Human Resources for IT – Indian perspective

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Agenda

- Indian IT industry
- Eco system of the IT industry
- How TCS has addressed global HR challenges
- Conclusion

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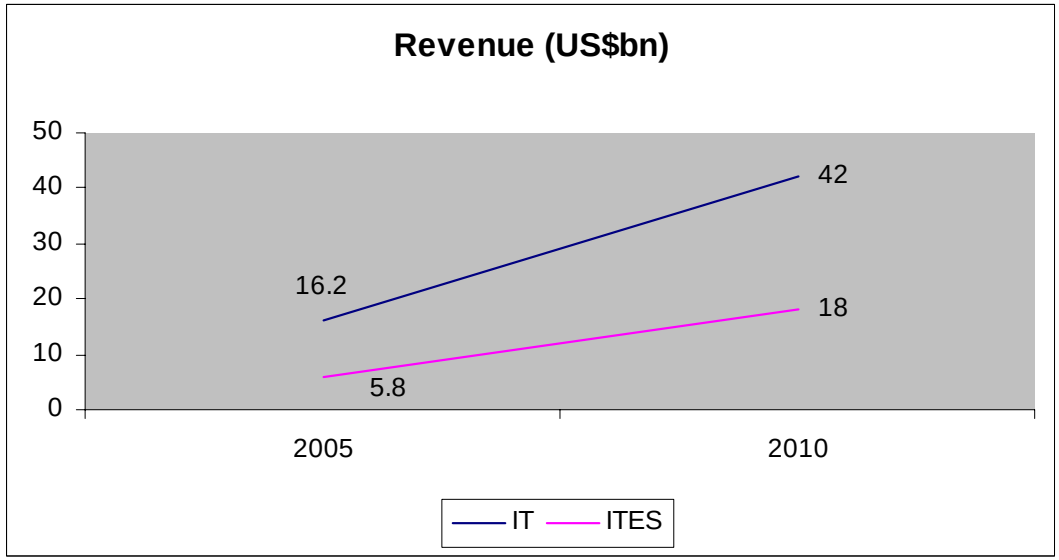
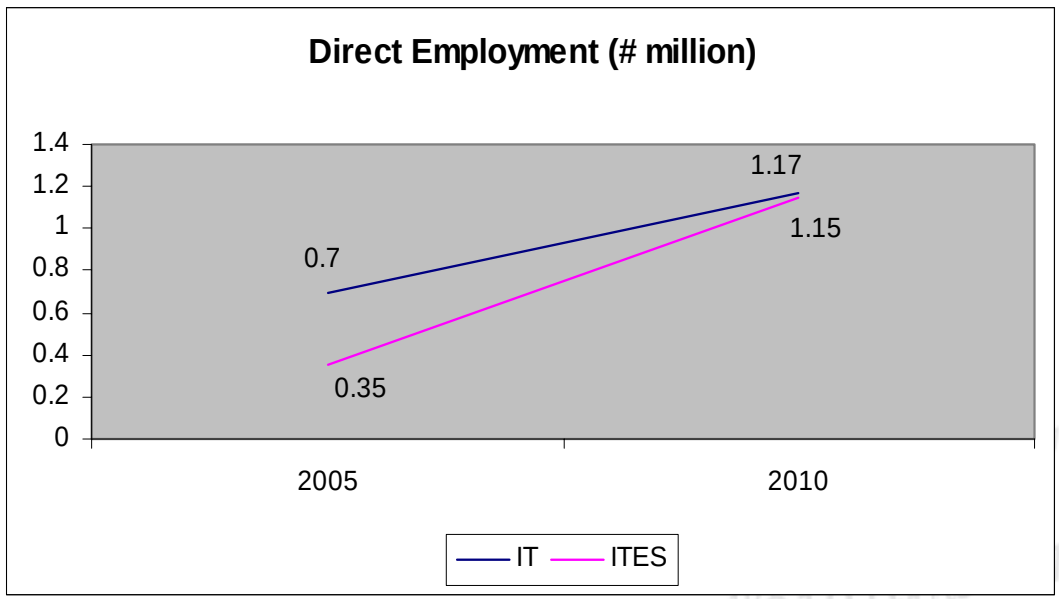
Indian IT Industry





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Indian IT Industry: Critical Success Factors

- Robust engineering education coupled with serious industry training
- Operational excellence - cost & quality through on-site | offshore model
- Cultural background that treats customers with respect
- English language proficiency
- Government initiatives
  - Urban Infrastructure
  - Conducive Business Environment
- Continued growth in the domestic IT sector leading to
  - Infrastructure development
  - Broad-based skill base
- All these have meant delivering value to customers

