



Universität Stuttgart

INSTITUT FÜR
KOMMUNIKATIONSNETZE
UND RECHNERSYSTEME
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International Exchanges and Qualifications in the Bologna Era

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German-Egyptian Conference "Creating an Overarching Area of Education in Europe and the Mediterranean"

Joint Conference of the Ulm University and the German University in Cairo (GUC)

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Transnational Mobility in the Bologna Era

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Symposium on International Cooperation Experiences in Higher Education
Universidad Politécnica de Valencia (UPV), Valencia/Spain, June 13-14, 2008

Outline

1 The Bologna Process

- **Transition from Diploma System to Bachelor/Master System**
- **Cycles of the Bologna Process**

2 Transnational Mobility

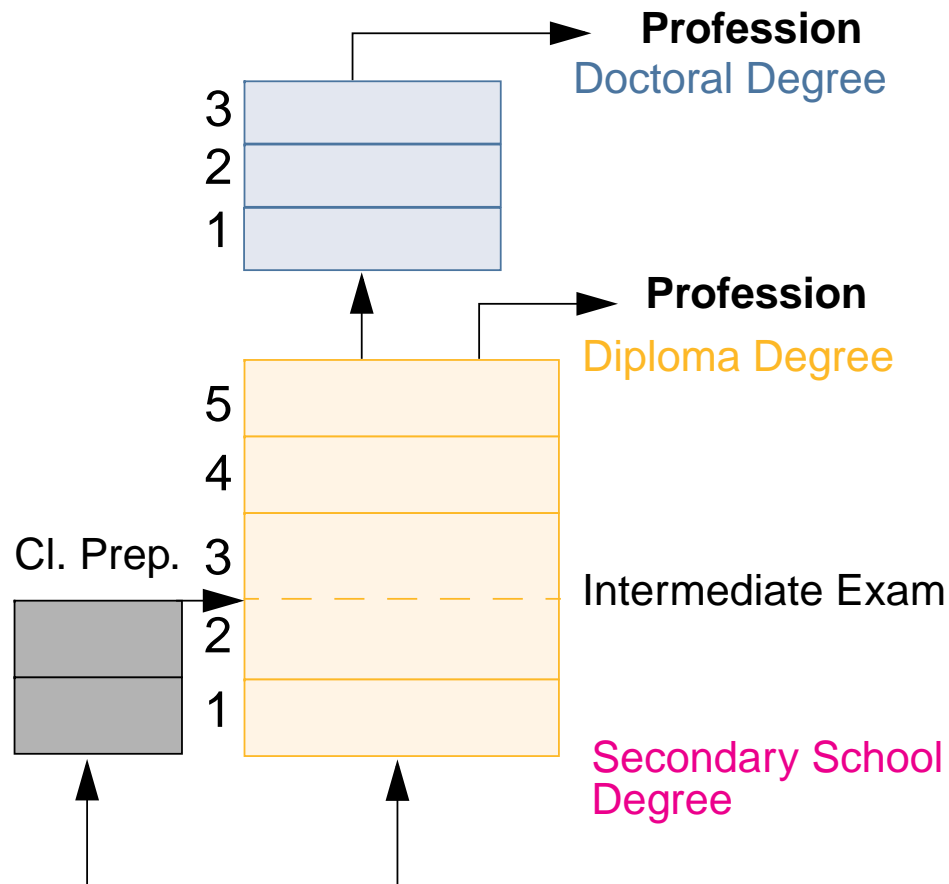
- **Existing Mobility Models**
- **Proposals for Future Transnational Mobility**

