

iMDE: international Market-Driven Engineering

Lecture 1: Introduction



ZHEJIANG UNIVERSITY



LUND UNIVERSITY

Agenda

- 13.15-13.20: Welcome!
- 13.15-13.45: Presentation of the course-overview (Charlotta)
- 13.45-14.00: Introduction of the teachers
- 14.00-14.15: Break for 15 minutes
- 14.15-15.00: Presentation by students of their universities, cities and countries
- 15.00-15.15: Break for 15 minutes
- 15.15-15.30: Presentation of the project-idea, theme, film, and the groups (Charlotta)
- 15.30-15.45: Why Business and Technology (Charlotta+Yang)
- 15.45-16.00: Why Internationalization (JunJin)



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Welcome

37 Swedish students

27 Chinese students

Team of teachers (5 Swedish and 5 Chinese)

Welcome everyone to the course "international
Market Driven Engineering (iMDE)"



Welcome

iMDE – international Market-Driven Engineering

This course will take you from “how to generate innovations”, though “the writing of Business Plans, and understanding Product development and Production” to the “how to sell and market a product”.



iMDE

iMDE – international Market Driven Engineering

“The world is becoming more international and cutting edge knowledge in marketing as well as engineering in a global world is becoming a valuable asset on the job-market. There is a lack of people with skills in both fields with the ability to connect market needs and innovations with product development, especially in an international context. International Market Driving Engineering is aimed at providing these knowledge and skills.”



iMDE

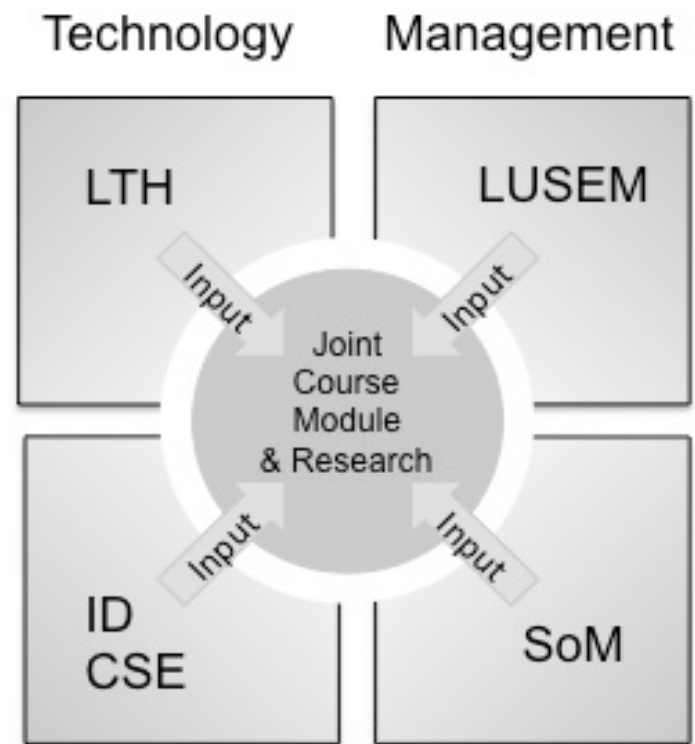
iMDE is a unique course!

It is a joint course that is truly international (Sweden and China) and cross disciplinary (Management and Engineering) .

-  **LUSEM:** Lund University School of Economics and Management
-  **LTH:** Lund University, faculty of Engineering
-  **SoM:** Zheijang University, School of Management
-  **ID and CSE:** Zheijang university, Industrial Design (ID) and Department of Control Science and Engineering (CSE).

Lund
University,
Sweden

Zheijang
University,
China



Input = Students, Teachers, Subjects and Cultures

iMDE

iMDE is a unique course!

iMDE is a joint course collaboration. It intertwines the two disciplines Technology and Management, in Sweden and in China, in four ways; Students, Teachers, Subjects and Cultures.

Students: 37 students from Sweden and 27 students from China.

25 students from Management/Economics and 39 students from Engineering

Teachers: 4 Swedish teachers and 4-5 Chinese teachers. A minimum of 2 teachers with different aspects of the subject matter will be present at each lecture. The course will contain both lectures and a project.

Subjects: Innovation and Product Development will be treated from the marketing/management perspective as well as from the Engineering perspective.

Cultures: China and Sweden. The cultural aspects of project management and business behavior will be treated in the course and practised in real life through the course project.