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Enabling policies of the government for ICT sector

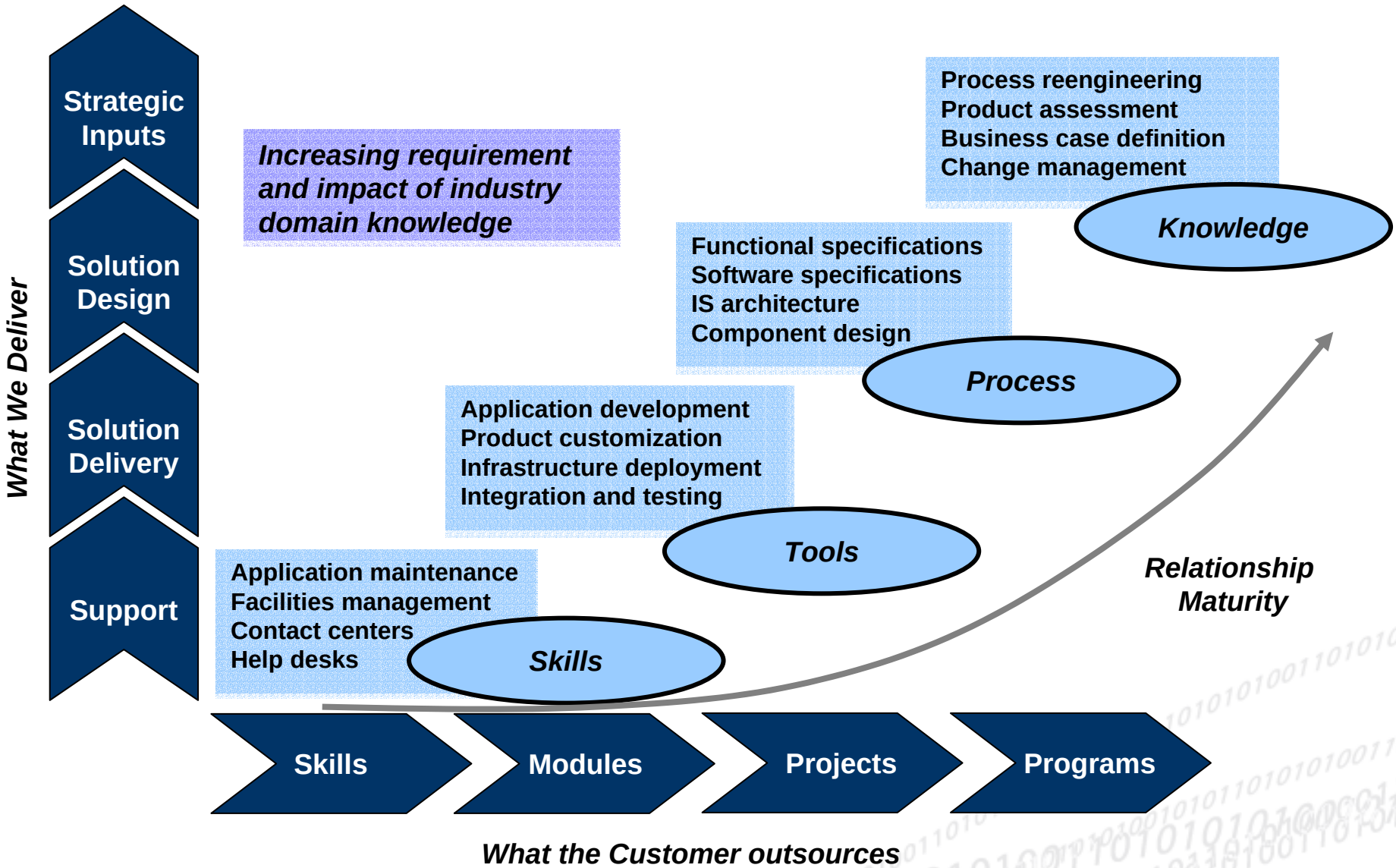
- Significant GDP growth and stable currency
- Robust higher education system – creation of Institutes of Information Technology
- Hassle free access to global technology & conducive labor law reforms
- Attracting Foreign Direct Investment and Multinational companies into the country
- Freeing Telecommunication sector from government monopoly
- Creating the required legal framework – electronic filing, digital signatures, Cyber laws
- National Venture Fund & Tax holidays for infrastructure ventures
- Industrial parks and Special Economic Zones for single window clearances and implementing the incentives
- All these have led to India becoming a high quality and low cost destination – large number of companies at Level 5 of CMMI

