# Scaling Up Microsoft R&D in China

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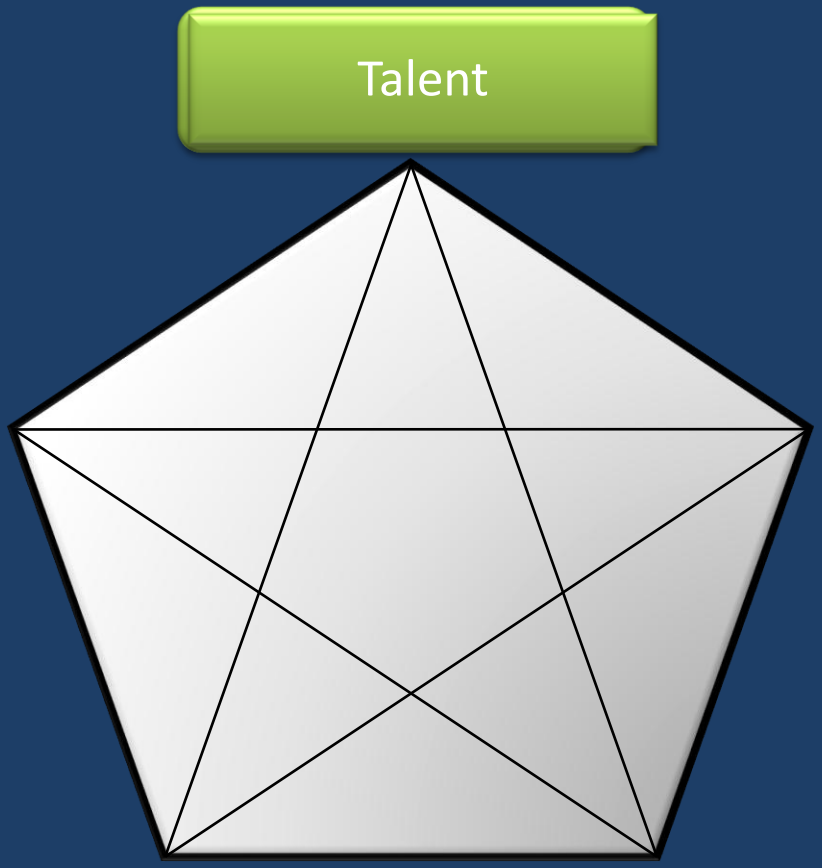
# Microsoft's R&D Growth in China

- 1995 R&D office established in Beijing
- 1998 Microsoft Research China established in Beijing
- 2003 Microsoft Advanced Technology Center
- 2006 Microsoft China R&D Group formed
- 2008 R&D offices in Beijing, Shanghai and Shenzhen

# Opportunities in Asia

- Strong focus on education & engineering
- Big talent pool
- Largest Internet and mobile phone user population
- Aspiration to innovate technologies for Asia and the world

# Five Elements of Scaling Up R&D



# Talent

- Recruiting
  - Recruit the best
  - 3 level process for evaluation, including written exam, phone screening and detailed face to face interviews
- Training
  - Investment in training
  - Mentors
  - Engineering Excellence