Course Content

Course start: Monday September 10th, 2012

The course will consist of:

- 10 Lectures
- 1 Project (performed in groups of 8 student)
- 2 Company visits

The examination of the course will consist of:

- Written project report, oral project presentation, short film

Course termination: Friday October 19th, 2012



Course Schedule

Lectures:

- Mondays at 9:00am-12:00am
- Wednesday at 9:00am-12:00am
- Friday at 9:00am-12:00am
- The lectures are held at Xixi campus, lecturehall D201, Art building

Project

- The project will be done as a groupwork. Teamwork to be managed by the team. There will be 3 coaching sessions.

Company visit

- There will be 2 company visits as part of the course.



Lectures

The course will take you from “how to generate innovations”, though “the writing of Business Plans, and understanding Product development and Production” to the “how to sell and market a product”.

- Lecture 1: Introduction
- Lecture 2: Innovation-1 (Inspiration)
- Lecture 3: Innovation-2 (Ideation)
- Lecture 4: Innovation-3 (Implementation)
- Lecture 5: Innovation-4 (Innovation climate and Examples)
- Lecture 6: Business plan
- Holliday
- Lecture 7: Product Development and Production
- Lecture 8: Marketing and Sales
- Lecture 9: Final presentation
- Lecture 10: Final presentation



Coaching

There will be 3 coaching sessions.

Time: 9:00am – 12:00am

All teachers available all the time.

Coaching-slots (20 min) for the project-groups to book.

The coaching-sessions should provide help to the project-groups in managing the project.



Project

- Projects to be performed in groups of 8 students
- The project should focus on Innovation and Product Development (prototypes)
- Project-theme 2012: "Helping everyday life"
- 1 group – 1 project – 1 innovation – 1 prototype
- Final presentation: written report, oral presentation, film
- More about the projects later



Company visits

2 company visits:

- Wednesday September 19th: Alipay
- Wednesday October 10th: Supcon



Course Schedule

| <i>Week</i> | <i>Date</i> | <i>Lecture</i> | <i>Time</i> | <i>Content</i> |
|--------------------|-------------|----------------------|-------------|---|
| September 10-14 | 10/9 | L1 | 13-16 | Introduction + Why integrate Business and Technology + Internationalization. Introduction of project theme |
| | 12/9 | L2 | 9-12 | Innovation-1 (Inspiration) |
| | 14/9 | Coaching | 9-12 | 1 hour coaching per group |
| September 17-21 | 17/9 | L3 | 9-12 | Innovation-2 (Ideation) |
| | 19/9 | Company visit | afternoon | Ali-pay. |
| | 21/9 | L4 | 9-12 | Innovation-3 (Implementation) |
| September 24-28 | 24/9 | L5 | 9-12 | Innovation-4 (Examples) |
| | 26/9 | Coaching | 9-12 | 1 hour coaching per group |
| | 28/9 | L6 | 9-12 | Business plans |
| October 1-5 | 1-5/10 | | | Holiday in China |
| October 8-12 | 8/10 | L7 | 9-12 | Product Development, Sourcing and Production |
| | 10/10 | Visit to company. | | Sup-Con. |
| | 12/10 | L8 | 9-12 | Marketing and Sales |
| 42 | 15/10 | Coaching | 9-12 | 1 hour coaching per group |
| | 17/10 | L9 | 9-13 | Final presentations |
| | 19/10 | L10 | 9-13 | Final presentations. End of course. |
| | | | | |
| | | | | |

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Teachers

The Swedish troupe:

- Andreas Larsson
- Damien Motte
- Carl-Henric Nilsson
- Charlotta Johnsson
- Gabriel Somesfalean

Andreas Larsson

- PhD, 2005, Computer Aided Design
- Associate Professor, Innovation Engineering
- Global Foresight Scholar at Stanford University
- Fiancee Lenita, daughter Ella
- Plays guitar & ice-hockey



Damien Motte



- Post-doc at the Department of Design Sciences LTH, Lund University
- MSc in Industrial Engineering, PhD in Machine Design
- Research interest: alternative engineering design and product development methodologies

Carl-Henric Nilsson

- Founder of Technology Management, 1997
- PhD Industrial Engineering
- Strategy, process-orientation, team-building and leadership
- Wife Guggy and three children
- Tennis, squash, sailing and golf
- Motto: Live, learn, deliver!



Charlotta Johnsson



- Responsible Technology Management Program 2008-present
- Ass.Prof. in Automatic Control (Ph.D. in 1999).
- Research interest: manufacturing operations, production control, process control and international standards
- Husband Hans and three kids (13, 11 and 5).