NASSCOM: National Association of Software and Services Companies

- Premier trade body and the chamber of commerce of the Indian IT-ITES industry
- Global trade body with over 900 members, of which nearly 150 are global companies from the US, UK, EU, Japan and China
- Acts as catalyst for the growth of the Indian IT-ITES industry by
  - Facilitating trade and business in software and services
  - Propagating education, research and employment
  - Providing compelling business benefits to global economies by global sourcing

www.nasscom.org

How Business models evolve : Ensuring Value Addition



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Industry Scenario

- Emphasis shifting from “T” to “I” – “T” is commoditized
- Technology models co-evolve with changing business models
- Industry expects “smart” solutions
- Concurrent technology development & deployment
- Developing high-end business consulting skills to attain non- linear growth

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Education System

- Holistic Education addressing the learning triad: Knowledge, Skills & Attitude
- Engineering mindset
- Inter-disciplinary attributes
  - Abstraction
  - Measurements
  - Modeling
  - Inspection & Quality Control
  - Design elegance
  - User-friendly interfaces
  - Safety considerations
  - Patterns
  - Clarity of Communication

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IT mindset drivers

- Holistic approach – lesson from failed projects
- Abstraction
- Ability to handle ambiguity & uncertainty
- Logic and Mathematics
- Quality as a social responsibility
- Ability to handle “hard” and “soft” factors together
- New consulting paradigms
- Art & Science of Living

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Art & Science of Living

- Mental Component of globalization
  - Self appraisal, Peer feedback
  - Coping, conflict resolution
  - Appreciation for multi-cultural environments – flexibility & adaptability
  - Values, attitudes, ethics

- Ability to switch states depending on context
  - Introvert / Extrovert
  - Sensing / Intuition
  - Thinking / Feeling
  - Judging / Perceiving

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IT job opportunities

- A typical taxonomy of IT job opportunities
  - Basic services (such as ITES)
  - Programming
  - Engineering a software
  - High end Services (such as Enterprise Architecture)
  - R & D
- Suggestions for mapping educational contents to serve each of the above layers are documented in a White paper available from: http://www.nasscom.org/artdisplay.asp?cat_id=753

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IT industry: Globalization challenges

- Big size deals – one-stop shop for variety of IT services – Application development / maintenance, Consulting, Engineering services, BPO, Asset based solutions, Infrastructure management
- Serving global customers operating out of different geographies
- Setting up global operation centers
- Increasing the diversity of workforce – global policies & local flavor in implementation
- Creating the leadership team for the multi service offerings and cross selling to customers
- Building competencies to deal with the change, especially the global mental model of the workforce

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About Tata Consultancy Services (TCS) Limited

- Part of TATA group, India's largest conglomerate with diverse business interests
- Established in 1968
- Over 60000 employees
- First company in the world to get enterprise wide CMMI Level 5 and PCMM Level 5 assessment
- Global presence – operations in 47 countries, 160 offices world wide
- First and largest
    - Software R&D center in India
    - Software exporter in India
    - Indian software company to cross US $ 2 b in revenues
- Represents high levels of excellence, integrity and ethical values