3 International Master Programs at the Univ. of Stuttgart

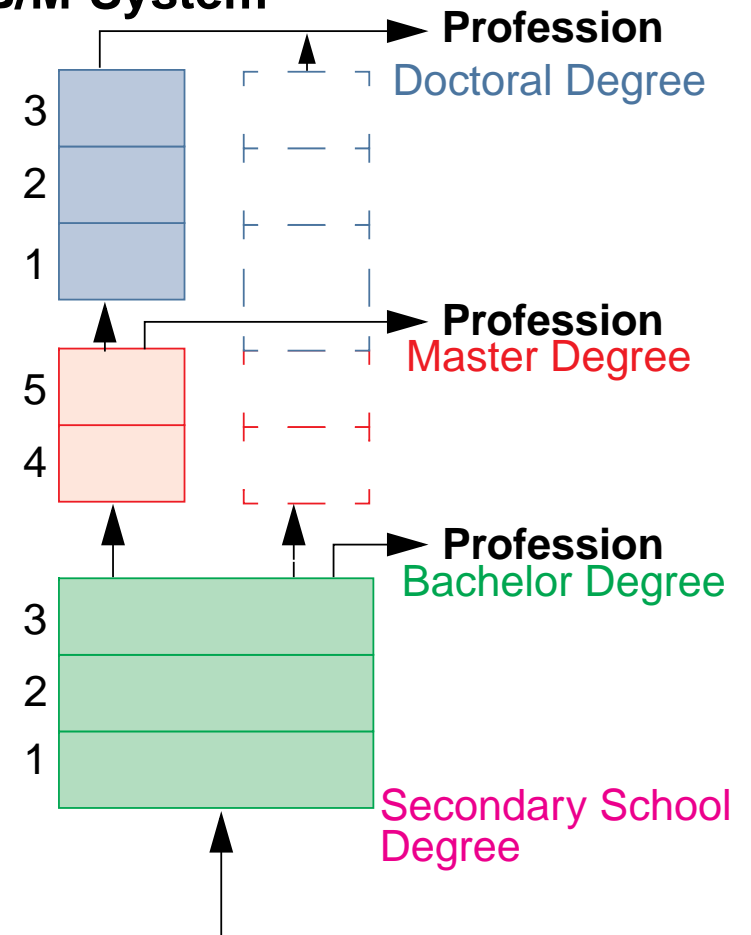
- **Existing Programs**
- **International Graduate School (IGS)**
- **Excellence Program**

Transition from Diploma System to B/M-System

Diploma-System



B/M-System



The 3 Cycles of the Bologna Process

- 1. Cycle: Undergraduate Studies** → **Bachelor** "Employability"-
3-4 years (180...240 CP) **Level**
- 2. Cycle: Graduate Studies** → **Master**
2-1 years (120...60 CP)
- 3. Cycle: Postgraduate Studies** → **PhD**
(≥) 3 years

Notes:

- **Module System** **Basic modules (fundamentals)**
 - **1 CP equiv. to 30 real work hours** **Core modules (specialization)**
 - **30 CP per semester** **Supplementary modules**
- Key qualifications**
- Accreditation**

2. Transnational Mobility: Existing Programs

1. Erasmus-Exchange Program (non-degree)

- 1 or 2 semesters with partner universities in Europe
- Learning agreements, scholarship
- Extendable as "free mover" (without scholarship)

2. Exchange Programs with non-European Universities (non-degree)

- Individual partnership agreements

3. Degree Programs (usually: Master degree)

- Individual partnership programs
- Financial support by national programs
- Typical: foreign phase after 4 years of studies
one year abroad
return to complete diploma program

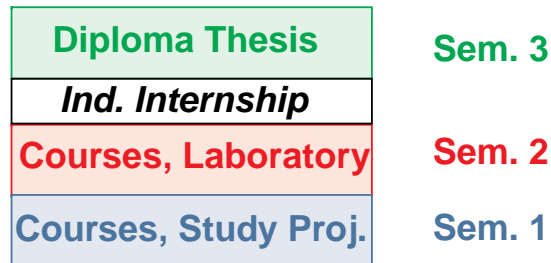
Double Diploma Programs (double degree programs)

- Partnership double-degree agreement
- Typical: 4 years at home university, 3 semesters abroad
- Final diploma thesis jointly supervised and evaluated

Double Degree (Diploma) - Faculty 5 Univ. Stuttgart

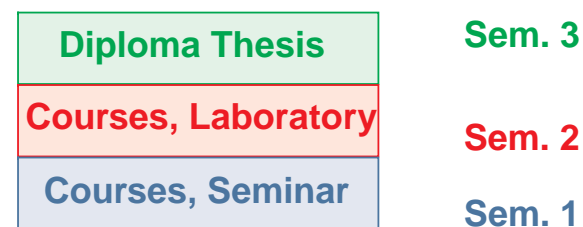
**Diploma Program
El. Engin. & Inform. Techn.**

Dipl.-Ing.



