

UNIVERSITY OF TWENTE.

INTRODUCTION ITC  
EDUCATION, RESEARCH AND CAPACITY  
DEVELOPMENT AGENDA

Chris Mannaerts & Cees van Westen  
Faculty ITC

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FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION

# Proposed programme

- Introduction: ITC and us.
- Multi-hazard risk for decision making
- Near real time satellite data and its use in Early Warning
- The CHARIM project
- ITC's capacity building strategy.
- Proposed training course
- Discussion



**ITC**

UNIVERSITY OF TWENTE.

# UNIVERSITY OF TWENTE.





# HIGH TECH HUMAN TOUCH

- An entrepreneurial campus university established in 1961
- More than 10,000 students
- 3,300 staff members



# LOCATION

## THE NETHERLANDS IN THE CULTURAL HEARTLANDS OF EUROPE

### Enschede

- A distinctive modern and lively university town
- At the Eastern border of the Netherlands
- Surrounded by remarkable spots of natural beauty and tranquility
- Excellent connections to Amsterdam, Brussels, Paris, London, Zurich and Berlin
- An ideal center of operations



# EDUCATION

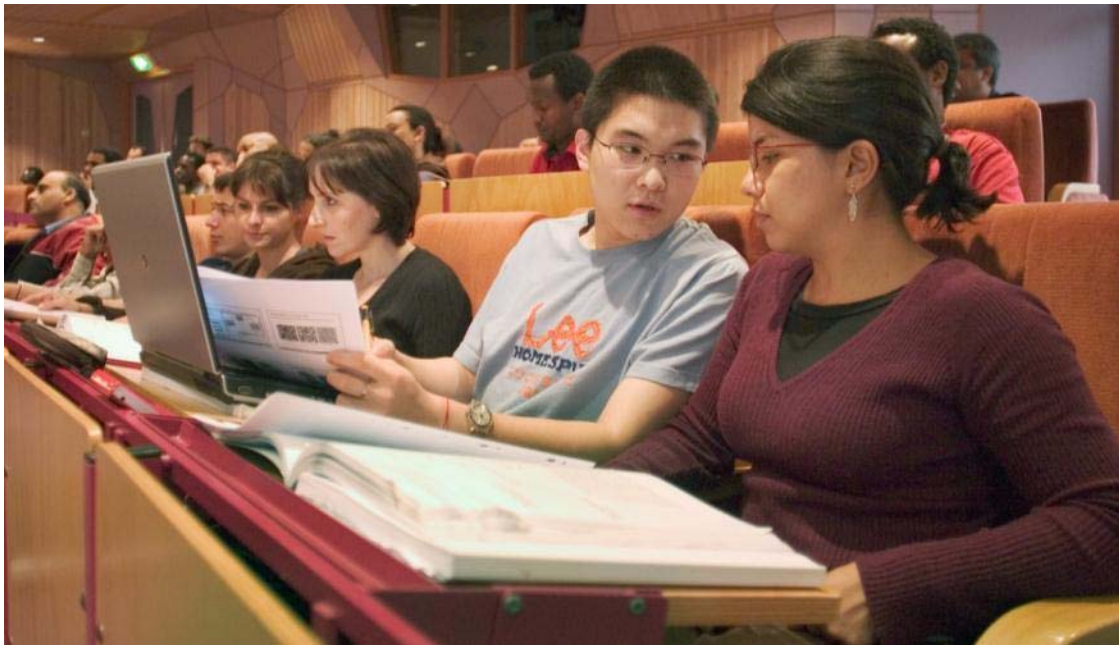
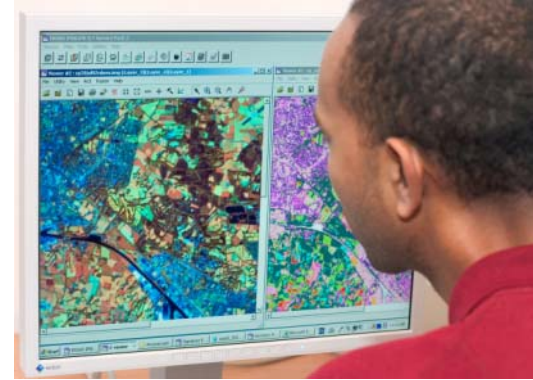
Educational programmes are offered by the six faculties