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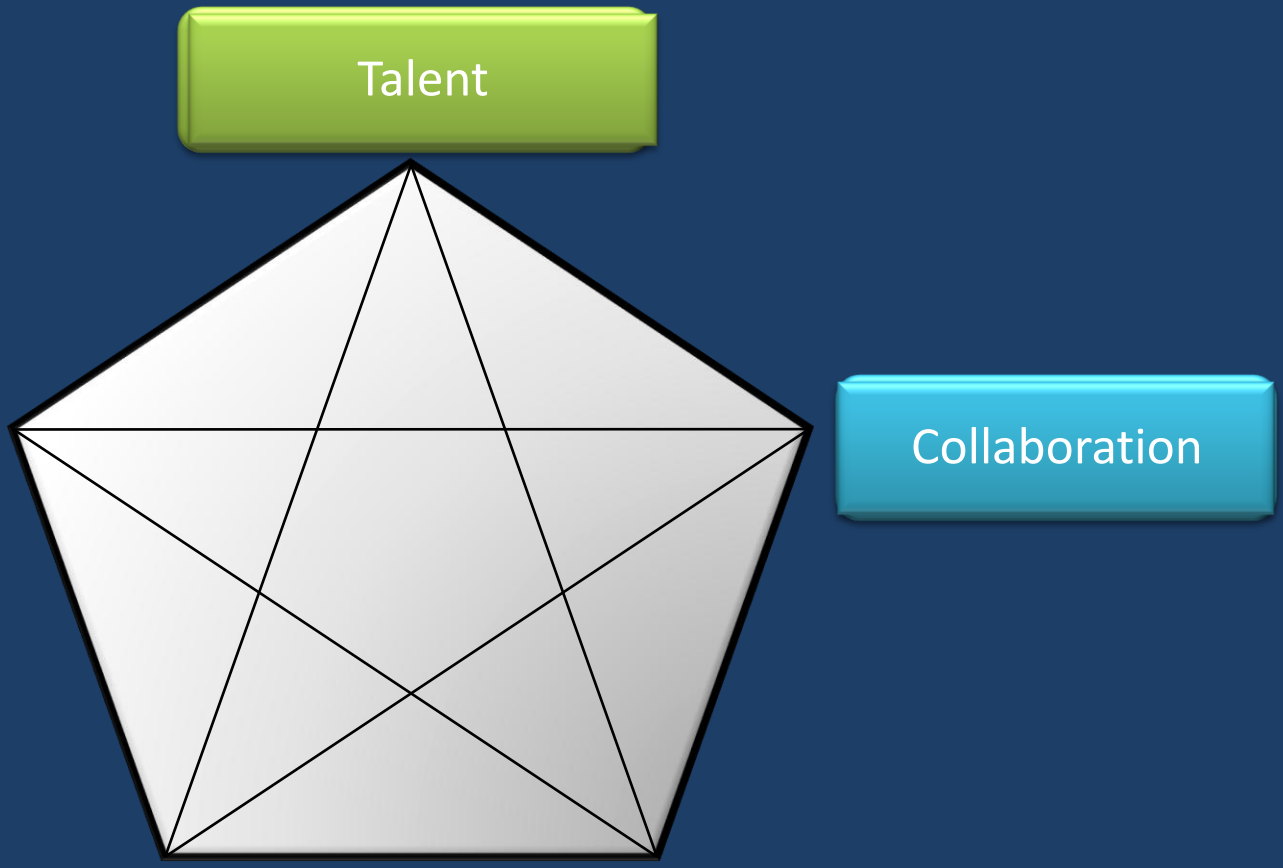


# Collaboration

- Working closely with academia and governments
- External partners
- Enrich the ecosystem