TCS: A global IT company

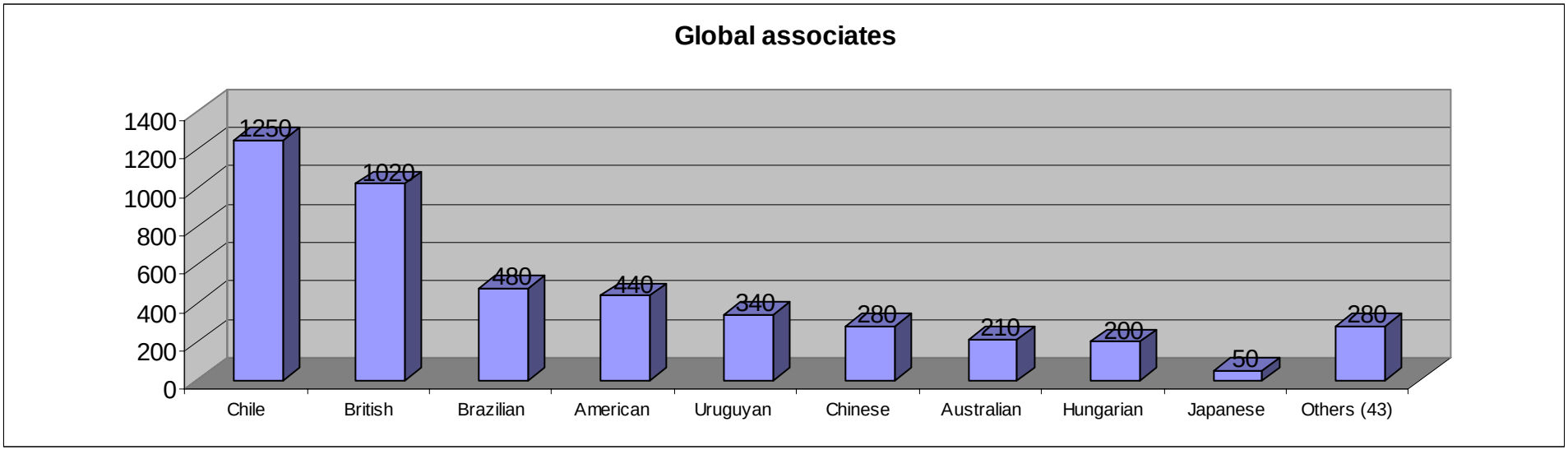
Global development center,
Budapest, Hungary

Global development center,
Montevideo Uruguay

Global development center, Hang Zhou

China

Global Workforce



- TCS employs citizens of more than 50 nationalities
- Nearly 7.6 % of TCS' total strength of 60000+ are non-Indian nationals
- 23% women employees
- Attrition 8.7% lowest in the industry

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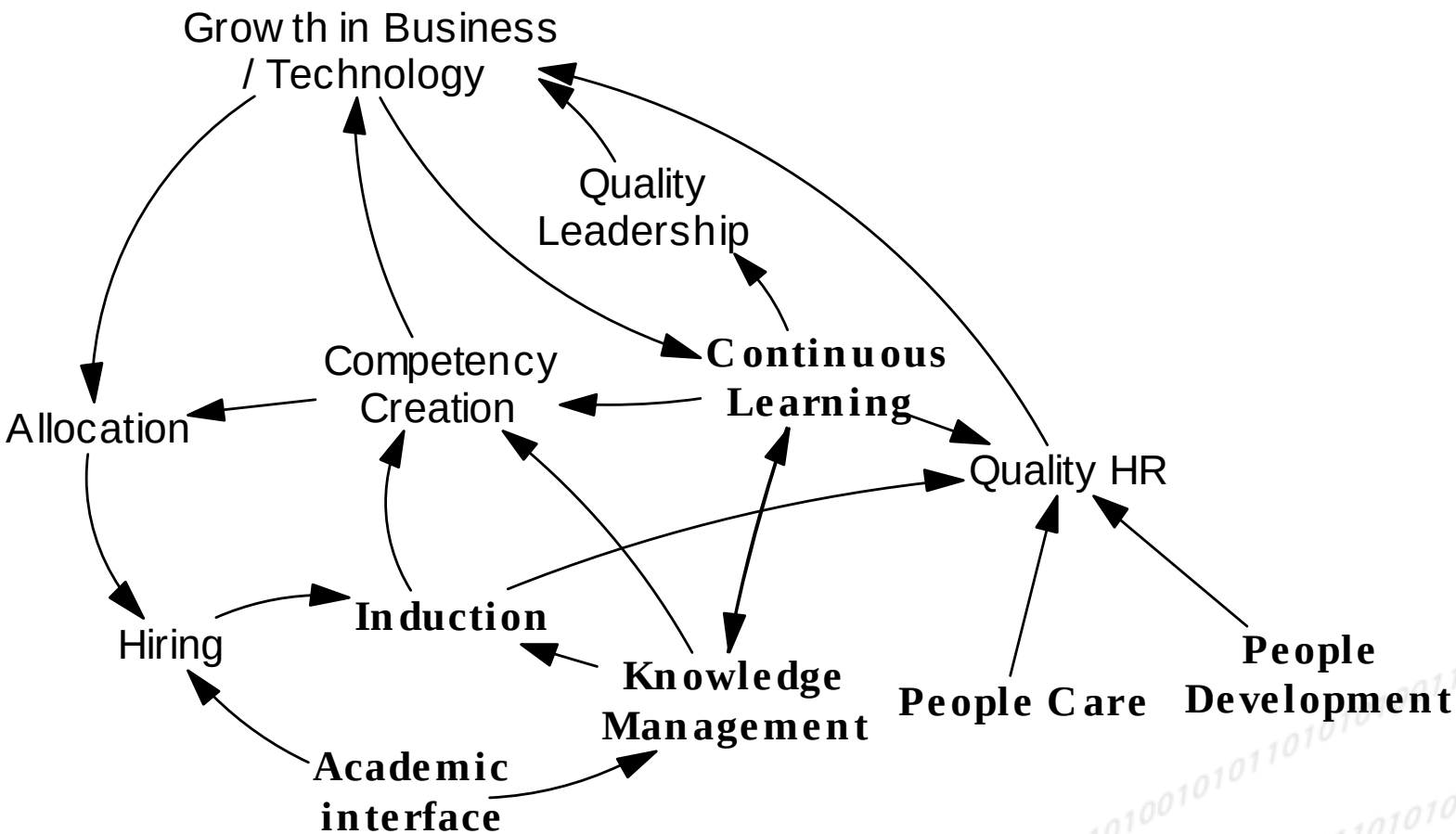
TCS in Japan

