International Otaniemi (INTO)
developing TKK International Strategy

Steering Group November 2006
TKK Strategy
Goals and Issues

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Agenda

• TKK International Strategy 2002
  – Motivation, modes of operation, implementation

• TKK current work on International Strategy
  – Preparatory Group of Profs Seppälä, Nevanlinna and Varsta

• Issues in International Strategy
Motivation of Internationalization

**Vision:** TKK is an Internationally recognised Technology Univ attracting best teachers, researchers and students

**Globalisation**
- Graduates must be able to define new technology and win in global competition on Engineering Excellence (degree charter (tutkintosääntö))
- TKK competes as a Research partner globally
Background: MBO at TKK

• Based on Agreements:
  – MinEdu – TKK
  – TKK Rector – Departments

• Core activity of TKK
  – Results that bring money: M.Sc degrees, Doctoral Degrees
  – Efficiency: low cost operation
  – High impact research: Academy, TEKES, EU, etc

• Non-core activities at TKK
  – All other admin directions agreed with MinEdu
Strategy directions 2002

- Focus on significant collaboration actions in terms of science and technology
- Focus on collaboration with the Best Universities
- International Exchange focused on Quality (teachers, researchers, students)
- Multi-cultural ideals
- Increase number of study modules in English and Intake into Masters Programs
TKK Image is multi-faceted
TKK International Strategy of 2002

Planned Action

• Increase International Recruitment to Masters Programs (10% by 2005)
• More Programs in English based on HE demand and competence
• Student Exchange (75%)
  – Agreed with MinEdu: 500/year
• Evaluation of Univ. Collaboration Agreements and Networks → student exchange, collab with the best, TKK International visibility

• International Campus

Implementation

• 6…7%
• Done: now 9 Master’s progrs + 6 PD progs
• Level: ca 20…25%
• Yes.
  – ERASMUS, Cluster, EAIE, TIME, Nordtek…
  – Do we have enough partners to achieve exchange goals
• Not done.
Implementation: Organisation of International Activities

• The 2002 International Strategy was a separate area strategy → now Internationalization seen as an integral part of TKK strategy

• Common Services
  – International Office: mobility, exchange, collaboration agreements and networks, campus international profile
  – Innovation Center: International Research projects

• Departments: Masters Programs, PD Programs, Student recruitment
International Master’s Programs

• MP in Communications Engineering (ECE)
• MP in Mobile Computing – Services and Security (CS)
• MP in Electrical Engineering (ECE)
• MP in Forest Products Technology
• MP in Micro- and Nanotechnology (ECE)
• MP in Process Systems Engineering
• MP in Data mining etc are being planned

ERASMUS MUNDUS

• SpaceMaster – Joint European Master in Space Science and Technology (Aut)
• NordSecMob – MP in Security and Mobile Computing(CS)

In addition: 6 separate “Professional Development” Programs (less than 120 ects)
Admissions – Three tracks

1. Paper Selection
   - Online Applications
     - 39%
   - Paper Applications
     - 10...20%
   - Admitted
     - 25...75%
   - Enrolled
   - Graduated
   - Enrolled to PhD study

2. Selection through Entrance Exam onto Master’s Programs
   - With a B.Sc from a foreign Univ
     - pre-selection at Departments to ensure appropriate prior knowledge

3. Admission in joint entrance process to Technical Universities and Deps
   - with IB, EB etc High School Certificates to Full 3+2 progr’s
   - a Finnish proficiency req under discussion
Online Applications by Country

81 countries in total to all programs (30.1.06 DL)
Almost 2000 applications in total
(Mundus programs not included)
M.Sc Degrees by Program

- Comm Eng
- CS
- EE
- Ind Man
- Forest
- Mach
- ECE
- Chem
- Civil
- Archit
- Gma
- Mak
- TF
- ?
- Aut
- Mme
- Mar
Marketing: Information sources for Applicants

Internet 69 %
Personal Contact 16 %
Brochure <1 %
Fair <1 %
Press <1 %
Other 13 %

This is based on all online applications in Jan 2006 to TKK.

One can interpret this in two ways
+ two channels are important: Internet and the Grapevine.
+ TKK does not do much other kind of marketing except www.
Models for International Education & Research

People's view

Research

Foreign B.Sc

Foreign M.Sc

Master's Programs

Erasmus Student exchange

Linkage Programs

Erasmus Student exchange

Linkage Programs

Return

Return

Doctoral study Programs

D.Sc (Tech)

Foreign Post Doc

Foreign Professors

Study time

Education

Foreign B.Sc

Foreign M.Sc

M.Sc

Return

People's view
Notes on models

- International Student Exchange is in balance (even positive) – 300…400 per year
  - Master’s programs have attracted also exchange students
- Master’s Programs (7…9 programs) about 6% of graduates
- Doctoral study – a well working model for research centric labs
- Very few post docs and profs
Ongelmat