- Engineering Technology
- Electrical Engineering, Mathematics and Computer Science
- Behavioural Sciences
- Geo-Information Science and Earth Observation
- Management and Governance
- Science and Technology

Integrated master's and PhD programmes for outstanding graduate students who aim at a career in scientific research in the:

- Twente Graduate School

# FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION



# ITC ESTABLISHED IN 1950

BY MINISTER WILLEM SCHERMERHORN

1950

**I**nternational **T**raining **C**entre for Aerial Survey, ITC

1968

International Institute for Aerial Survey and Earth Sciences, ITC

1985

International Institute for Aerospace Survey and Earth Sciences, ITC

2002

International Institute for Geo-Information Science and Earth Observation,  
ITC

2010

Faculty of Geo-Information Science and Earth Observation, ITC  
University of Twente



# WHAT'S ITC ALL ABOUT?

## GEO-INFORMATION MANAGEMENT, WORLDWIDE AND INNOVATIVE

- One of the world's foremost education and research establishments in geo-information science and earth observation
- A wide range of disciplines and activities in this field
- Contribute to capacity building in developing countries and emerging economies
- Solving real world problems
- Multicultural environment with staff and students from over 175 countries

## KEY FIGURES 2016

- 919 newly registered students
- 438 degrees/diplomas/certificates awarded
- 150 registrants for the graduate programme (31 december)
- 45 external projects
- 184 staff fte
- more than 20,000 alumni from 175 countries



# FACILITIES

Well equipped building

- lecture rooms
- MSc rooms
- auditorium
- state-of-the-art computer facilities
- laboratory facilities
- restaurant
- library



