervision
Government Application Permit
Construction Schedule
Safety Control
Quality Control
Material Control
Subcontracting/Labor Management
Field Engineering
Testing and Commissioning

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At present , India, the Philippines and China are often the top choices for locating technical design based services for companies from the UK and the US, the main sources of demand. If US and UK companies continue to concentrate their activities on these 3 countries and current rates of offshoring persists, the demand for young engineers from these countries would fully absorb the suitable supply by year 2011.

Market size is USD 10,000,000,000.00 per annum

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The focus of the Design Process Delivery sector is to pursue a highly specialized BPO avenue by developing expertise in the niche areas covered by the various disciplines of technical design to gain long-term competitiveness of the Philippines.

- Enlarge the sector – vertically and horizontally, local based players
- Establish quality as the banner advantage
- Target the higher tiers of the value chain – knowledge processing
- Establish mutually beneficial partnerships vs “sub-contractor role”

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Target Market *

Go where English is spoken …

- Middle East – UAE, KSA, Qatar, etc..
- North America
- United Kingdom
- Hong Kong
- Japan

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Market Standards

- Communications Equal – Software, Processes, Drawing Standards, Certifications (ISO 9001:2000, ISO 7799, etc.)
- Security Protocols
- Business Continuity Programs
- Manpower Resource Programs
- 100% Licensed Software
- Structured Organization

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Preparing for Market *

- Know your market, know your partner
- Know your capabilities
- Establish a structured and professional organization
- Establish business systems + work programs (quality manual)
- Equip yourselves

Challenge to the Academe

At current suitability rates and an aggressive rate at which companies are pursuing offshoring the supply of technical designers could be constrained by year 2015.

The foregoing is an argument for more suitable technical professionals, not necessarily more technical schools or graduates. It also shows that there is time to gear up for the anticipated increase in demand.

Suitable Technical Design Professionals

- Establishment of international standards in the various disciplines of the design practice and of designers' qualifications.
- Substance of education. Technical design students must be imbued with a global outlook and must be armed with technologies and the so-called soft skills that will enable them to practice at a global level, individually or as a member of a team. The issue of the Philippine curriculum content must also be squarely addressed.

Suitable Technical Design Professionals

- Our practicing design professionals must also keep pace with the advancements in engineering theory and practice through continuing professional education. MS and PhD holders could enhance the competitiveness of firms that desire to compete in the global engineering services market. Proficiency in new design softwares such as Micro-station and Revit aside from AutoCadd.