Gabriel Somesfalean



- Researcher at Lund University
- Responsible for Joint Centre for Innovation and Entrepreneurship (JCIE) together with Aiqi WU.
- Research interest: Atomic Physics
- Has lived in China for several years.

Teachers

The Chinese troupe:

- Jun Jin
- Qinmin Yang
- Shijian Luo
- Weiqing Xu
- Aiqi Wu



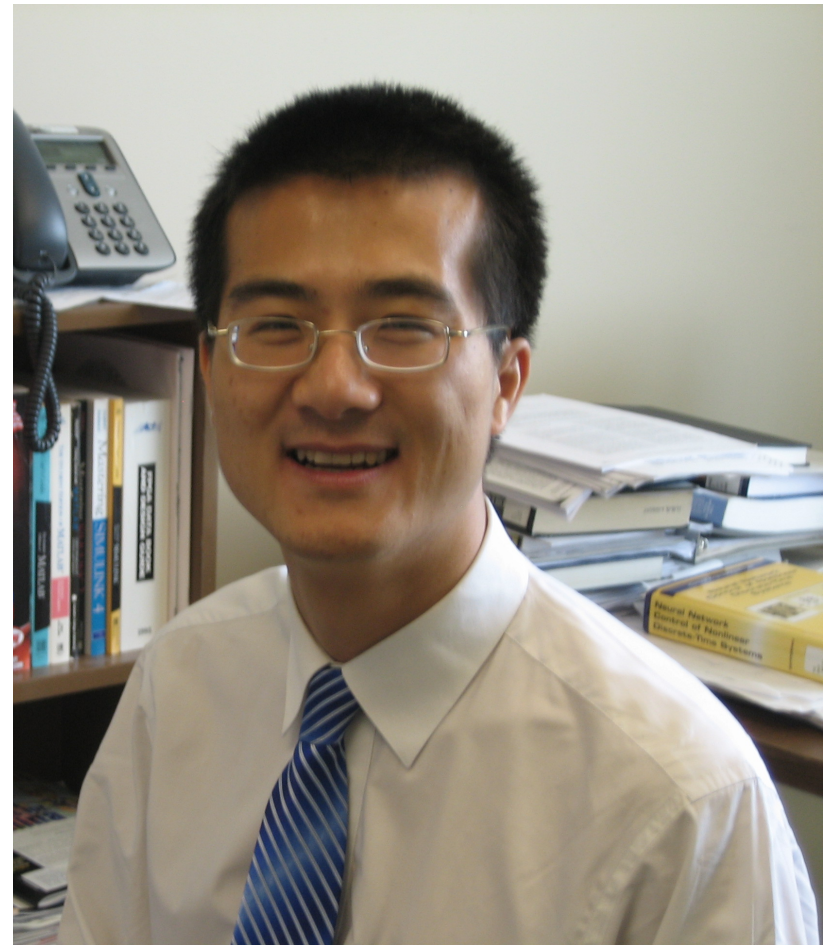
Jun Jin



- Ass.Prof. In Innovation and Technology Management (Ph.D. in 2005)
- Visiting Professor of UNU-MERIT (the Netherlands), PSU (US)
- Research interest: open innovation, reverse innovation, innovation capability, innovation and sustainable development

Qinmin Yang

- Ass. Prof. in Control Science and Engineering, ZJU
- Ph.D. in Electrical Engineering, 2007
- Co-Founder of ColTiTech Inc., 2003
- System Engineer, Caterpillar Inc., 2008
- Adaptive control theory, nano-robotics, wind power systems
- Hobbies: soccer, football, and zuqiu



Shijian LUO



- Ph.D. and Ass. Professor at Industrial Design (part of Dept. of Computer Science)

Weiqing XU

- Ass. Prof. at School of Management, ZJU
- Ph.D. in Business Administration, 2005
- Deputy director of department of business administration, SoM, ZJU
- Research interest : services marketing, customer relationship management, user innovation



Aiqi WU

- Ass. Prof. at School of Management, ZJU
- Ph.D. in Business Administration, 2005
- Deputy director of department of business administration, SOM, ZJU
- Director of Joint Centre for Innovation and Entrepreneurship
- Research interest: entrepreneurship and strategic management



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Sweden

20 minutes presentation by the Swedish students about:

- Lund, Sweden
- Lund University
- Technology Management



China

25 minutes presentation by the Chinese students about:

- Hangzhou and Zhejiang
- ZJU: the university
- ID: the department
- CSE: the department
- SoM: the department



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Project

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- The project should focus on Innovation and Product Development (prototypes)
- Project-theme 2012: “Helping everyday life”
- 1 group – 1 project – 1 innovation – 1 prototype
- Final presentation: written report, oral presentation, film