# **SIX SCIENTIFIC DEPARTMENTS**

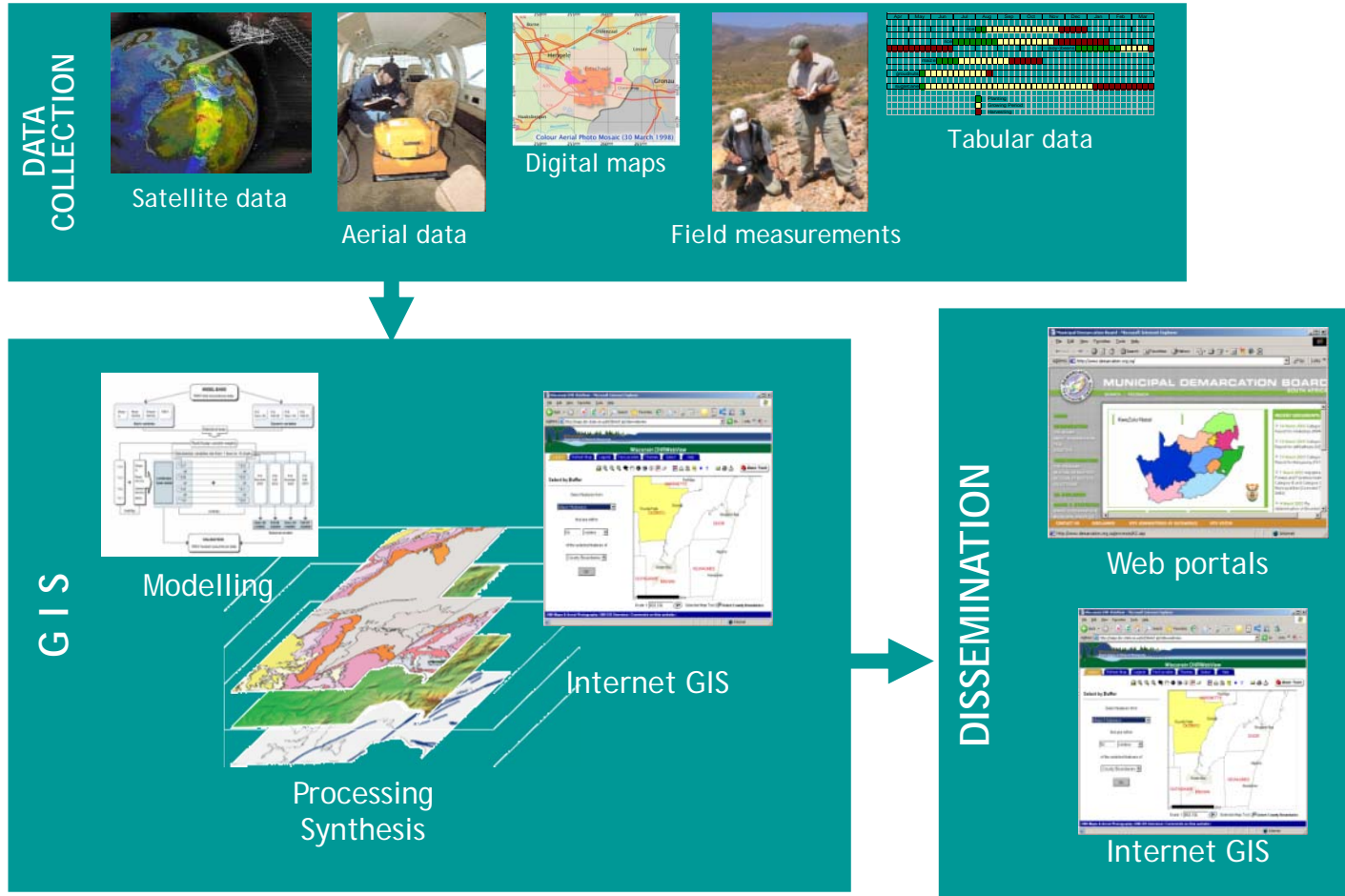
## **OPERATING AS CENTRES OF EXCELLENCE**

- Covering the different fields of disciplinary interest that encompass ITC's core mission:
  - Earth Observation Science
  - Earth Systems Analysis
  - Geo-information Processing
  - Natural Resources
  - Urban and Regional Planning and Geo-information Management
  - Water Resources



