

**Transilvania University of Brasov
Integrated Education, Research and
Innovation**



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General Director of the Research & Development Institute**

Transilvania University of Brasov Romania





Brasov City – core of the country

- Old cultural city, hosting the first school in Romanian
- Multinational and multilingual area
(Romanian, Hungarian, German citizens)

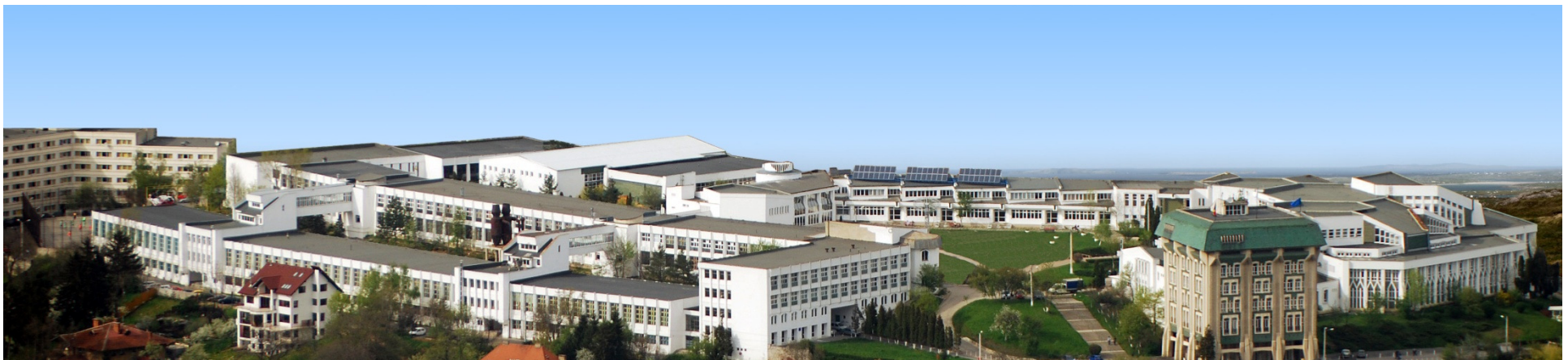




Case Study: Transilvania University of Brasov, Romania



- State University, founded in 1948
- “Full Confidence” in the national evaluation
- Ranked among the first at national level for Research of Excellence
- Extended cooperation with European universities



Case Study: Transilvania University of Brasov, Romania



18 FACULTIES

1. Mechanical Engineering
2. Technological Engineering and Industrial Management
3. Materials Sciences and Engineering
4. Electrical Engineering and Computer Science
5. Forestry
6. Wood Engineering
7. Civil Engineering
8. Food and Tourism
9. Design and Environment
10. Mathematics and Computer Science
11. Economic Sciences
12. Music
13. Medicine
14. Languages and Literatures
15. Mountain Sports
16. Law
17. Sociology
18. Pedagogical Sciences

No. of students: over 27000

No. of teaching staff: 815

No. of technical staff: 750

Study programs:

1st Cycle (B.Sc.),

2nd Cycle (M.Sc.)

3rd Cycle (Doctoral studies)

Full time and part-time programs

Open and Distance Learning

Lifelong Learning



Transilvania University of Brasov, Romania



The Problem(s):

To find a “common ground” for the entire academic community: **Strategic planning**