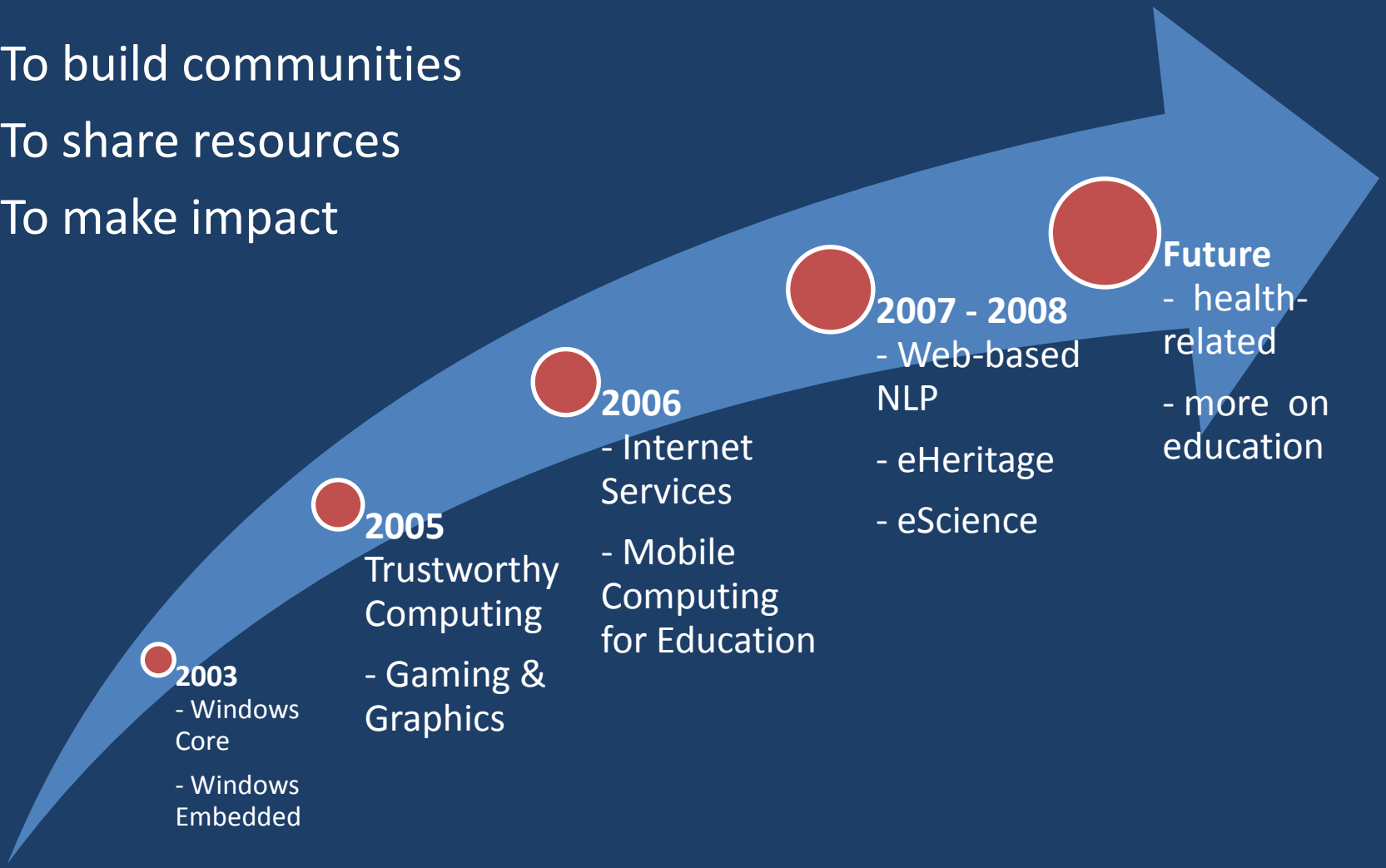
# Research Collaboration

- 600+ projects funded
- 300+ projects involved Microsoft researchers
- ~ 1000 faculty participated
- 85 universities covered

As one of the results -

# Regional Themes

- To build communities
- To share resources
- To make impact



# Cultivating Talents

- Most comprehensive programs
  - Engaged students via programs: 330,000
  - Campus visits touched students: 200,000
  - Microsoft Student Technology Clubs in China: 80,000
  - Curriculum impacted students: 50,000
  - Interns: 3000 from 160+ universities in 20+ countries
  - Fellowship award for PhD candidates: 250
- Recognitions
  - Named by China Ministry of Education as “Talent Center”
  - Award from Korea Ministry of Education
  - SIGIR Best Student Paper Award 2008
  - Best Paper Award 2007 at ACM Multimedia

# Academic Exchanges

**Provided opportunities for collaboration**

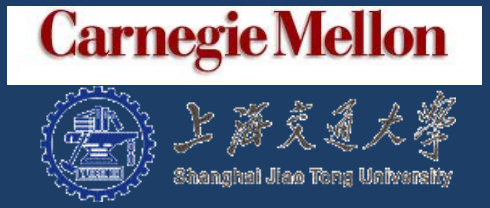
- **21st Century Computing Conference: 40,000**
- **MSR Asia Faculty Summit: ~1500**
- **Asia academic delegation to Redmond: ~200**
- **MSRA researchers as Guest Professors: 70+**
- **Various academic forums**
  - **E.G. Bill Gates with 3 university presidents in HK**