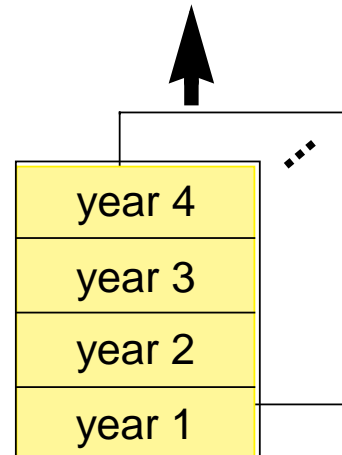
**Diploma Program
Computer Science**

Dipl.-Inf.



**INFOTECH
Program**

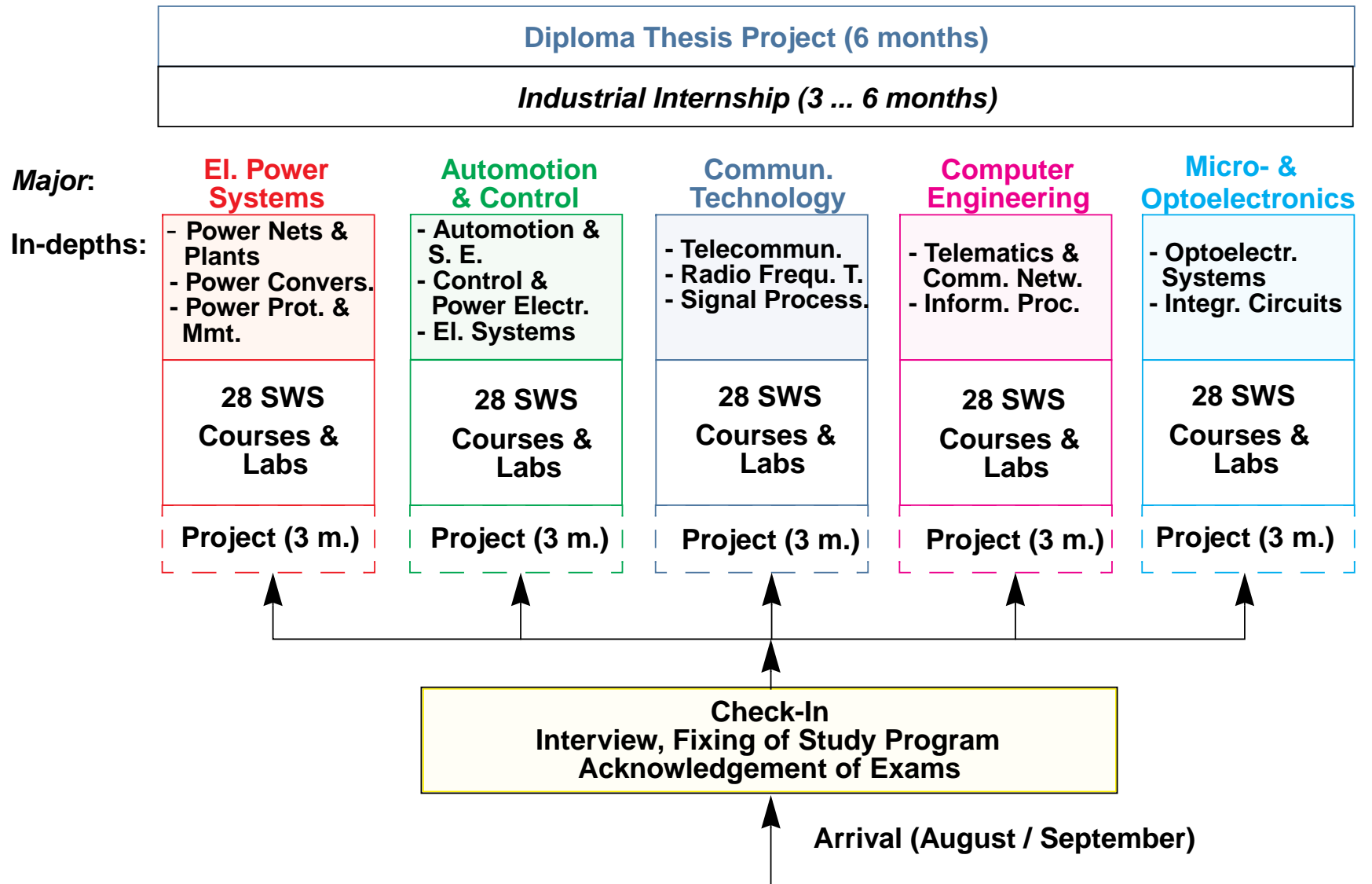
M. Sc.