For: **Efficient resources use and development**

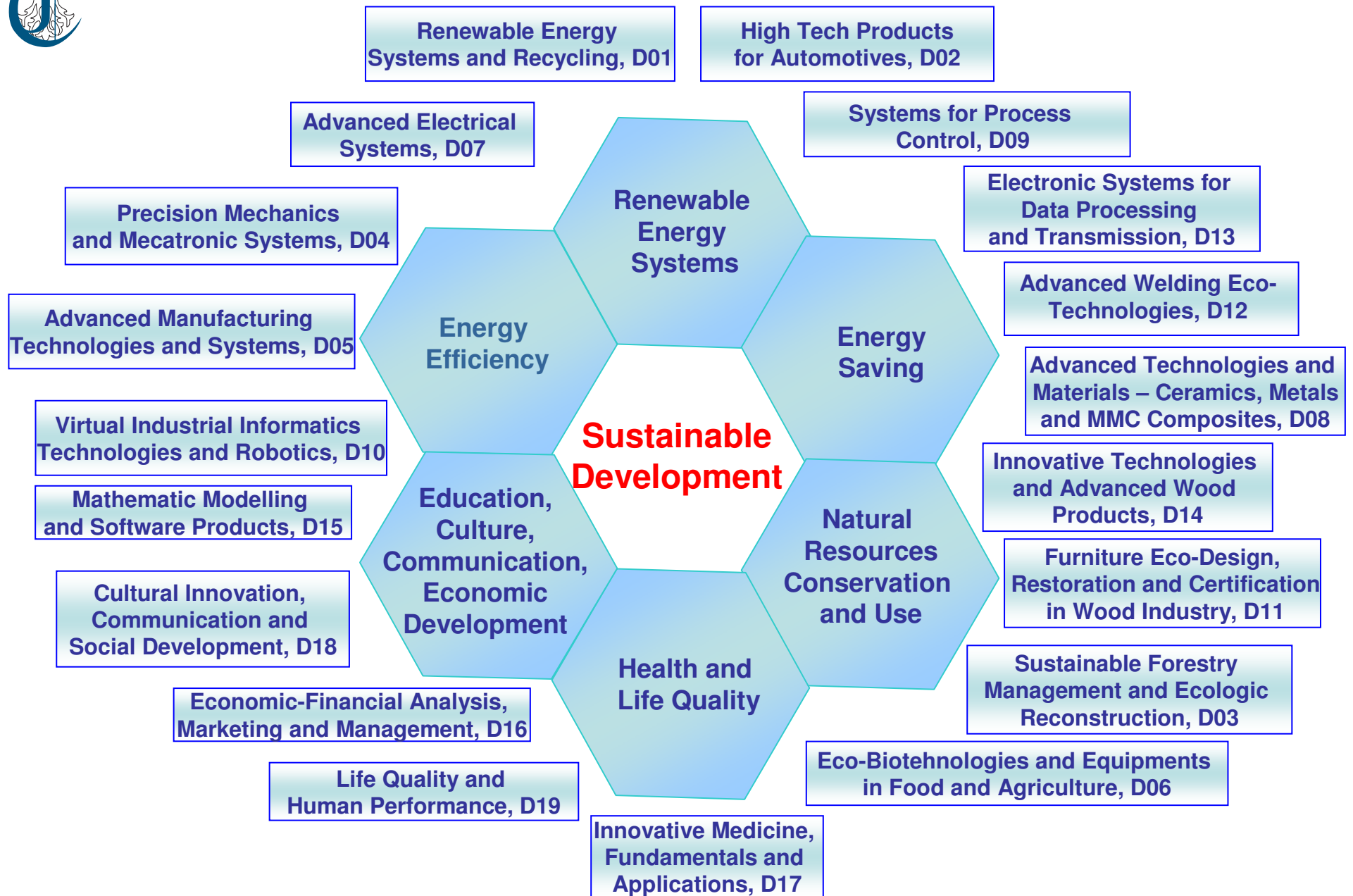
For: **Quality research and education**

For: **Successfully facing the competition**





R&D Institute of the Transilvania University of Brasov



Research Centers



