Hochschule Bremen City University of Applied Sciences



#### School of Electrical Engineering and Computer Science "We think team" – study and internship abroad at HSB".

Professor Dr. Helmut Eirund Dean and Professor for mobile Systems and eEntertainment

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#### Bremen – City of Science



#### Location



# In the Center of Europe



Island

#### In the Heart of Bremen



#### History

| 1799  | Navigation School Bremen<br>later: College of Nautical Science       |
|-------|--|
| 1894  | Technikum<br>later: College of Engineering                           |
| 1919  | Women's School of Social Science<br>later: College of Social Science |
| 1968  | Business Academy<br>later: College of Business                       |
| *1982 | Foundation of Hochschule Bremen by merger of the four institutions   |





Public University, accredited according to German law



## 🗙 HSB

## Organization

## Approx. 9,000 students in

- 43 undergraduate programs
- 22 graduate programs
- PhD: Possible, in cooperation with a university

## 5 Schools:

- International Business
- Architecture, Civil and Environmental Engineering
- Social Sciences

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- Electrical Engineering and Computer Science
- Nature and Engineering





#### Internationality

Systematic Internationalization for more than 25 years

- Since 1982: International Programs (Diploma, now Bachelor)
  - 2/3 of all Bachelor Programs with a mobility window (1-2 sem.)
  - annually 600 outgoing students, 300 incoming students
  - more than 300 partners worldwide
- 2011: Framework for Study Programs
  - standardized basic requirements for all programs (each lecture with 6 ECTS = European Credit Transfer System)
- 16% int'l students
- International Graduate Center



ightarrow Increased mobility among professors, technical and administrative staff





Flughafenallee: ZIMT (Centre for Computer Science and Media Technology)



**Neustadtswall: E-Building** 

- 2 sites with approx. 9000m<sup>2</sup>
- approx. 60 staff members
- 4 institutes
- about 35 laboratories
- several partner universities
- Campus WLAN
- Library
- Cafeteria and canteen
- Language lab
- Business incubator



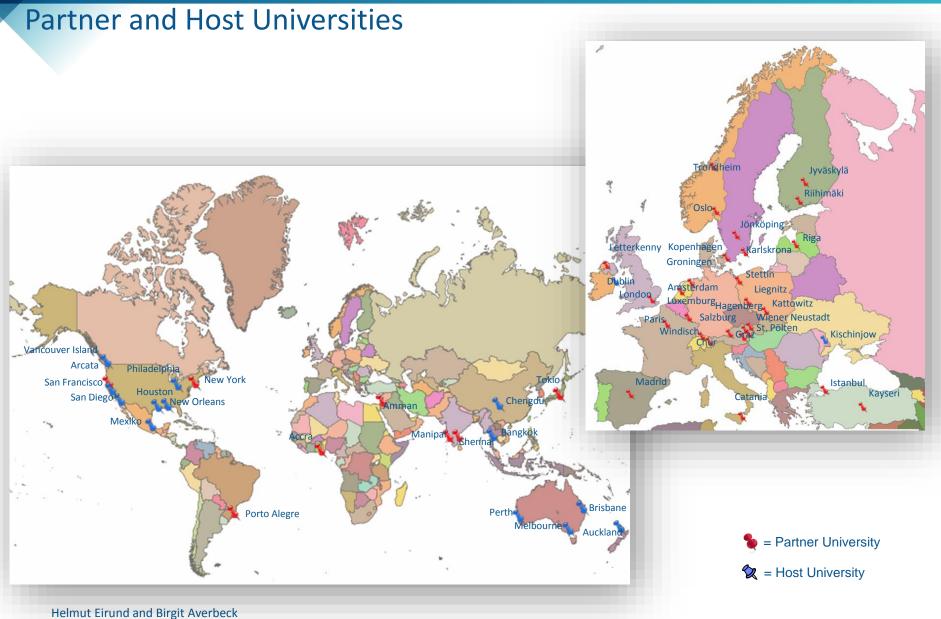
## Study programs in Computer Science and Electrical Engineering

| Field                     | Bachelor Programs  | Master Programs             |  |
|---------------------------|--|-----------------------------|--|
| Computer<br>Science       | Women's Int. Degree Program in Computer Science (B.Sc.) - Dual degree option                                   |                             |  |
|                           | Int. Degree Program in Media Computer Science (B.Sc.)  | nputer Science (B.Sc.)      |  |
|                           | Degree Program in Technical Computer Science (B.Sc.) - International option - Dual (cooperative) degree option | Computer<br>Science (M.Sc.) |  |
|                           | Degree Program in Mechatronics (B.Eng.) - Dual (cooperative) degree option                                     |                             |  |
| Electrical<br>Engineering | Degree Program in Electrical Engineering (B.Eng.) - Dual (cooperative) degree option                           | Electronics<br>Engineering  |  |
|                           | Int. Degree Program in Engineering and Applied Physics (B.Sc.)   | (M.Sc.)                     |  |

- orientation towards practical applications
- orientation towards professional practice
- in many study programs international option

#### School of Electrical Engineering and Computer Science







- Simplified admission procedure
- Assistance in finding accommodation
- Newcomer service (registration etc.)
- Host-family program "adopt a student"
- Weekend seminars, e.g.
  - Germany and the EU History, Politics and Culture
  - Job applications in Germany