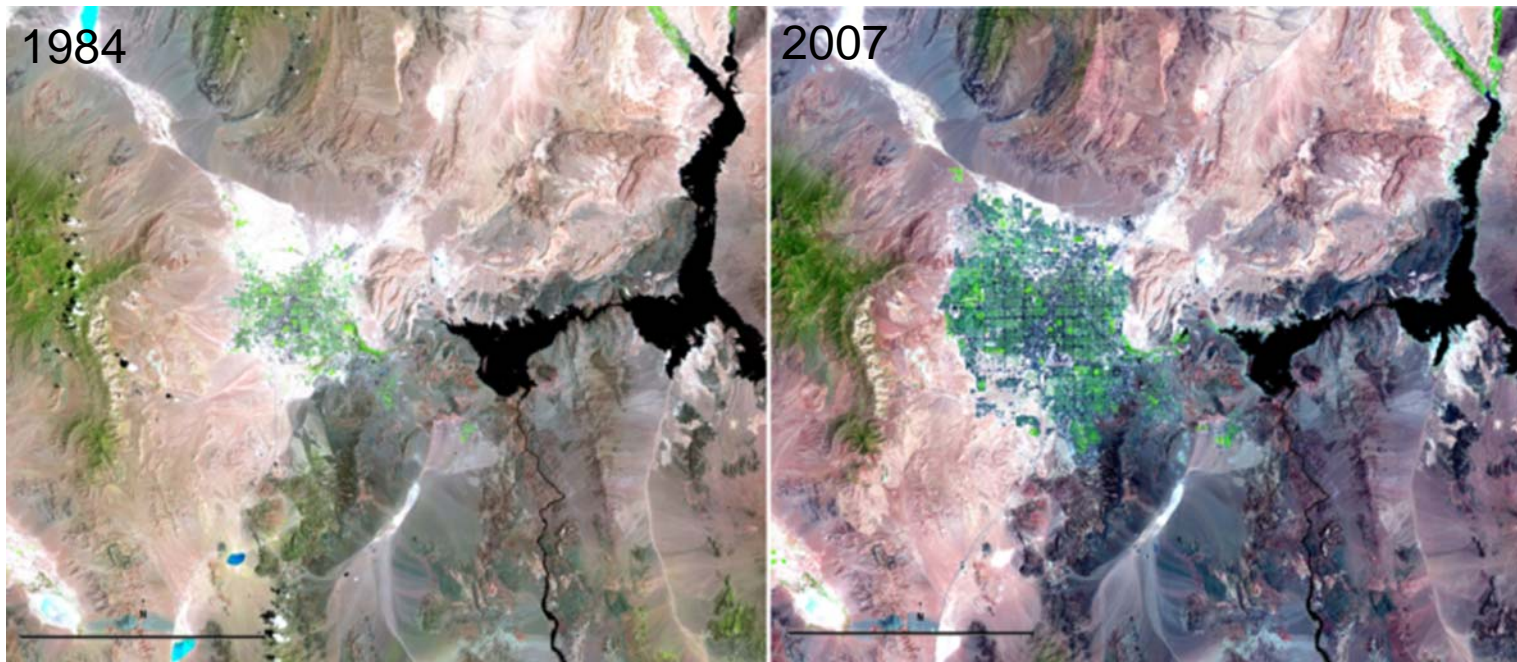
- ITC knowledge field

*Geo-Information production and synthesis from satellites and in situ observations, to help decision makers and the public take better decisions about their daily lives*



# EARTH OBSERVATION

- Collect data about the earth's surface and subsurface
- Based on aerospace survey techniques
  - remote sensing, aerial photography, radar, airborne electronic-scanning devices, satellites



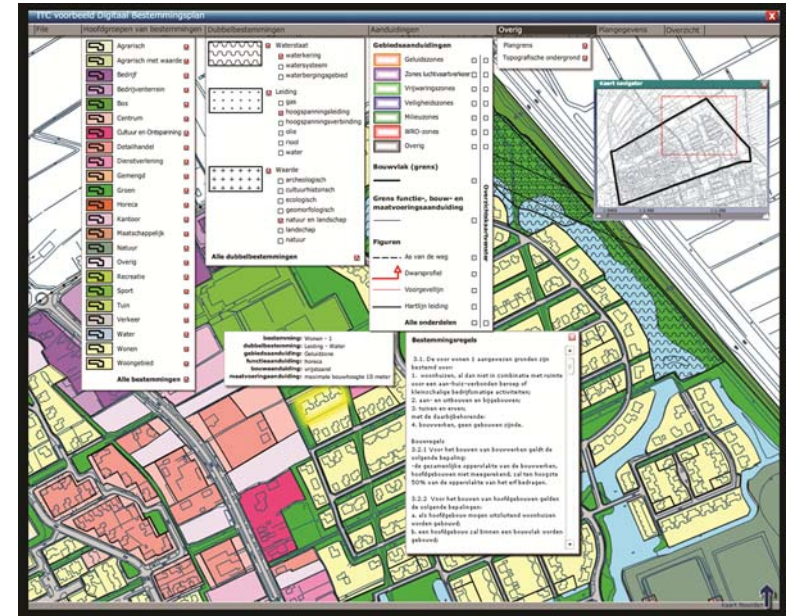
**Growth in the Desert Las Vegas**  
Sensor: L5 TM. Source: USGS