# Diversified Local Programs

- **China & Hong Kong SAR**
  - Great Wall Plan with Ministry of Education (MOE)
- **Japan**
  - Microsoft Institute for Japanese Academic Research Collaboration (IJARC)
- **Korea**
  - Special Intern program with MOE
  - KAIST – Microsoft Research Collaboration Center
- **Australia & Singapore**
  - Matching funds from governments

# Joint Programs with US Universities

- Shanghai Jiao Tong University, CMU, and MSRA joint program
- Tsinghua University, Stanford University, and MSRA internship program
- Beihang University, University of Washington, and MSRA CS course
- UCLA and MSRA joint summer program
- Korea University, Georgia Tech and MSRA joint program
- Participation in MIT VI-A program



# Focus on Computer Science
# Go Beyond Computer Science

eHeritage

eScience

**Computer Science as core**

health

education

# Microsoft's Academic Collabora
# Japan

- Bill Gates announced Microsoft Institute for Academic Research and Collaborations (IJARC) in Tokyo in 2005.

– Objective: collaborate with academia in Japan to advance the-state-of-the-art in research, and to contribute to the development of Japanese society

- 2005-2008: IJARC funded about 40 projects covering more than 10 universities.
- Launched Microsoft Research Japan New Faculty Award in 2008. Still welcome applicants.

# Connections to Japanese Academia

Microsoft

MSR

IJARC

Academic Advisory Committee

Japanese Academia

IJARC Engagement with Academia

Universities

- CORE projects
- IJARC Fellowship
- Symposiums and conferences
- Support to MIC and Innovation Day

Professors

MSRA UR Regional Programs

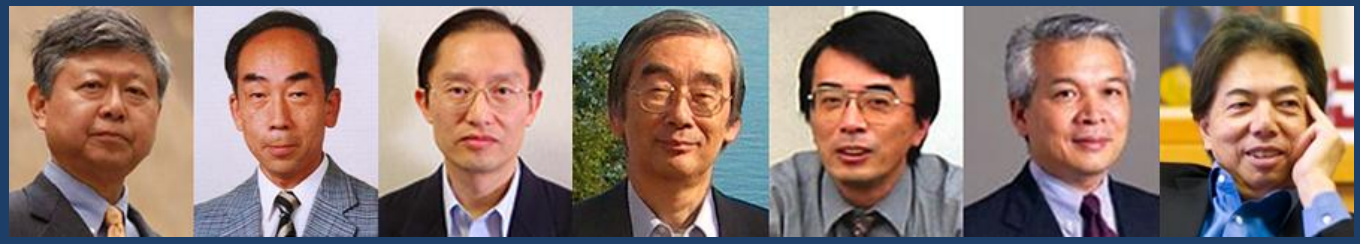
Students

- Theme projects
- Curriculum innovation
- Talent fostering: internship, fellowship
- Academic exchanges: TechFest, Faculty Summit

# IJARC Academic Advisors

- From 6 major universities in Japan
- Cover a broad range of research areas

| | | |
|---|---|---|
| Katsushi Ikeuchi | University of Tokyo | Vision and Graphics |
| Sadaoki Furui | Tokyo Institute of Technology | Speech |
| Katsuro Inoue | Osaka University | Software Engineering |
| Yoichi Muraoka | Waseda University | HPC |
| Katsumi Tanaka | Kyoto University | Search and Data Mining |
| Hideyuki Tokuda | Keio University | Sensor Networking |
| Akinori Yonezawa | University of Tokyo | Software System/Security |



# Five Elements of Scaling Up R&D

# Innovation

- Aiming high
  - First tier conferences
  - 5/5 rule
- R & D
  - Collaboration between teams
  - Example: Text to Speech engine