- 1987: First Indian Software Services company to start operations in Japan
- 1992: TCS Japan Branch office established
- 2002: Japan Delivery Center opened in Yokohama
- 2004: Incorporated as Japan KK – over 75 customers being served

Queen's Tower A
2-3-1 Minatomirai
Nishi-ku, Yokohama
Japan 220 6014

HRD – Major linkages



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Human Resources Management - challenges

- Locate, attract, induct, integrate, deploy and retain talent
- Offer career streams for technical, sales, delivery, R&D and other areas
- Transparent and objective appraisals and mentoring
- Create Centers of Excellence in specific technology and domain areas
- Celebrate and share success stories
- Influence higher education so as to produce more employable graduates

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Integration of Global Workforce

- Project execution exposure across geographies
  - Mobility of workforce across Global Development Centers
  - Multi-national / multi-functional teams
  - Interns from international youth organizations such as AIESEC (www.aiesec.org)
- Corporate HR strategies
  - Localized HR teams and localized delivery of HR practices
- Common Competency Development model
  - Replication of training delivery model globally
- Enterprise infrastructure for connectivity, communication and collaborative work
  - Intranet, VOIP, Communities of Practice, Knowledge Management

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HR policies

- Membership in professional societies such as IEEE / ACM
- Sponsored higher education opportunities / study leave for self motivated higher studies
- Encouraging presentation of papers in international conferences
- Comprehensive training opportunities (including e-learning)
- Encourage certification programs for benchmarking individual competencies
- Opportunity to work in diverse domains, technologies & geographies
- Well defined career streams and published stack of competencies to move up the ladder