Step 2: Efficient Resources Use and Development

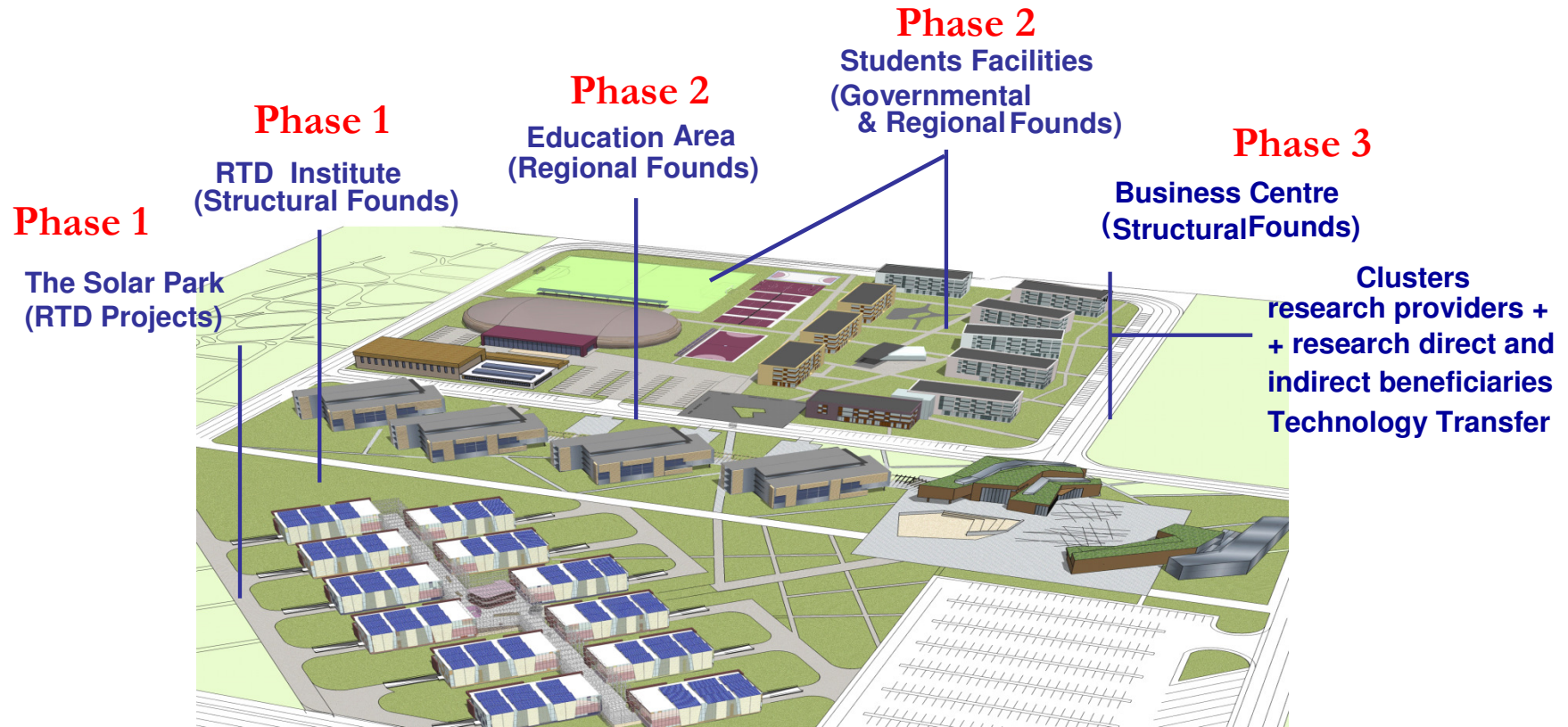
A novel structure for advanced research on Sustainable Energy

The Green, Energy Independent University Campus

GENIUS



What is the GENIUS Campus?



