



INTEGRATE.AUTOMATE.OPTIMIZE.

Thoughts on Offshoring Engineering Jobs

My Background

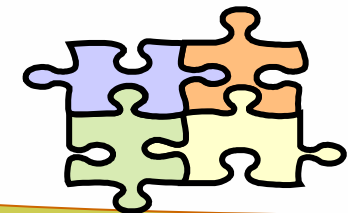
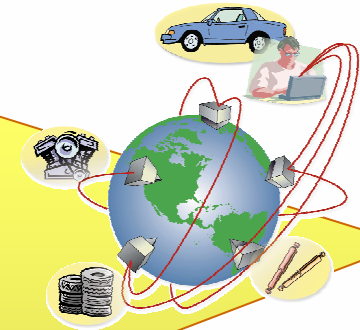
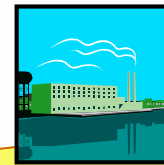
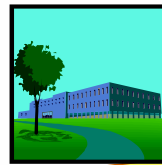
- ◆ **83-94: GE Corporate R&D (Global Research Center)**
 - 1989 GE CEO, Jack Welch, launched the Indian Outsourcing project
- ◆ **94 – present: Engineous Software**
 - Used Indian outsourcing
 - Currently has development team in China
 - Do outsourcing work for other clients in China
 - Develop software for collaborative product development

Inevitable Trend

IT

Engineering Parts

Offshore Engineering



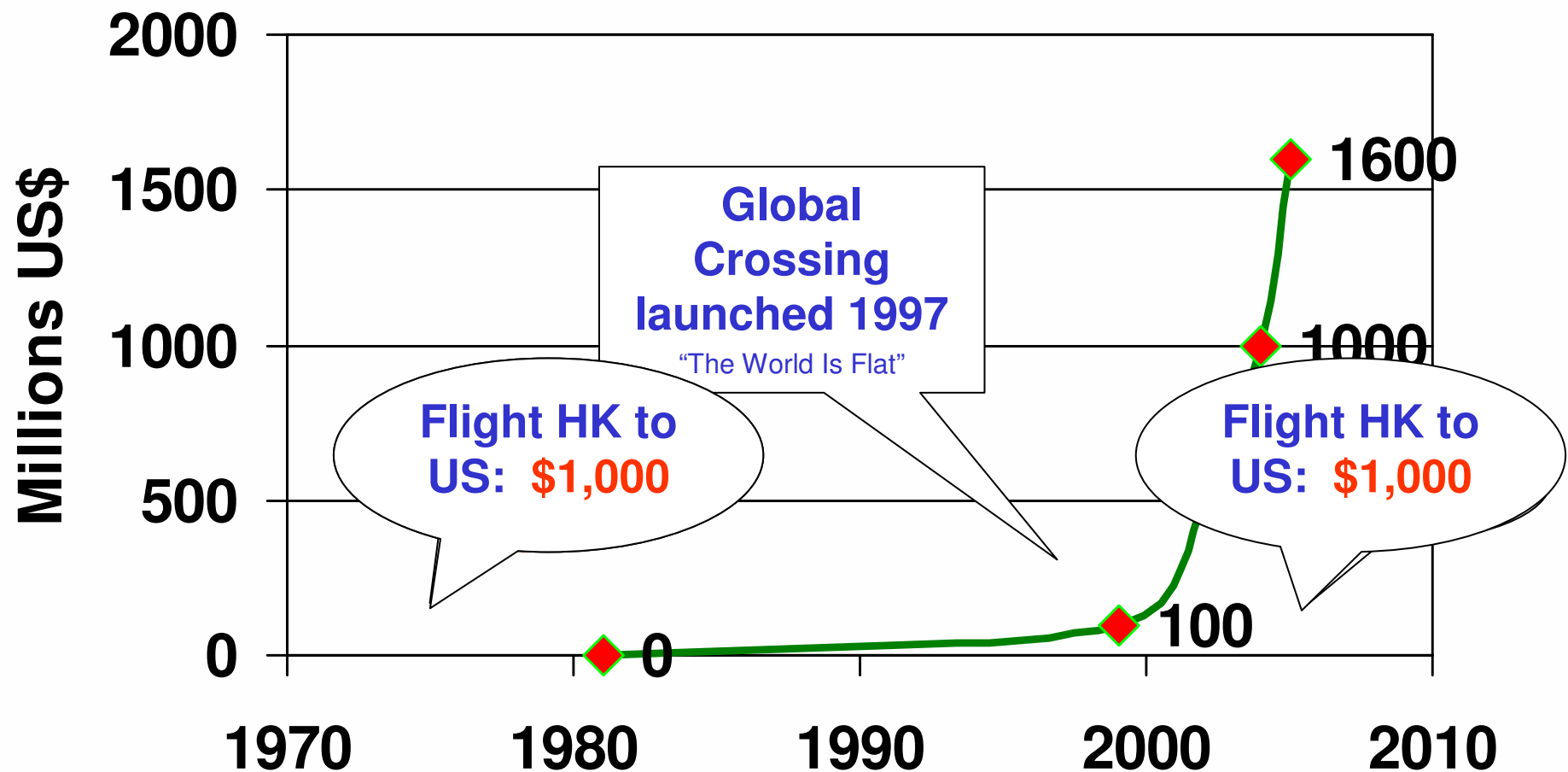
Electronic

Clothing

Toys

Offshore Service Trend: e.g. Infosys

Revenue in Millions of US Dollars



Example of Enabling Software



FIPER B2B feature plus iSIGHT-FD provide a centralized product development and optimization environment that enables design collaboration with globally dispersed design teams, organizations, and suppliers

Paces Likely to Accelerate

- ◆ **Rapid availability of software tools to enable more technology import**
 - **Those software are also themselves developed offshore**
- ◆ **International travel will continue to be easier**
- ◆ **Higher demands of local engineers will feed more capability offshore**

Three Form of Job Loses

- ◆ **Outsource engineering tasks**
- ◆ **Purchase components from foreign countries**
- ◆ **Shared-risk partners**

Three Form of Job Loses

- ◆ **Outsource engineering tasks**
 - Low end tasks
- ◆ **Purchase components from foreign countries**
 - Component level engineering
- ◆ **Shared-risk partners**
 - Sub-system level engineering
 - Development control “outsourced”

Which Area Are More at Risk?