Cultural and leisure program, e.g. trip to Berlin

#### Int. Degree Program in Media Computer Science (B.Sc.)

## Characterization:

- Computer science with emphasis on digital media processing and design
- Focus is on development of interactive applications such as
  - web applications and
  - mobile applications
- International program, i.e. compulsory semester abroad
- Up to 72 students per intake

| 1 | Programming<br>1              | Mathematics 1                   | Foundations of<br>Comp. Sc. | Media<br>Informatics 1   | Media Design 1              |
|---|-------------------------------|---------------------------------|-----------------------------|--------------------------|-----------------------------|
| 2 | Programming<br>2              | Mathematics 2                   | Computer<br>Networks        | Media<br>Informatics 2   | Media Design 2              |
| 3 | Software<br>Engineering       | Media Formats<br>and Algorithms | Security in IS              | Project                  | Human-Comp.<br>Interaction  |
| 4 | DB / Web-<br>Applications     | Computer<br>Graphics            | Project                     | Project                  | Media Design 3              |
| 5 | Sem. Abroad<br>(Comp. Opt. 1) | Sem. Abroad<br>(Comp. Opt. 2)   | Sem. Abroad<br>(Elective)   | Elective                 | Supervision:<br>Sem. Abroad |
| 6 | Compulsory<br>Optional 1      | Compulsory<br>Optional 2        | Compulsory<br>Optional 3    | Compulsory<br>Optional 4 | Preparation:<br>Internship  |
| 7 | Internship                    |                                 |                             | Bachelor Thesis          |                             |

http://www.hs-bremen.de/internet/en/studium/stg/mi/

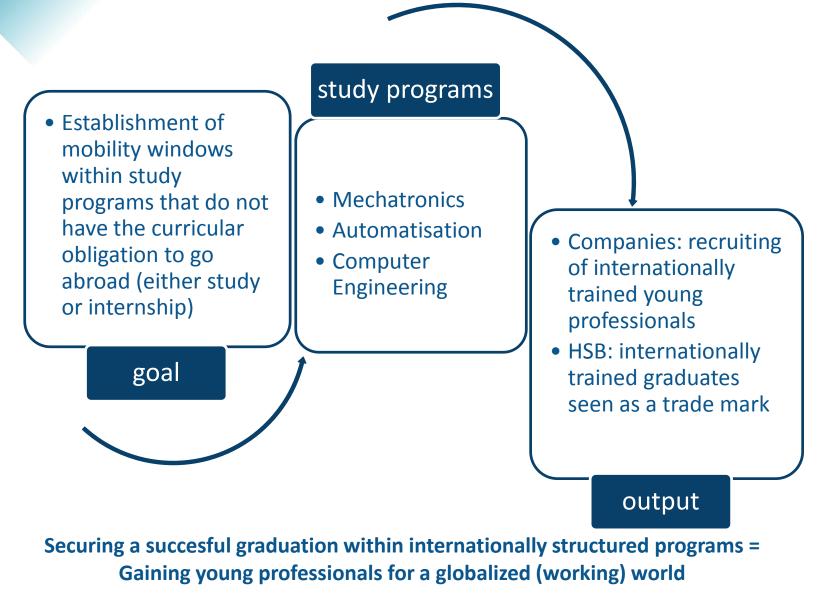
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Forming a prototype for structured mobility windows within STEM study programs

## Initial situation

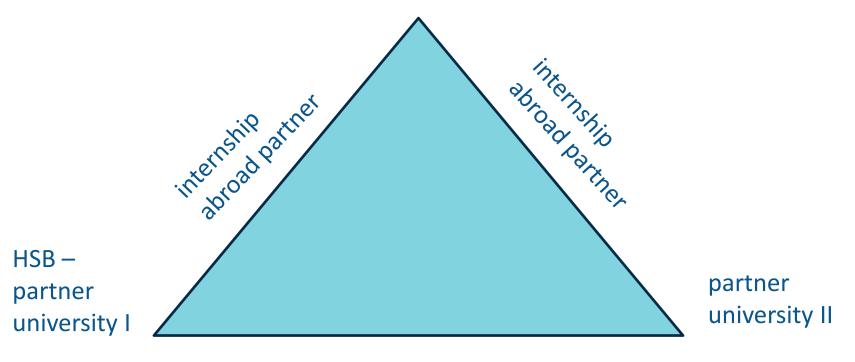




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industry partner (with companies within the "neighbourhood" of both involved universities)



#### study abroad partner



- Bonding tool: Establishment of an elite junior development program in order to secure specialists and managers in the company
- Early contact to high potentials at well-known universities in Germany and abroad
- Promotion of knowledge and technology transfer
- If necessary, **deepening** of existing cooperation with university partners
- Internationality as a profile feature for the company's understanding ("employer branding")
- Enhanced reputation



- Selection process to determine max. two students a year
- Prerequisites for participation: very good academic achievements, adequate language skills in English, completion of studies in sight
- Enrollment for the stay abroad takes place at the respective partner university
- Participation in selected modules and general studies courses + examinations at the end of the semester (thus transfer of the credits to the home university = recognition of coursework)
- During the lecture-free period and / or in the internship semester, the high potential receives a work study activity at the internship partner abroad
- Working on the final thesis topic in cooperation with the internship partner as well as the home university
- Goal: After completion of studies, permanent employment with the internship partner



- During the internship phase, the high potential is regularly enrolled = favorable conditions for the company
- For the internship, the students receive a contract of employment from the industry partner - this regulates: working hours, compensation, vacation entitlement, etc.
- Supervision of the thesis: if necessary. Assistance in finding a topic, content and personal support, participation in the colloquium
- Target after graduation: **Permanent employment** with the industry partner

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## Thank you for your attention!

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