# MSR Asia in Past 10 Years

- Founded on Nov. 5th, 1998
- 3000+ papers published on top-tier journals / conferences, 19 best paper awards
- 260+ technologies transferred to MS products
- 20 technologies licensed to other companies
- Have trained over 3000 interns

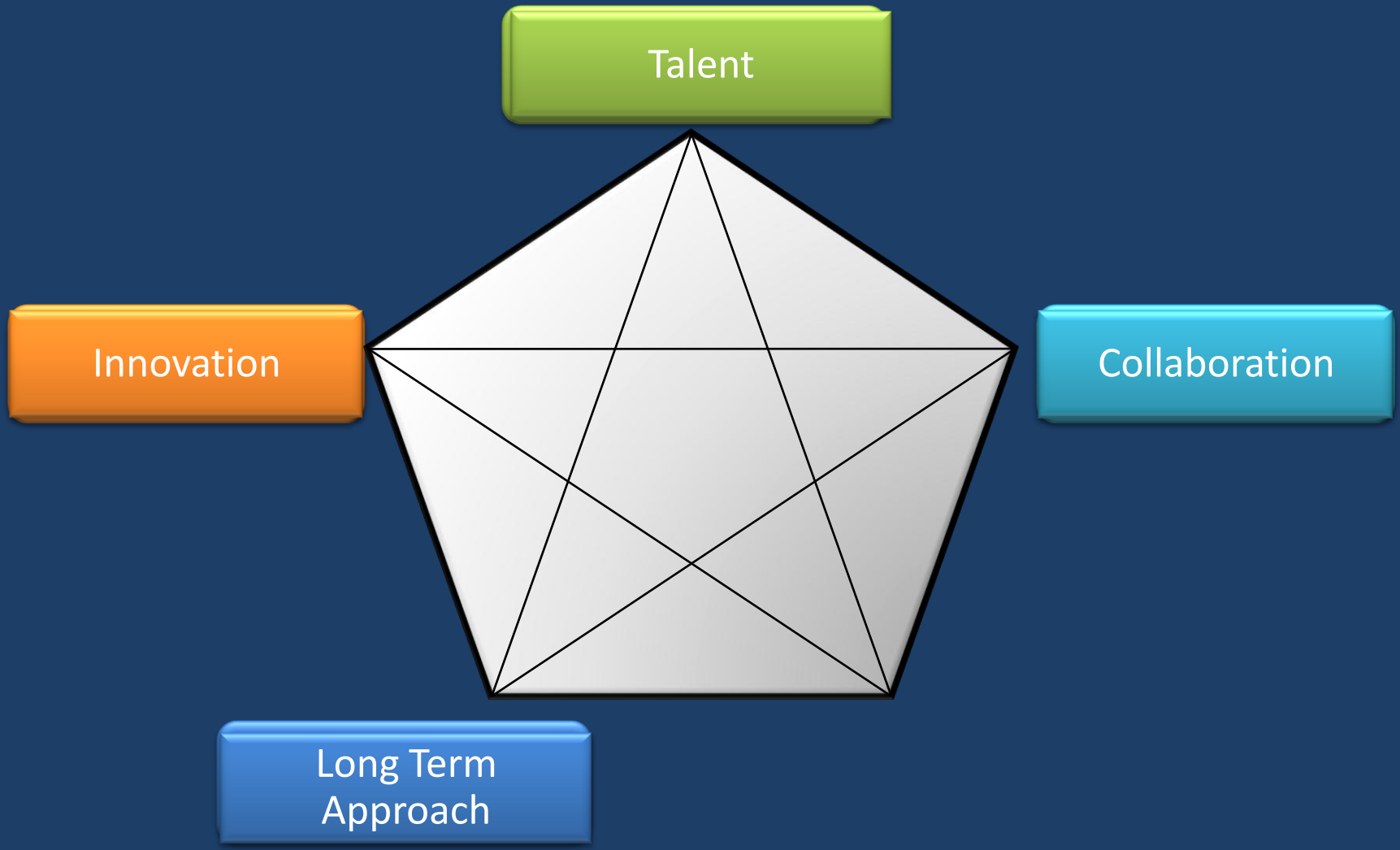
"*Microsoft Research Asia has become a powerhouse of infotech R&D.*"