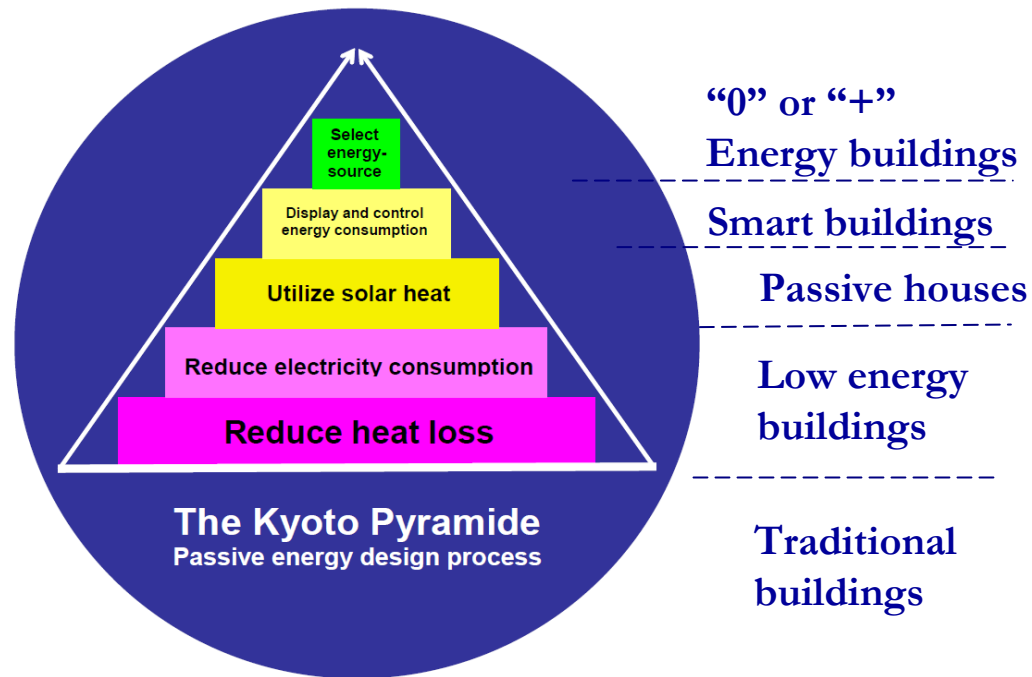
1. Research
2. Education
3. Technology Transfer



What is the GENIUS Campus?

The R&D Institute: High-Tech products for Sustainable Development

The Concept: advanced energy independence



What is the GENIUS Campus?

The R&D Institute: High-Tech products for Sustainable Development

The Solar Park

- PV Platforms
- 2MWp PV
- Residential buildings testing optimised solutions for integrating renewables



The R&D Institute

12 Laboratories (3 floors) - Smart Buildings:

- Renewables: solar thermal, PVs and heat pumps
- Monitoring and data acquisition

Outdoor: testing stands for optimising complex sustainable energy solutions

Indoor: advanced research centre on Sustainable Energy

Financing: 2009 – 2012 (Structural Funds)



What is the GENIUS Campus?

The R&D Institute: High-Tech products for Sustainable Development

The PRO-DD Data Center

-Based on Green Technologies:

-Hardware:

- Low energy consumption
- Efficient cooling solutions

-Software: optimal process management

July 2009:

Pilot project - MiniData Center
Collaborative environment for
Content and Flow
Management of Documents

-Functions:

- Data acquisition, monitoring and management
- Communication (internal, external, multimedia, video-conference)
- Complex data processing and storage
- Remote applications
- Security (data, buildings)
- Safety (fire, CO2)
- Habitat comfort
- Advanced training tool
- Services delivery to the entire university and 3rd party

May 2012:

Data Center
Multimedia Infrastructure
Telecommunications trunks



What is the GENIUS Campus?

The R&D Institute: High-Tech products for Sustainable Development

September 2009



April 2010



May 2010



June 2011



March 2012

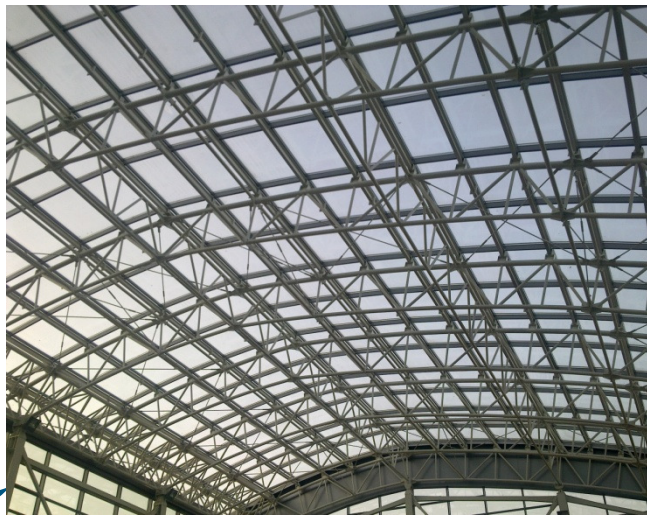


What is the GENIUS Campus?