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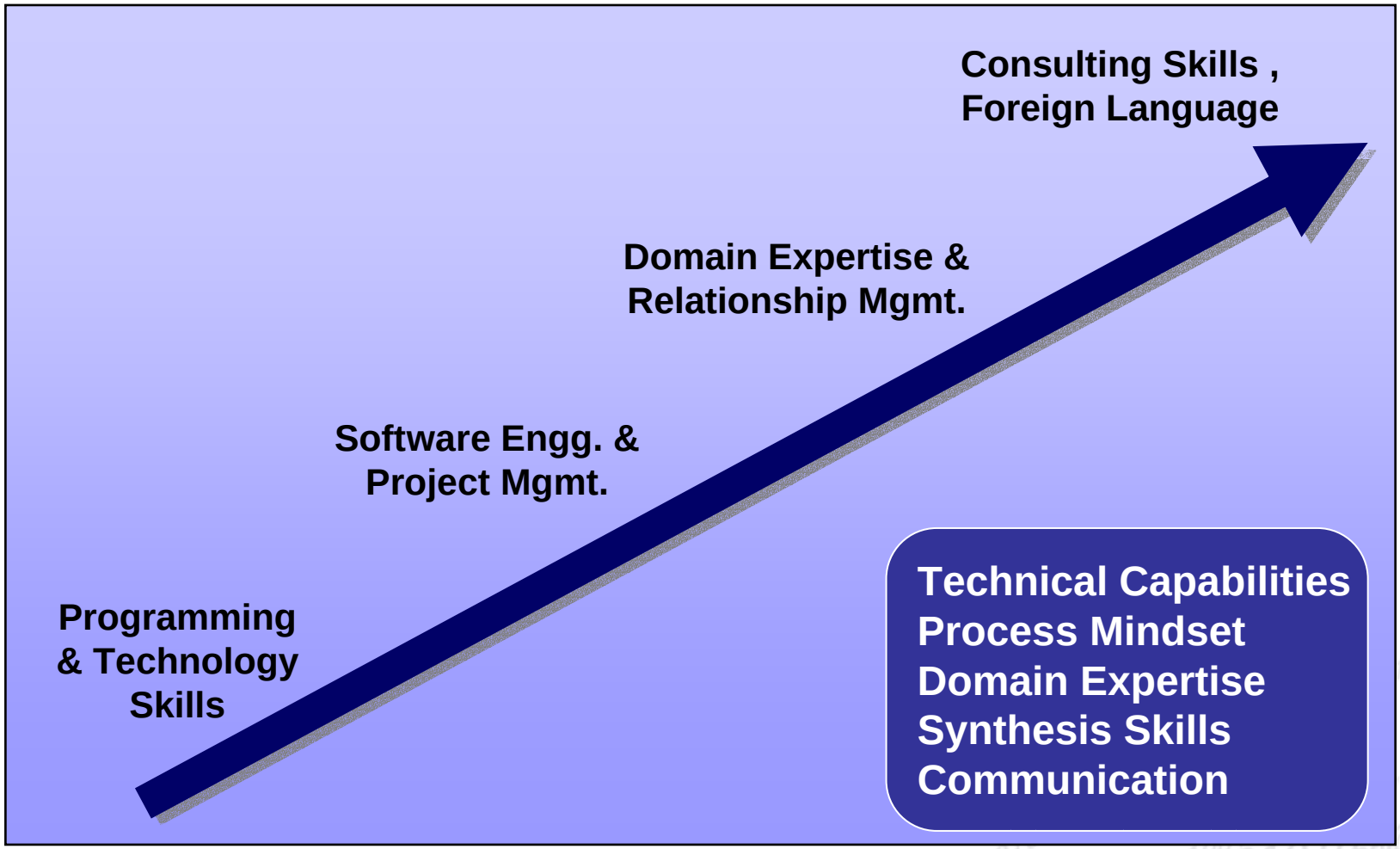
Building global leaders

- Creating global sales force – cross cultural teams
- Creating global leaders
  - Uniform practices for management of Customers, Technology, Projects and Teams
  - Global celebration & sharing – Project management, Technology / architecture experiences
  - Geo-centric excellence
    - Integrating with the society in the operating country
    - Awareness of one's own strengths / biases
    - Adapting to cultural diversities
    - Ambiguity and uncertainty management
    - Listening to the "song behind the words"
    - Respect for competition