An MIT Enterprise Technology Review.com

"*It is no surprise that Microsoft Research Asia has such popular appeal.*"

The New York Times ON THE WEB

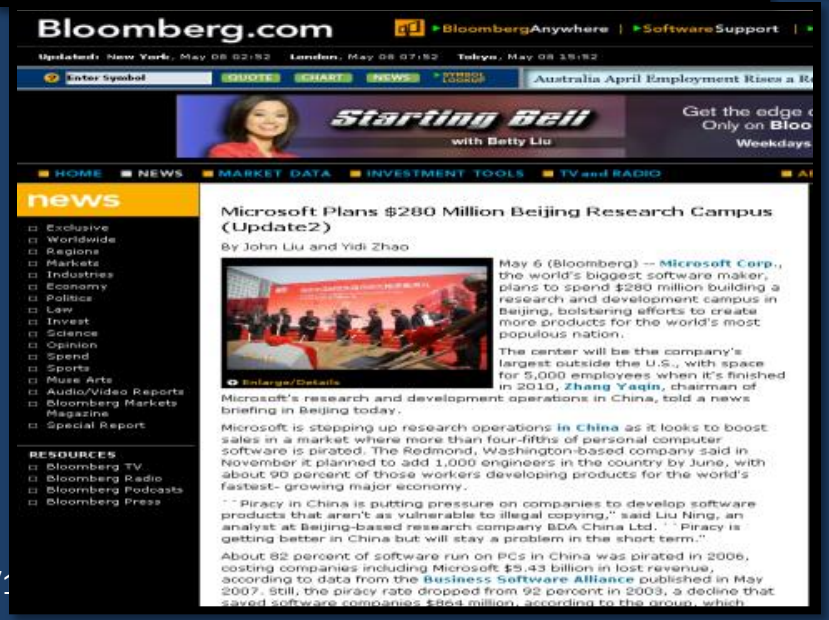
# Five Elements of Scaling Up



# Long Term Approach

- Long term commitment and investment
- Ensuring long term career growth for employees