Theme

The project theme for 2012 is:
"Helping every-day life"



Project

- Work in groups of 8
- Practice teamwork – learn from each other
- Get inspiration from your daily life, come up with an idea, and realize it as a prototype.
- Coaching sessions will be offered.
- While working together, create a short (3 minutes) film about your work
- At the final presentations you should present:
 - your prototype
 - written report including the business plan
 - The film "this is how we did it"



Groups

| Group | Swedish Students | | Chinese Students | | |
|-------|--|--|---|------------------------------------|---|
| | LUSEM | LTH | SoM | CSE | ID |
| 1 | Christoffer Haraldsson (M) Astrid Hollmen (F) | Melissa Denbaum(F) Mattias Bergström(M) | Jingrong Xie(F) | Haochen Jiang (M) Eyuan Wei (M) | Hui Chen (F) |
| 2 | Erik Holmberg (M) Siri Höning (F) | Astrid Sjögren (F) Erik Sunden (M) | Yuexiang He (F) Cao Naiwei (F) | Yuhui Chen (M) Lin Dong (F) | Yi Liu (M) Philip Haglund (M) |
| 3 | Ida Johansson (F) Johannes Jönsson (M) | Lars Fahlen (M) Martin Borgden (M) Shahad Mohammad(F) | Guoyun Qiao (F) Eric Fang (M) | Changyong Luo (M) | Haolin Xuan (F) Tao Yiyang (M) |
| 4 | Martin Jägerstad (M) | Anders Molden (M) Ewa Holmberg (F) Sebastian Hansson (M) | Yanhong Zhang(F) Barbara (F) Steven Huang (M) | Huajie Shau (M) Sheng Fang (M) | Chenli Huang (F) Cai Jianxing (F) |
| 5 | Elin Lindkvist (F) Petter Lindström (M) Ida Moflag (F) | Anton Torstensson (M) Michaela Wåhlberg (F) | Jianwei Yu (M) | Li Wang (M) | Junping Liu (F) |
| 6 | David Romell (M) Josefine Mordenfeldt (F) Maja Nordell (F) | Kajsa Brange (F) Jimmy Andersson (M) | Bin Li (M) | Yinan Lu (M) | Yuebo Shen (F) |
| 7 | Martina Nilsson (F) Johan Sterner (M) Oskar Weijden (M) | Erik Lissinger (M) Matilda Lantz (F) | Qiujin Lan (F) | Xiang Liu (M) | Mingya Wei (F) |
| 8 | Linda Runesson (F) Viktor Svanström (M) Jinlan Zhao (F) | Emma Petersson (F) Robin Backebjörck (M) | Bill (M) | Ruichao Qi (M) Hao Ren (M) | Luhua Meng (F) |

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Business, management and technology

"It is a great advantage to be able to employ people who are doubly qualified within technology and management. Connecting the technical aspects to the commercial ones is a very good basis on which to stand in order to contribute to the success of a company."

It is equally important for an engineer to master economics and management as it is for an economist to understand the underlying technical basis of a company's products."

Michael Treschow, Chairman of the board, Unilever



Business, Management and Technology

If you are interested in building, developing and leading technical organizations and companies you need an understanding of

- 1) the technology that your company is working with
- 2) how to manage people and create successful environments
- 3) how you do business

In this course we will combine these three core aspects – business, management and technology.

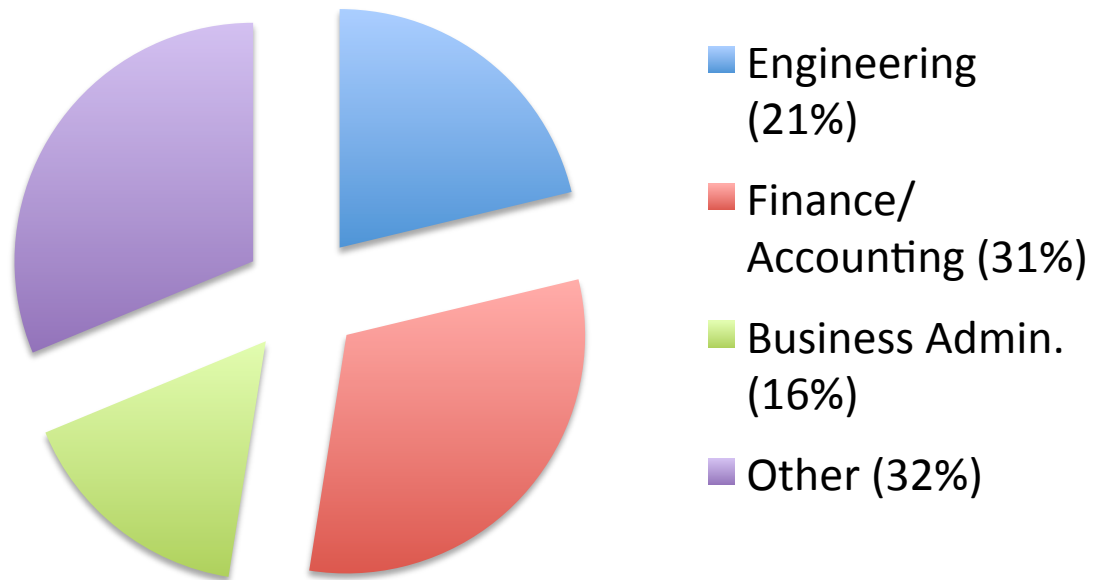
Our focus will be on Innovation and Product Development.