# GEOGRAPHICAL INFORMATION SYSTEMS

Database used to

- store
- manipulate
- access
- transform
- study trend patterns
- examine environmental issues
- simulate outcome of project proposal or planning procedures

data collected through earth observation



# ITC'S CORE ACTIVITIES



- Education



- Research



- Capacity development



# EDUCATION

## A MULTICULTURAL ENVIRONMENT



# TARGET GROUP

- Young and mid-career professionals and scientists
- From developing and emerging countries
- Increasingly professionals from industrialized countries





# RESEARCH

## SPACE FOR GLOBAL DEVELOPMENT



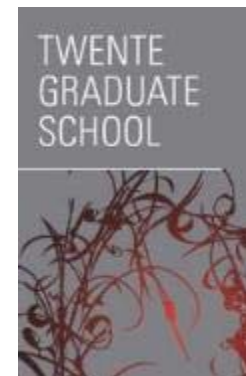
# RESEARCH

Objective:

- Discovery of new knowledge in the field of geo-information science and earth observation and its applications, also supporting quality education and capacity development

Through:

- research programme
- graduate (PhD) programme (150 graduate students)
- visiting scientists
- joint research partnership agreements







# SIX RESEARCH THEMES

LED BY ITC PROFESSORS

## 4D-EARTH

Acquisition and Quality of Geo-spatial Information

Forest Agriculture and Environment in the Spatial Sciences

People, Land and Urban Systems

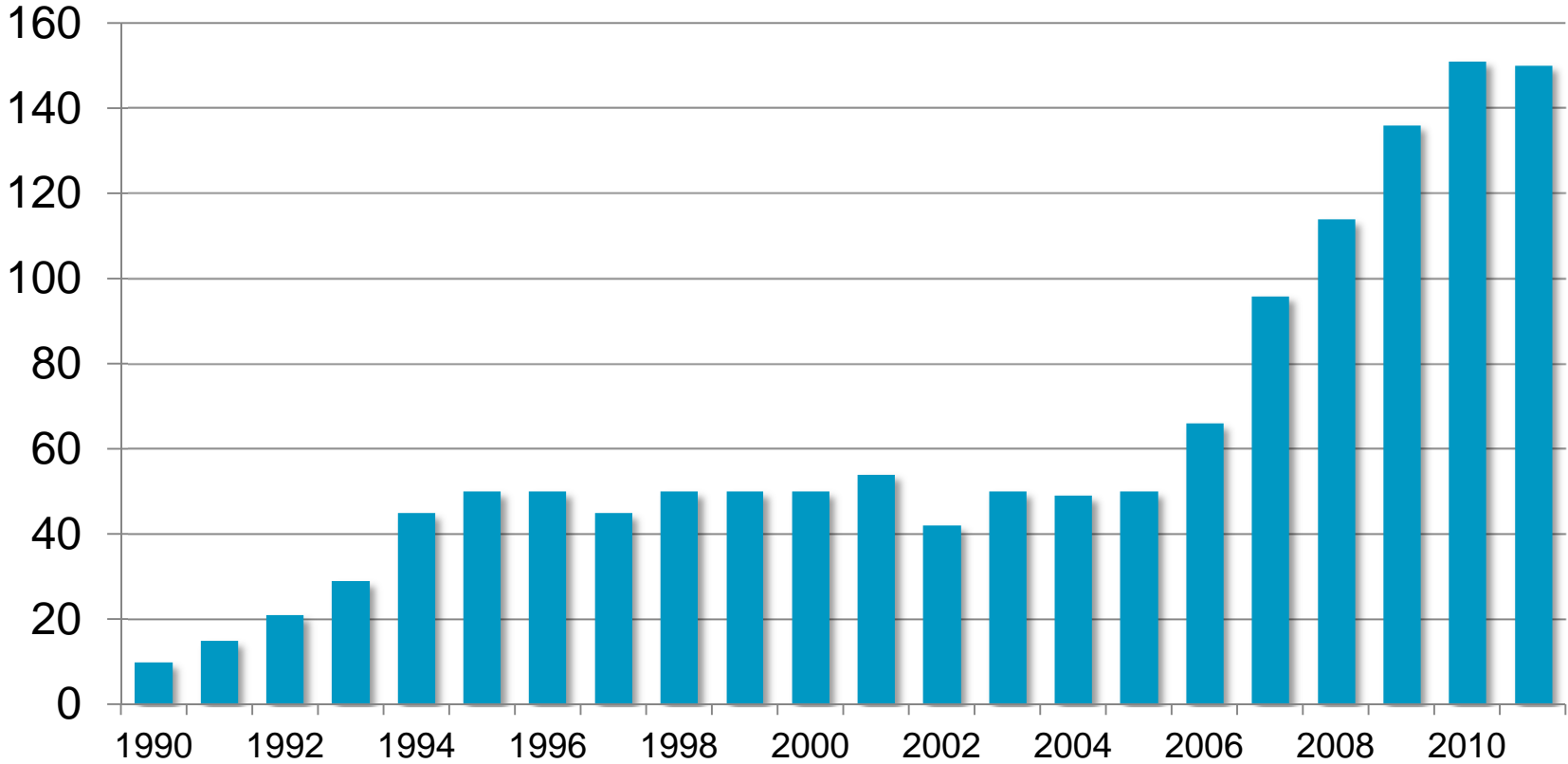
Spatio-temporal Analytics, Maps and Processing