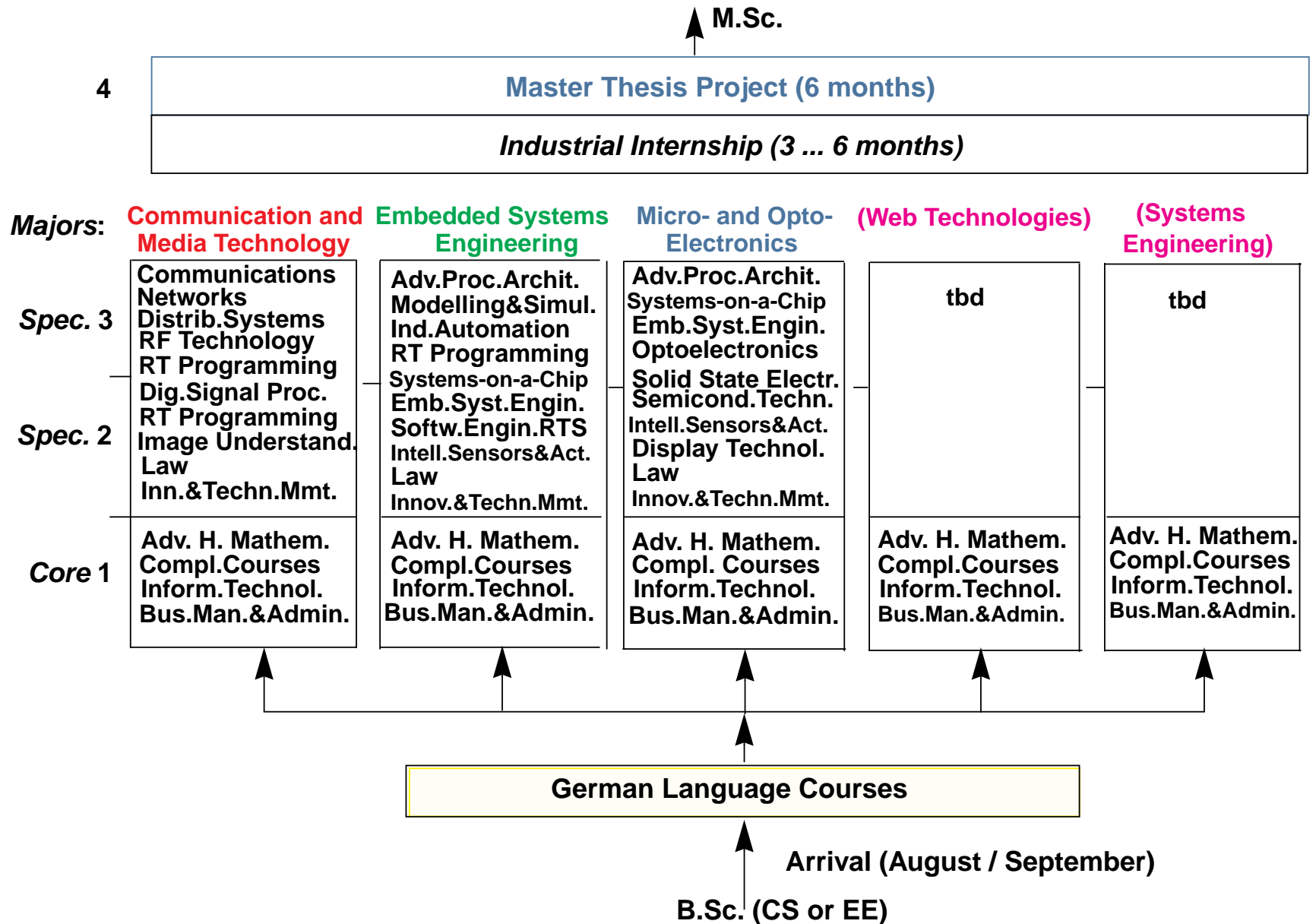
Partner-Universities

- ENST Paris
- ENST Bretagne
- INT Evry
- Supelec Gif-sur-Yvette
- Univ. Polit. de Madrid ETSIT
- Univ. Polit. de Madrid FI
- Univ. Polit. de Catalunya
(Univ. Polit. de Valencia)
- (Univ. Carlos III de Madrid)