The education of Fortune 100 CEO

CEO = Chief Executive Officer

Education



More than 50% of Fortune 100 CEO's have an Engineering or Financial background

Referens:

<http://www.slideshare.net/sheilacurran/the-education-of-fortune-100-ce-os-sheet1>

The path to Fortune 500 CEO

How did CEOs become CEOs – what did they do?

1. Develop Financial Acumen

- Companies want a person that can create value for the company.
- A person that understands the financial drivers of the company.

2. Settle in – Eventually – and climb the ladder

- Most CEOs are recruited internally, but were not “lifers”.

3. Time to CEO appointment

- Nominal time to appointment is 18 years experience.
- Technology companies have shorter time to appointment (14 years)



The path to Fortune 500 CEO

4. Board experience

- 45% served as non-executive directors on public company boards before being CEO.

5. General observations

- More than 50% of the CEOs were recruited from COO position (Chief Operating Officer – i.e. Use the financial understanding to create excellence in operation)

=> Financial and Technical understanding is important

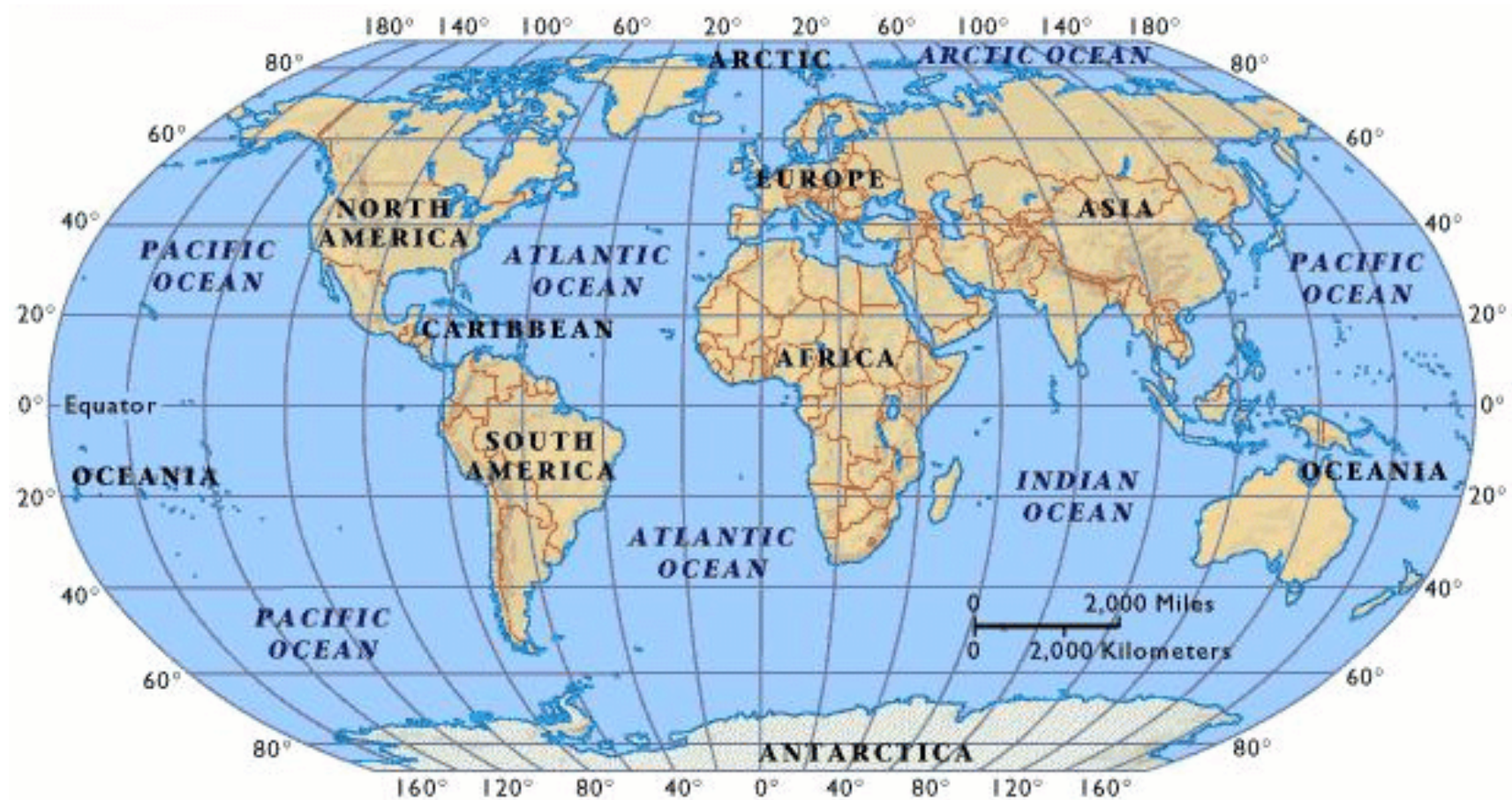
Reference: "The path to becoming a fortune 500 CEO" Forbes Magazine June 2011.
<http://www.forbes.com/sites/ciocentral/2011/12/05/the-path-to-becoming-a-fortune-500-ceo/>