Co-evolution of Learning with Business Model



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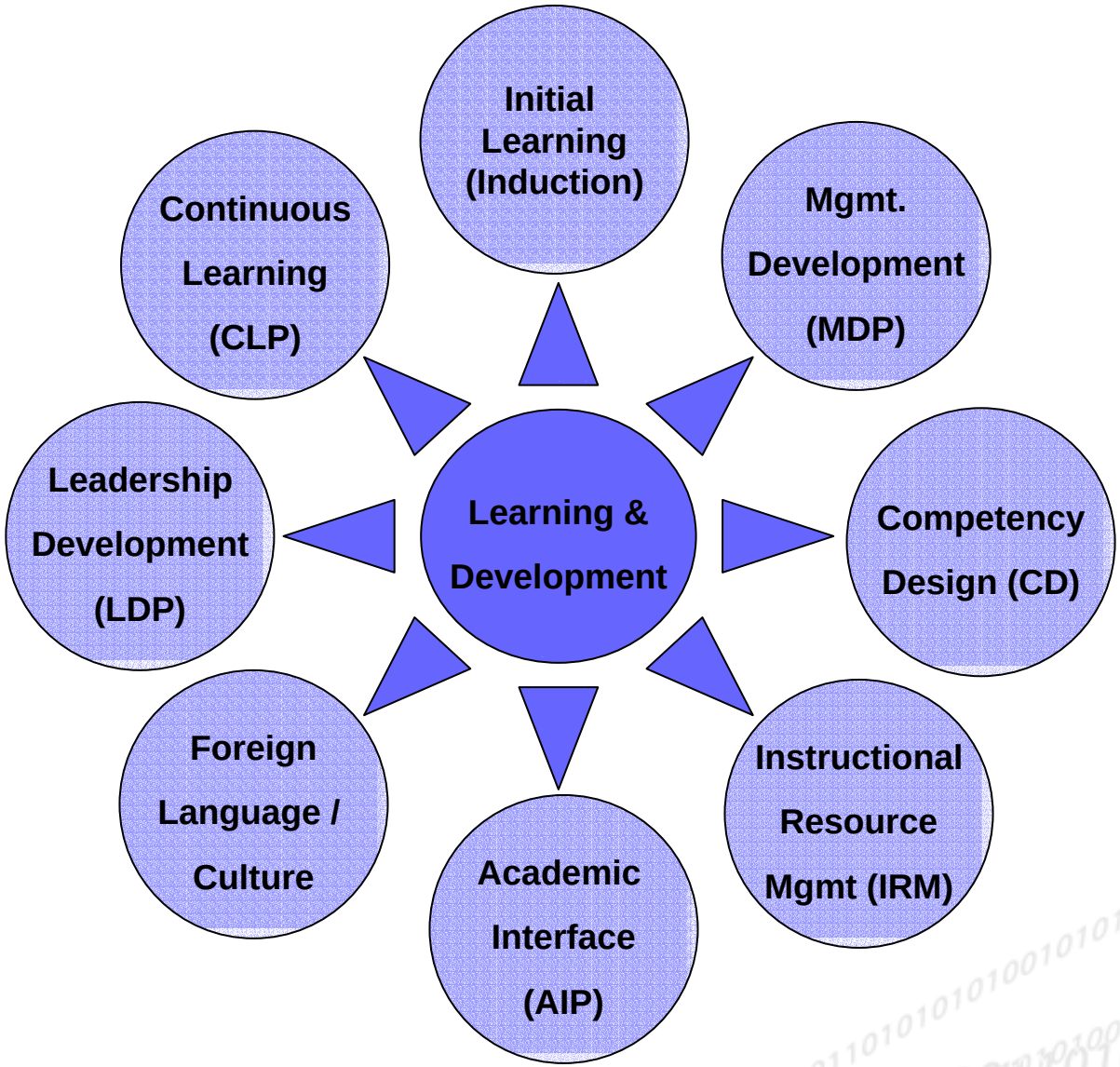
Learning & Development @ TCS



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Induction Challenges

- Bridging the Gap between Academic education & Industry needs
- Alignment with Business
  - Address all business contexts
  - Address strategic needs
- Global Integration
  - Uniform deployment across
  - “Global Process – Local Delivery”

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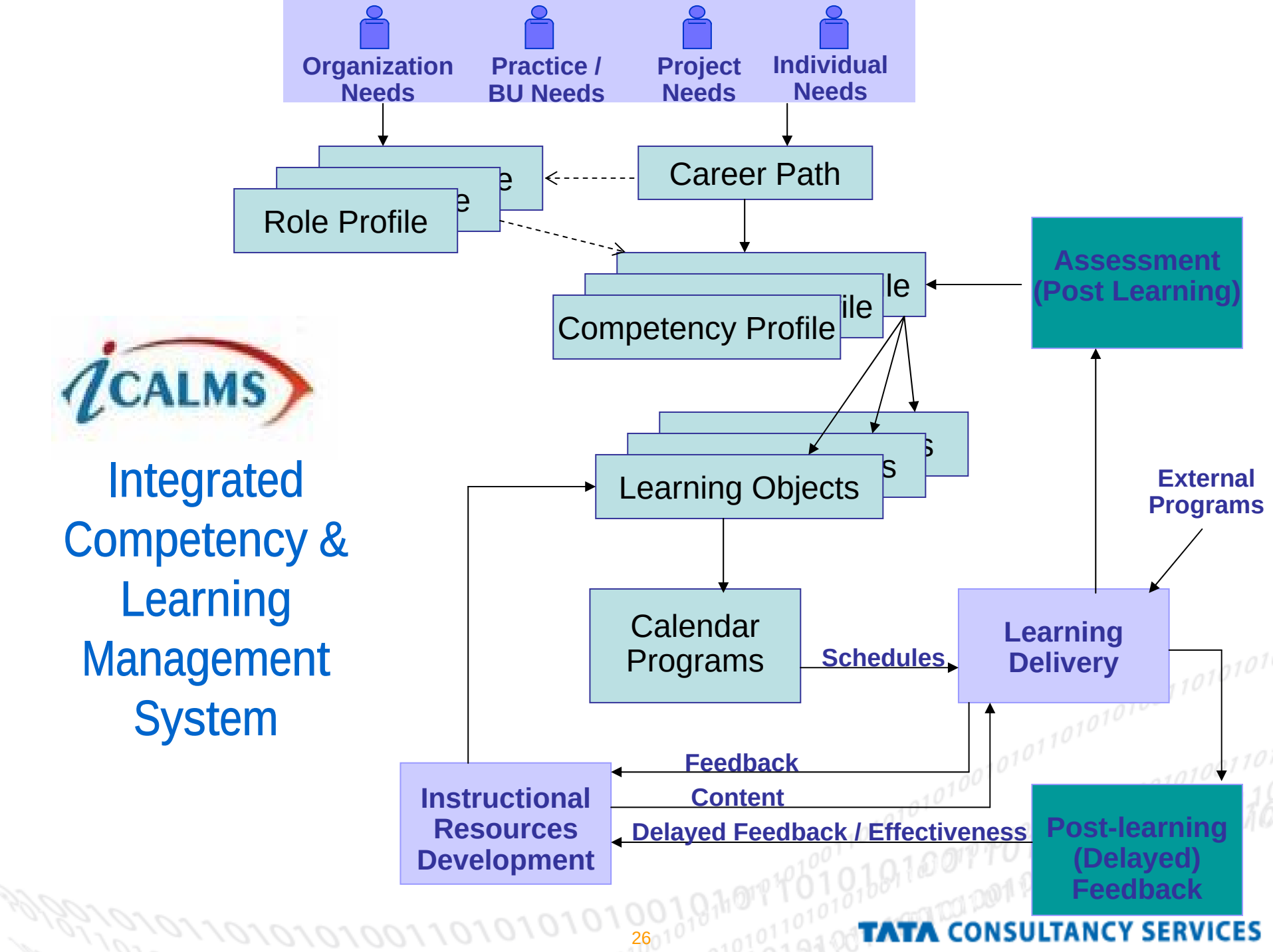