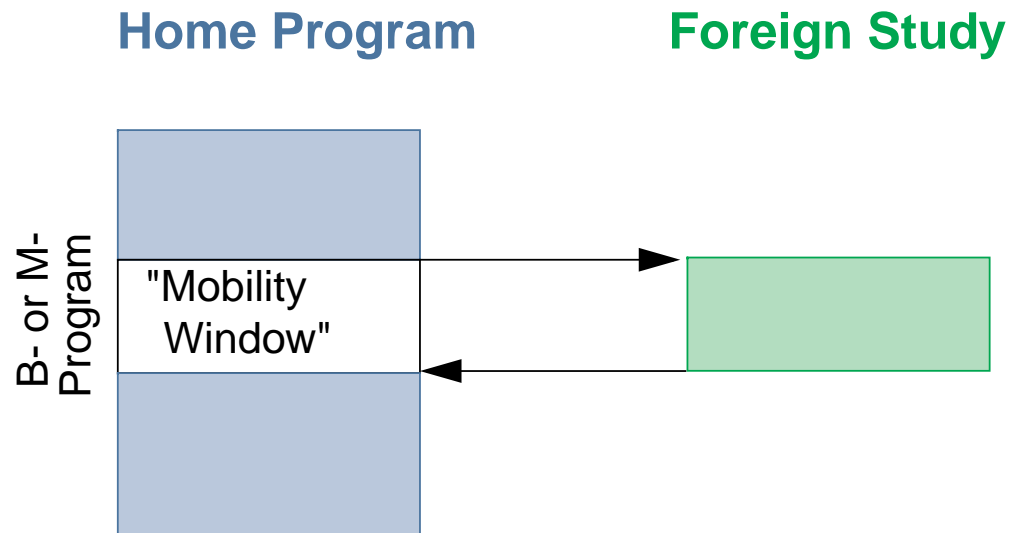
Double Diploma El. Engin. & Inf. Technology



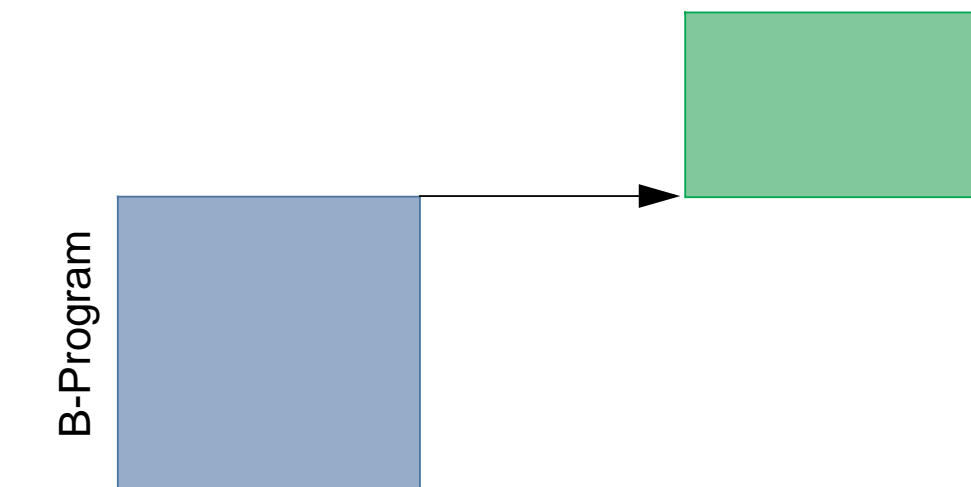
Int. M.Sc. Program in "Information Technology" (INFOTECH)



2. Transnational Mobility: Terminology



Horizontal Mobility
(non-degree programs)



Vertical Mobility
(degree programs)

Options:

- independent application
- joint-degree program
(based on mutual agreement)
- double-degree programs
(based on mutual agreement)

2. Transnational Mobility: Results

London Accord (Communiqué), May 18, 2007)