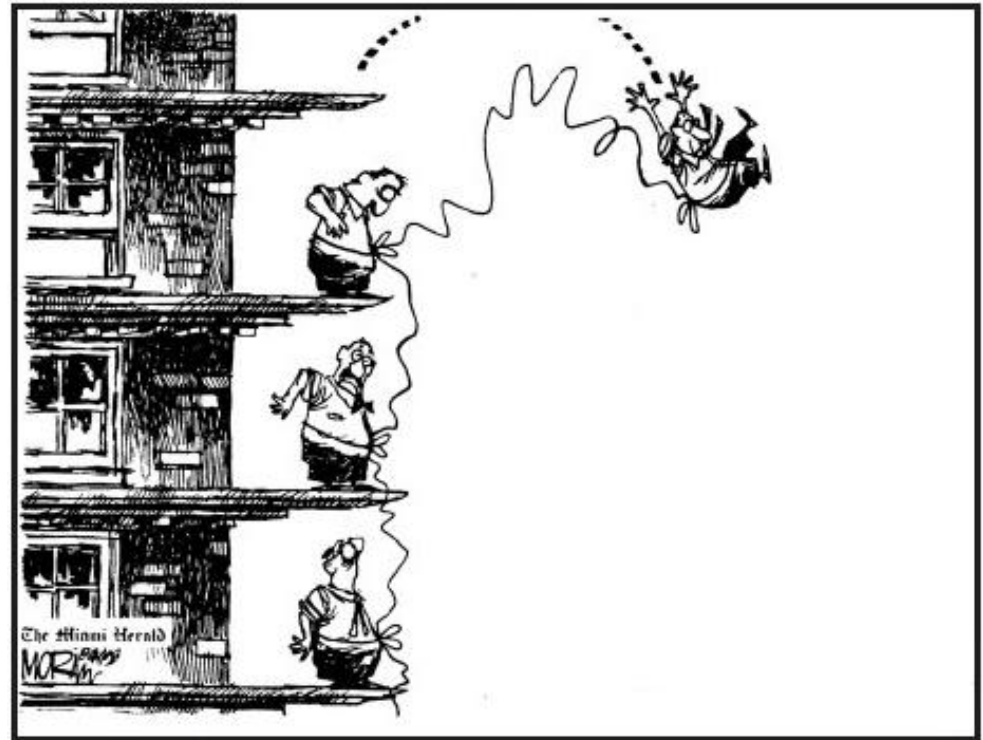
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Globalization and Interdependence



Local vs Global

Which country owns the brand?

Where a product is made?

Where a product is designed?