iCALMS

Integrated Competency & Learning Management System

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An example of Industry – Academia collaboration

- Global Internship scheme
- Faculty Development Programs for teachers
- Public website for problem solving based software engineering (http://elearning.tvm.tcs.co.in/)
- Annual meeting of Senior management with Heads of institutions
- Region-wise annual meeting with Heads of CS Department
- Best student project awards
- Customized Master's programs for employees
- Guest lectures from industry on Soft skills
- Participation in curriculum revision tasks of academia
- Sabbatical positions for academia to work in industry

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Industry recommendations to academia

- Focus on knowledge of permanent value and build mindsets and not on fleeting technology skills
- Build soft skills & work ethics along with technical knowledge
- Base the learning pedagogy on problem-solving model
- Redefine the role of faculty as Content Creators and Mentors, instead of lecturers
- Network the colleges into an education grid, sharing expertise leading to collaborative learning
- Offer multi-disciplinary courses in emerging areas such as IT, BT (biotechnology) and NT (nanotechnology)

- Full White paper on the subject can be got from: http://www.nasscom.org/artdisplay.asp?cat_id=753

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Global Academic Alliances

- **USA:**
  - Georgia Institute of Technology
  - University of California, Riverside
  - University of Wisconsin
  - University of Illinois

- **Europe:**
  - Kings College London
  - University of York
  - Rotterdam School of Management
  - Aalborg University, Denmark
  - Budapest University of Technology and Economics

- **Asia:**
  - Nanyang Technical University
  - National University of Singapore
  - Zheijiang University, China

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Going forward ....

Stakeholder	Action
Government	▪ Accelerate trade development efforts ▪ Improve talent supply ▪ Strengthen infrastructure ▪ Drive operational excellence
Industry	▪ Develop One stop shop model ▪ Establish in specific verticals ▪ Factory for application development ▪ Multi location BPO in chosen domains
Professional Bodies	▪ Technology watch ▪ Make appropriate interventions in policy making ▪ Synergize the needs of industry and academia
Customers	▪ Identify 'outsourcable' work ▪ Partner with academia in talent build up ▪ Geographically distribute management of work

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Japan and Software Industry

- Well established and universally recognized Engineering management culture in terms of Quality & Productivity
- Tradition of leveraging large domestic market as a platform for launching global products
- Large amount of software produced - most of it embedded in appliances
- Productivity and quality of software code of a high order
- Software uses local interfaces, meets local needs and is largely custom built
- Accent on mainframes and proprietary standards
- Needs to address global standards, interfaces, markets, verticals

Source: Michael A.Cusumano, Communications of the ACM, Jul 2005, pp 25-27

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Thank You for your patience

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