- **Realization of the European Higher Education Area (EHEA)**
- **Compatibility and comparability of higher education systems**
- **Mobility of staff, students and graduates => core elements of the Bologna Process**
- **Acceptance of the 3-cycle-degree system (B/M/D)**
- **EHEA in context with global setting of the OECD/UNESCO**
 - ↳ Guidelines of quality position in cross-border higher education
- **Towards a "EUROPASS"**
 - CV
 - Mobility pass, learning outcome
 - Diploma supplement
 - Transcript of records
 - Language pass

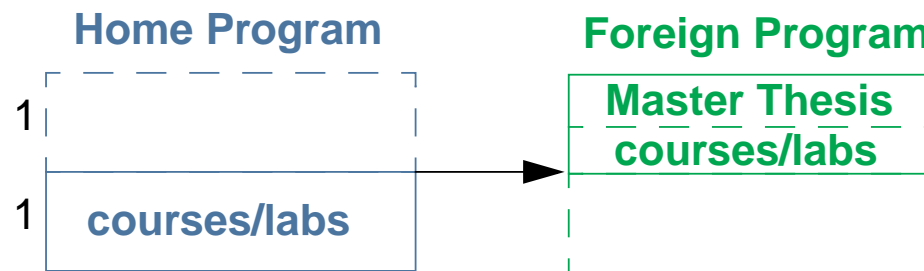
2. Transnational Mobility: Proposals (horizontal)

- **Use of Erasmus/Socrates programs for 1 semester within B or M-cycle**
- **Agreement based on EU regulations (-> LT agreements of 5-6 years)**
- **Selected partnerships bilaterally or even multilaterally based on comparable institutions and previous experiences**
- **Definition of a "Mobility Window" where the programs are mutually agreed upon (-> fitting of foreign phase into home study program)**
 - ➔ For effective mobility, necessity of a higher degree of mutual cooperation!
- **Alternatively to university exchange:
Industrial internship abroad without/with support by partner university**

2. Transnational Mobility: Proposals (vertical)

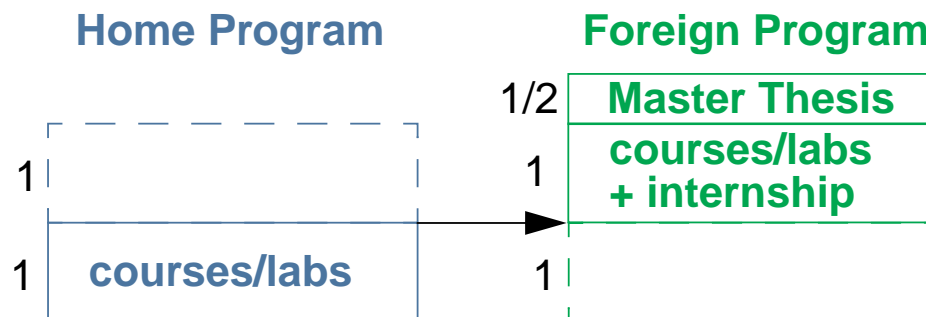
- **Use of existing/new Master programs**
 - offered in the local language
 - offered in English language (international Master Program)

- **Option 1: Joint-Degree Programs (1+1 yr.)**



- Based on mutual agreement with fully coordinated module programs
- joint definition/supervision of Master project
- joint certificate/transcripts including Diploma supplement
- joint study and examination regulations respecting local rules