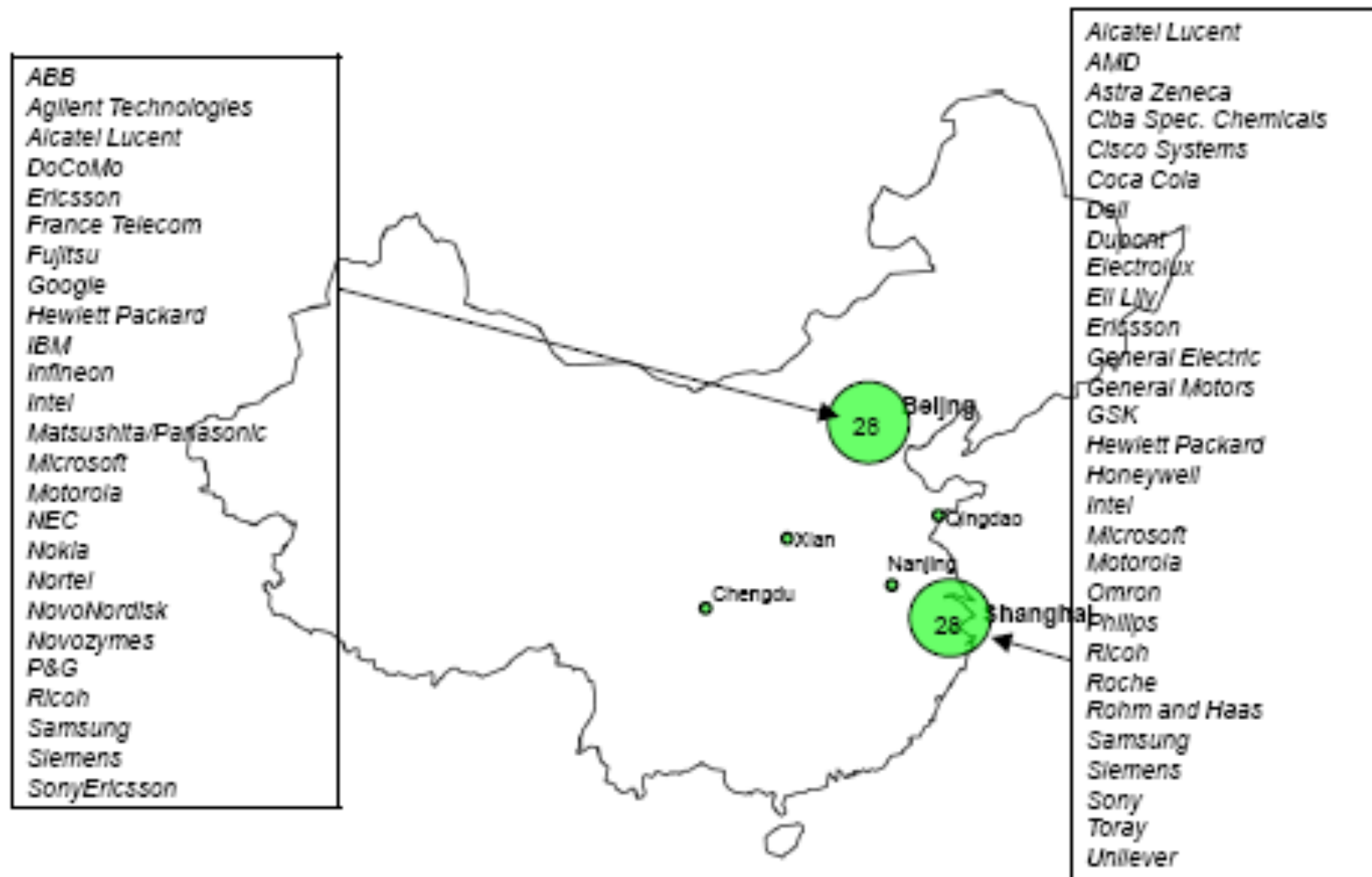
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lenovo