Water Cycle and Climate

Space for  
Global development

# PHD STUDENTS

REGISTERED AT ITC



# ACADEMIC OUTPUT

Type of publication	2007	2008	2009	2010	2011
ISI Journals	67	76	113	145	185
Other peer-reviewed journals	17	18	24	26	27
Chapters in books	28	46	31	4	25
Books / monographs	-	1	3	15	12
PhD thesis	12	7	5	15	21
<b>TOTAL</b>	<b>124</b>	<b>148</b>	<b>176</b>	<b>205</b>	<b>270</b>

# RECOGNITION OF DEGREES

- The degrees awarded by the University of Twente are formally recognized by the Ministry of Education, Culture and Science, based on accreditation NVAO

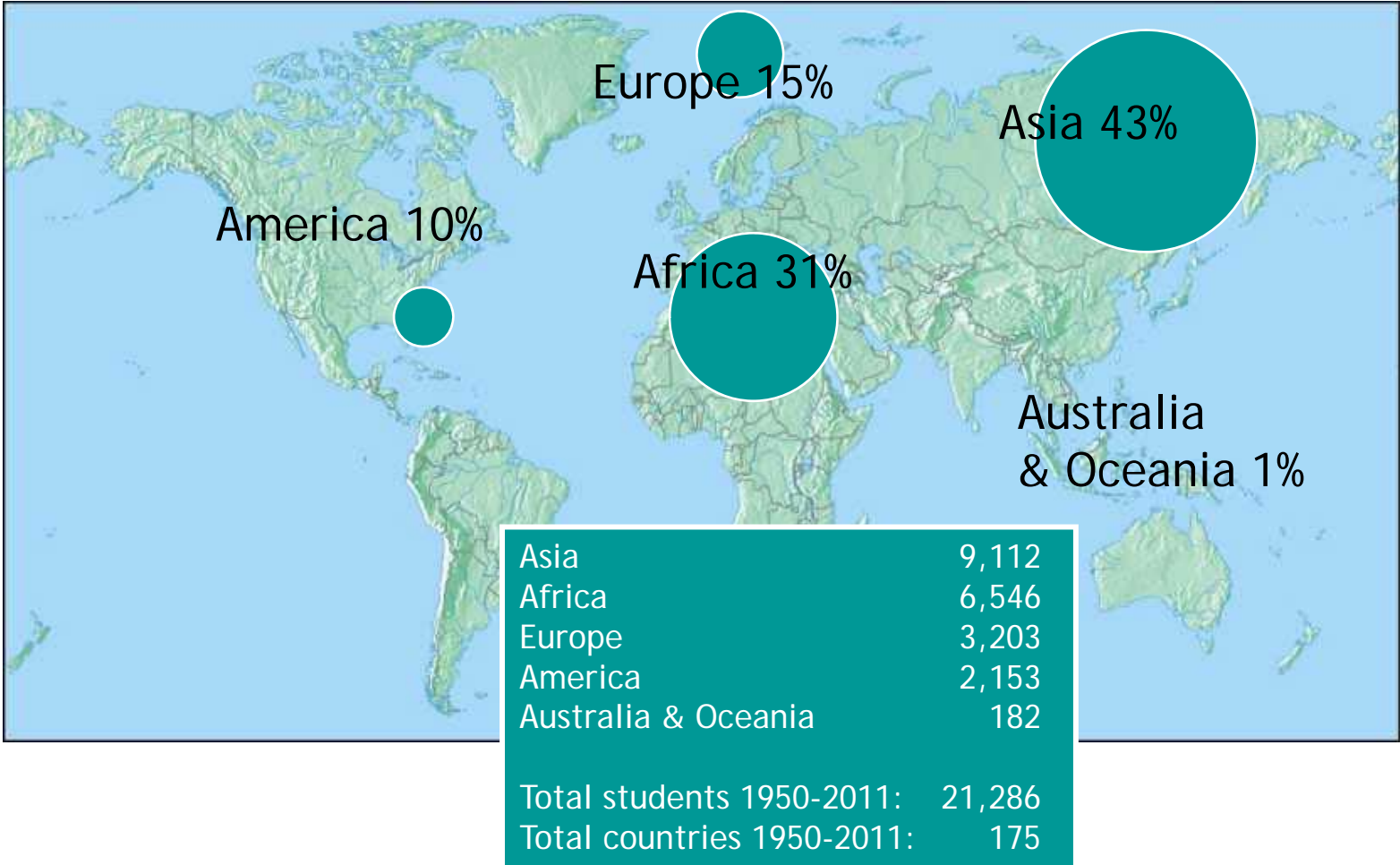


- For its degree programmes the University of Twente issues an internationally recognized document attached to diploma: the Diploma Supplement (DS)



# COURSE PARTICIPANTS 1950-2011

ORIGIN OF ITC STUDENTS, EXCLUDING EXTRAMURAL AND PHD



# SEEKING THE SOURCE

## FELLOWSHIPS

- Netherlands Fellowship Programme
- European Union: Erasmus Mundus
- United Nations agencies
- Joint Japan World Bank Scholarship Programme
- International Fellowships Programme Ford Foundation
- The Huygens Programme
- STUNED Scholarship Programme

# CAPACITY DEVELOPMENT

IN THE FRAMEWORK OF INTERNATIONAL DEVELOPMENT COOPERATION



# **PROJECT SERVICES**

**TAILORED TO THE NEEDS OF OUR CLIENTS**

- Institutional development
- Advisory services
- Contract training
- Contract research and development



# EDUCATION PARTNERSHIPS

## IN THE FRAMEWORK OF INSTITUTIONAL DEVELOPMENT

- To address the increasing demand for flexibility in academic degree courses
- Partnerships with reputable organizations and universities
- Part or all of an education course accredited by ITC is conducted by



# EDUCATION PARTNERSHIPS



# ALUMNI

## A WORLDWIDE NETWORK

- Worldwide community of over 20,000 individuals
- Extensive network of international contacts
  - UN organizations
  - Universities
  - Research groups
  - Research survey and map production services
  - Various international professional associations

