University Relations: Collaboration Models

National Academies Panel on Graduate Education

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ABB in simple terms

What (Offering)
- Power
- Automation

For whom (Customers)
- Utilities
- Industry
- Transportation & Infrastructure

Where (Geographies)
- Globally

Listings
- Zurich SIX
- New York NYSE
- Stockholm Nasdaq OMX

$42bn revenue
100 countries
~150,000 employees
Single “A” credit rating
HQ Zurich

Note 2013 figures
R&D ecosystem

innovation pipeline

R&D interacts with much richer and agile ecosystem
University Relations

A common framework and vision of how ABB best interacts with universities

Recruitment
1. Recruit the best permanent employees from the best universities around the world
2. Recruit interns and postdocs regularly from the top universities

Partnership
1. Partner with leading universities worldwide through bilateral research contracts
2. Partner with leading universities on external funding opportunities (e.g. DOE, DOD)

Visibility and Image
1. ABB technologists give seminars, teach courses, supervise students at universities
2. Offer Professorships/Fellowships/Grants/Scholarships to students and professors at top universities
3. Donate or offer deeply-discounted equipment and software to universities
## USCRC University Relations

### Existing Successful Models: A Summary

- **Partnership with academic institutions, national laboratories, private sector, and customers to advance the state of the art in R&D and demonstration projects.**
- **Consortia of government, business, and academic partners focused on specific large-scale projects**
- **Internship Program**
- **Sponsor technical seminars and guest speakers**
- **Structured university partnerships e.g. PAL/Co-Op Programs**
- **Industrial PhD programs**
- **Offering short courses, adjust professorships, student advising, capstone projects, equipment donations, etc…**
Tailored programs and models to cater to the diverse needs of ABB research areas
- A subset of overall ABB’s Univ. engagement

Software
Create sustainable, secure, and user-friendly software-based automation solutions, using efficient software engineering methods and architectures

Switching
Devise cutting edge AC and DC interruption technologies for the entire voltage range

Control
Innovate automation, operation, protection and maintenance solutions for industrial and electrical systems including their associated components

Electromagnetics
Devise novel products and systems using insights into electromagnetics, dielectrics, heat transfer, acoustics and electro-chemistry

Mechanics
Analysis, design, track manufacturing advances, use, and maintenance of diverse mechanical systems (robotics to switchgear)

Power Electronics
Realize novel power electronic solutions and power semiconductors for diverse applications

Materials
Investigate novel materials for future products as well as identify/deploy cutting edge manufacturing processes

Sensors
Create innovative measurement solutions for electrical and Industrial systems, secure competence in electronics for smart and reliable devices
Partnership for 3rd party-funded collaboration

- Complementary skillsets and opportunity to showcase ABB technologies
- Competency development in new areas with reduced risk
- Greater visibility and researcher career options

Example Collaborations: NCSU, UIUC, UTK, Texas A&M
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Existing Successful Models: Consortia Membership: Visibility and Image

- Consortium membership affords ABB a broader access to students, faculty and lab facilitates
- Boosts recruitment pipeline and company image as an innovator and technology leader
Vibrant and active program that is a win-win!

Fuels future recruitment pipeline and collaborations

Students come from different schools and backgrounds to help with ongoing projects or help scout new technologies

Students work with their mentors, gain invaluable insights applying their skills to industrial applications, and learn new “soft skills” along the way

Some may return for a second tenure or as a full-time employee

Existing Successful Models: Internships and Co-ops