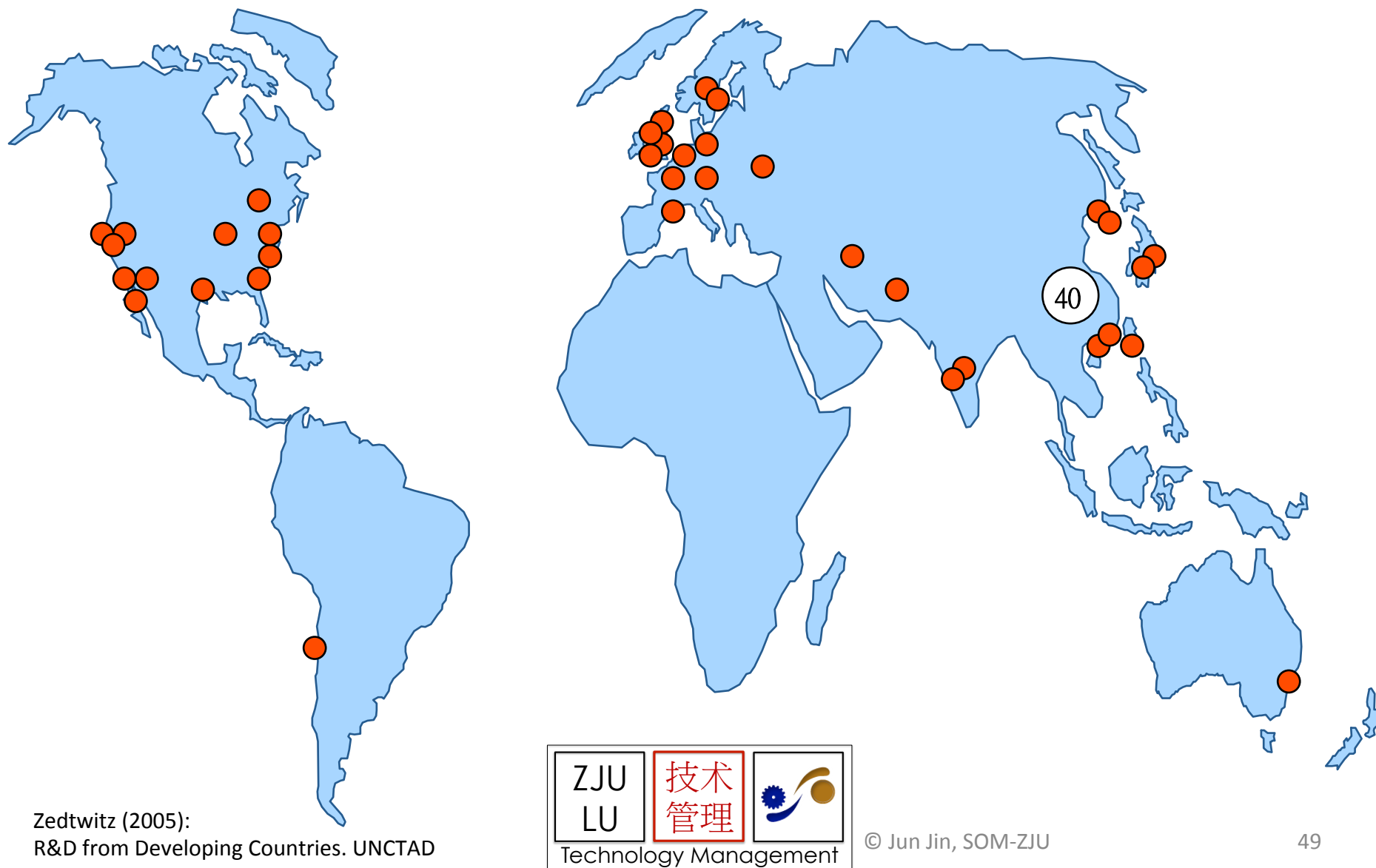


Global R&D centers in China



Schwaag Serger (2007) forthcoming

Chinese R&D in the World



Zedtwitz (2005):
R&D from Developing Countries. UNCTAD

Huawei Worldwide

Please select your location and language



Africa

[Algeria \(English\)](#)
[Cameroon \(English\)](#)
[Congo \(English\)](#)
[Egypt \(العربية\)](#)
[Ghana \(English\)](#)
[Kenya \(English\)](#)
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Asia Pacific

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Europe

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Latin America

[Argentina \(English\)](#)
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[Central America and Caribbean \(Español\)](#)
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[Costa Rica \(English\)](#)
[Ecuador \(Español\)](#)
[Guatemala \(English\)](#)
[Mexico \(Español\)](#)
[Peru \(English\)](#)
[Venezuela \(Español\)](#)

Middle East

[Qatar \(English\)](#)
[Saudi Arabia \(English\)](#)
[United Arab Emirates \(English\)](#)

North America

[United States \(English\)](#)
[Go to Huawei Global](#)



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Enjoy!



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- <http://www.slideshare.net/sheilacurran/the-education-of-fortune-100-ceos-sheet1>
- "The path to becoming a fortune 500 CEO", Forbes Magazine June 2011.
<http://www.forbes.com/sites/ciocentral/2011/12/05/the-path-to-becoming-a-fortune-500-ceo/>
- Zedtwitz (2005): R&D from Developing Countries. UNCTAD



Thank you for your attention

See you again on Wednesday!