# New Campus Construction



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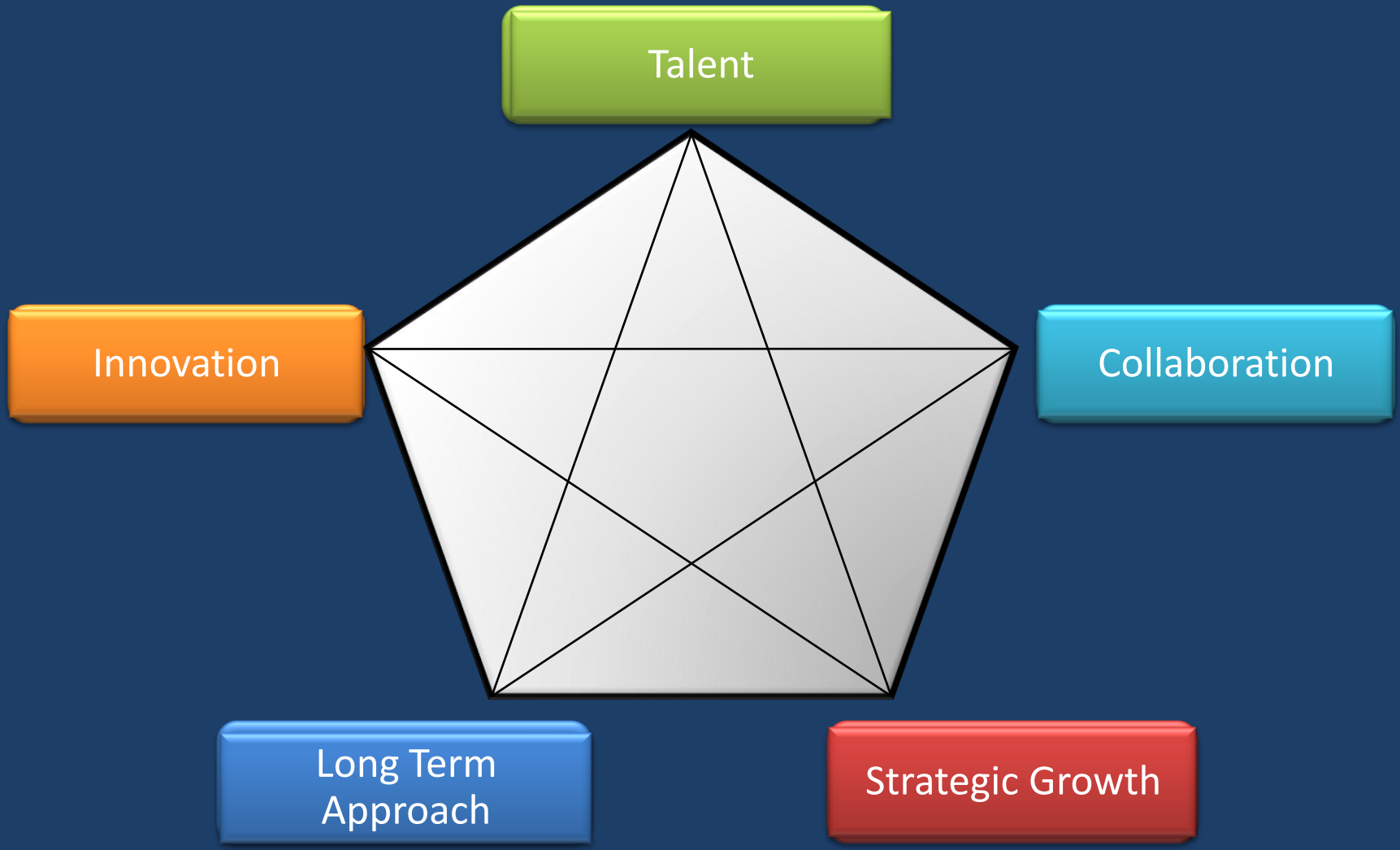

# Strategic Growth

- Seek opportunities with long term growth potential
- Grow teams to critical mass
- Find alignment with local market
  - Mobility & communication
  - On-line services
  - Server and tools
  - Entertainment
  - Emerging market

# Centers of Excellence

## Mobility and Communications

- No. 1 mobile users
- Projects
  - WM multimedia: camera & picture
  - WL Messenger client on mobile devices
  - Nokia G2 Client Features
  - RTC Live Meeting
  - E12 System Management and Setup
  - Text-to-speech (TTS) for UM

## Web products and services

- No. 2 in both web users and broadband users
- Projects
  - Core Search and search apps (MM, products, etc.)
  - Search in China
  - AdCenter
  - Signup/payment platform
  - OWA and CWA

## Entertainment

- No. 1 consumer electronics and on-line gaming
- Projects
  - Games for Windows
  - Causal Games
  - IPTV (app platform, time shift)
  - PC hardware, Xbox console/accessory
  - Surface

## Servers and Tools

- No. 1 IT professionals and developers by 2008
- Projects
  - Distributed applications/sys
  - Sys mgmt/manageability
  - Developer/IT Pro tools/UX
  - Anti-virus/anti-spam
  - Integrated server solutions
  - Identity management
  - Tech computing w/ HPC

## Emerging Markets

- No. 1 potential new market
- Projects
  - Affordable computing devices
  - Education and Health
  - Hosted services
  - Outlook mobile service
  - Visio science editing (math, physics, chemistry)
  - English writing assistant

# Innovate Together

# Summary

- Microsoft is committed to innovation, talent cultivation, and collaboration
- A key success factor has been collaborating with academia and industry

# Thank You!

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