• Suomen koulutus- ja maahanmuuttopolitiikat ovat epäsovussa keskenään
  – Viisumikäytännöt, sosiaalietuudet (ulkomainen opiskelija voi maksaan veroja ilman että hän on sosiaalisetujen piirissä)
  – Kotouttamiskoulutukseen ja suomen kielen opetuukseen ulkomaalaisille ei panosteta riittävästi
• Yhteiskunta ja elinkeinoelämä laajasti eivät ole valmiita hyödyntämään meiltä valmistuneita ulkomaalaisia diplomi-insinöörejä
  – Jopa suomalaisten kansainvälistä harjoittelua voidaan työhönottaa vierastaa
  – Julkisella sektorilla ei ole ulkolaisen työllistämiseen mitään laajempaa ohjelmaa
  – Onko TKK:lla valmius käyttää ulkomaalaisia opettajia?
  – Suomen kielien taidon ja paikallisten toimintatapojen tuntemuksen puuttuminen rajoittaa merkittävästi työpaikkavälistä
  – Kansainvälistet suuryritykset ovat poikkeus. Monet niistä käyttävät ulkolaisia osaajia täysin sujuvasti.
• Pääkaupunkiseutu on edelleen aika suomalainen paikka eikä sitä voi pitää monikulttuurisena metropolina

Suomi maana ei ole houkutteleva kohde ulkomaalaisille opiskelijoille
Kulttuuri ja diversiteetistä hyötyminen

• Meidän tulee tiedostaa kansallisuuksiin liittyvät kulttuurierot ja oppia hyötymään kulttuurisesta diversiteetista.
  – Auttaa saavuttamaan kaikkia muita kv tavoitteita
  – Toimii mallina muille kansallisille organisaatioille
  – Tietotalouden menestyjiä ovat ne, jotka osaavat tämän.

• Ratkaisut: Cultural learning, Alumnit voimavarana sijaintimaasta riippumatta:
  – Globaali verkosto, Kansainvälinen kampus ja Rekrytointi

• Nykytila: on teekkareita ja ulkkareita
Some lessons learned in running Master’s Programs

• Paper evaluation is an art in itself
  – Lots of faked papers around
  – Lots of different Universities
• Must continuously build up knowledge of what works and what does not
• Best students are admitted to many programs in many countries – competitiveness of the country and city are important
  – Finland and Helsinki could do much better in this regard
  – If one is too selective in paper evaluation, no one or too few will enroll
  – Fast processing of applications improves gain
• Online applications process helps to make the selection process professional
• Even with poor marketing – the demand is there.
• In Marketing we need Country level → Helsinki area level → University level → Program level.
• Must Integrate International Programs with regular Degree structure
• Predicting Enrollment percent is hard – makes planning difficult!
• After 7 years, Communications Engineering has more International Applicants to Master’s Programs than Domestic Undergrad applicants to BSc+Msc programs. Still selection of foreign applicants must be much stricter.
TKK International Master’s Programs

**Current state**
- Department effort
- ca 10 MP's/ICT focus
- Low key marketing(applications > 2000)
- Gain from admitted 25…75%
- Graduates ca 7% of all
- Rarely a path to Dr study (most graduates stay to work in Finland or return home)

**Target state**
- TKK activity
- At least 1 Int'l MP/Department
- Quality Marketing(Applications >5000)
- Predictable gain >60%
- Graduates 15% of all
- Well trodden path to Dr study
- Graduates attractive applicants on Finnish Labor markets

**Actions**
- Coordination Committee of Int'l Educ
- Marketing – collaboration within HERA
- Teaching development (quality criteria)
- Link to Graduate Schools
- Cultural competence building for native and Int’t students

RKa 10.11.2006
Feasible Fees policies – stand on the snowboard!

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<tr>
<th>Low taxation</th>
<th>High taxation</th>
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- USA
- UK
- Finland
Potential Challenge: GATS

• **GATS** = General Agreement on Trade in Services – by WTO
  – Defines Education as one service among others
  – Concerns primarily tertiary education i.e. Universities

• Governments define their commitments but GATS is not neutral – the goal is further liberalization of trade
  – Modes: Crossborder supply, consumption abroad, commercial presence, presence of natural persons.

• Issues: accreditation, national commitment, Education may be a bargaining chip in agenda that concerns other service sectors e.g. transportation services, research funding under GATS regime, etc.
TKK Goals – Share of Foreign Students

- 600 graduate students (some 13000 total)
- 360 post graduate students
- 15% of Graduate School students in 2009
- 15% of Doctoral graduates

Goal: TKK wants to be one of the best technical Universities in the world.
  + to gain higher international visibility, one needs to be international in Research and Education
  + Recruiting the best students internationally helps.