- **Option 2: Double-Master Programs (1+1.5 yr.)**



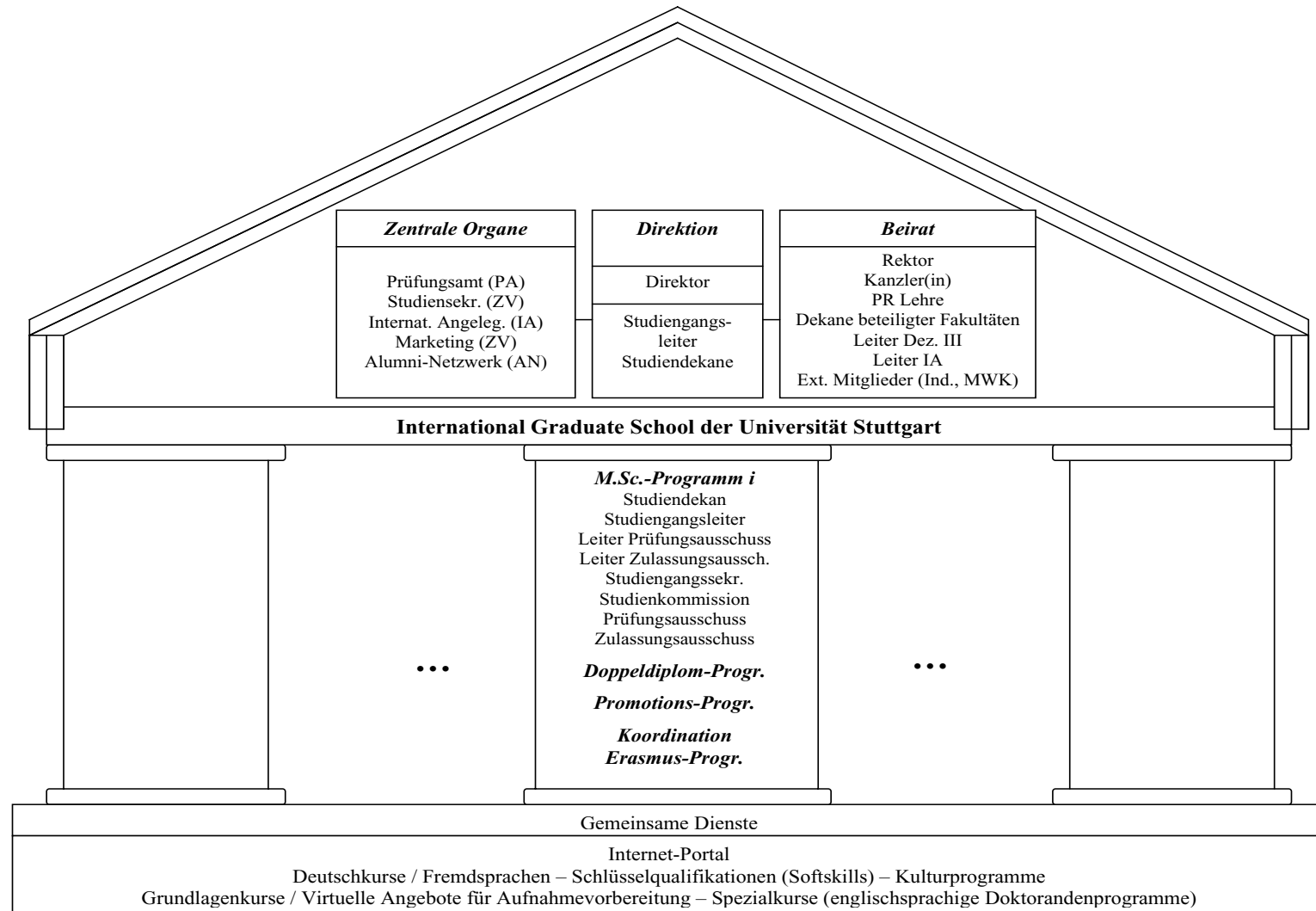
- Extended programs for foreign phase
 - industrial internship (3 months)
 - more specializations (research)
 - more business/language/management skills
- agreement framework analogical to joint-degree program

3. Intl. Master Progr. Univ. of Stuttgart - Existing

COMMAS	Computational Mechanics and Materials Structures
GEOENGINE	Geomatics Engineering
INFOTECH	Information Technology
MIP	Master's Program in Infrastructure Planning
PHYSICS	Physics
WAREM	Water Resources Engineering and Management
WASTE	Air Quality Control, Solid Waste and Waste Water Process Engineering

see: <http://www.uni-stuttgart.de/studieren/angebot/master/index.html>

International Graduate School Univ. of Stuttgart



Excellence Programs

- Existing:**
- 6 special research centers (SFB, German Res. Council)
 - 6 transfer programs
 - Numerous research programs funded by
 - German Research Council
 - European Universities
 - Fed./Loc. Government
 - Industry
 - 3 graduate doctoral programs
 - 1 Center for Culture and Technology Research
 - 1 Center for Aerospace Engineering (DLR)
 - 6 Fraunhofer Institutes of Applied Research
 - 2 Max-Planck Institutes of Basic Research (Metal, Solid State)
 - 10 special research centers
 - Micro/Nanotechnology
 - Automotive Research
 - Energy Research
 - ...
- New:**
- 1 Excellence Center for Simulation Technology
 - 1 Graduate School for Simulation Technology
 - 1 Graduate School for Advanced Manufacturing Technology