The R&D Institute: High-Tech products for Sustainable Development



March 2012



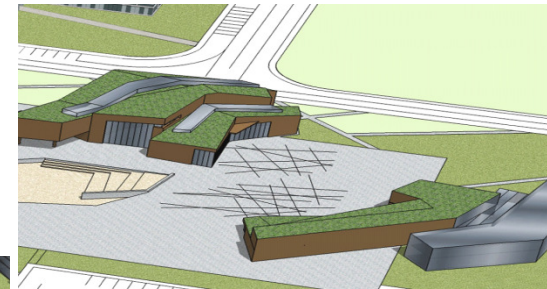
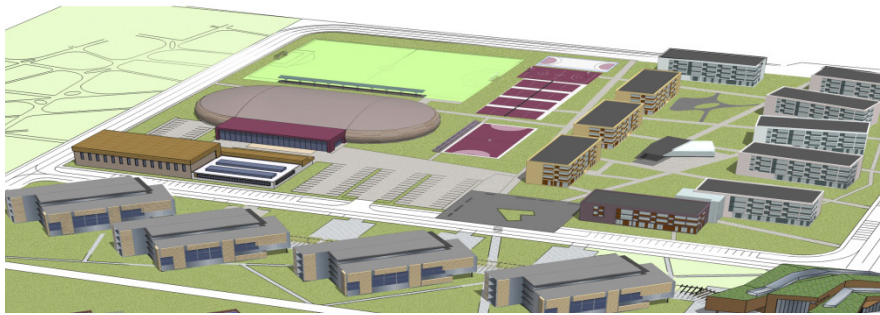


Who is the GENIUS Campus?

The R&D Institute: High-Tech products for Sustainable Development

The partners

- High-Tech companies
- The Chamber of Commerce
- Sustainable development bodies
- Authorities



The PRO-DD Institute and the Students facilities

- RTD staff
- Post-doc
- Ph.D. students
- M.Sc. students



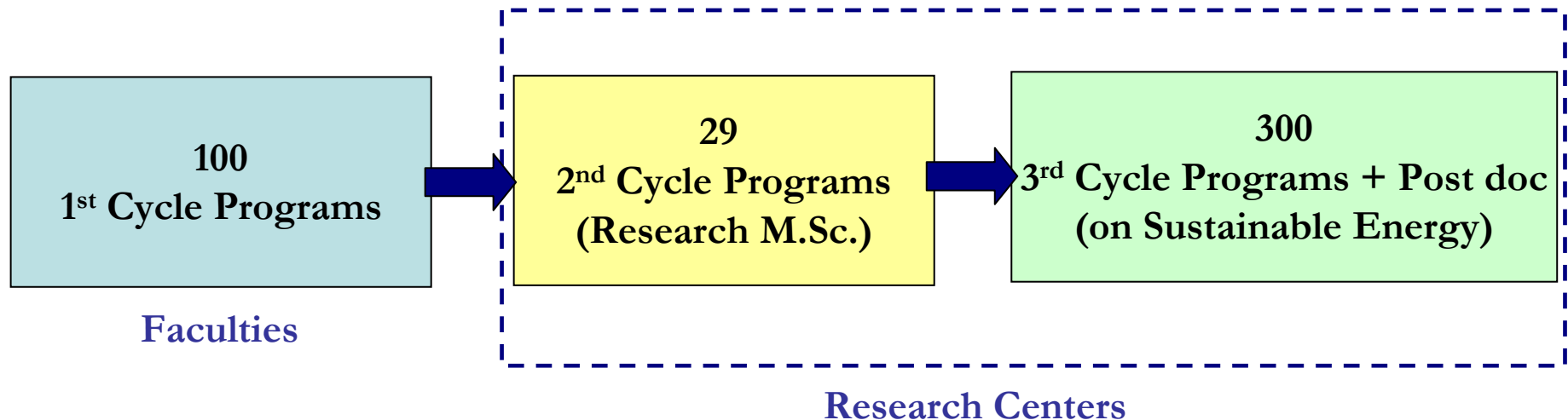


Who is the GENIUS Campus?

Restructuring Education for quality HR development

Integrating education and research:

- For High-tech product development
- In the Sustainable Energy concept

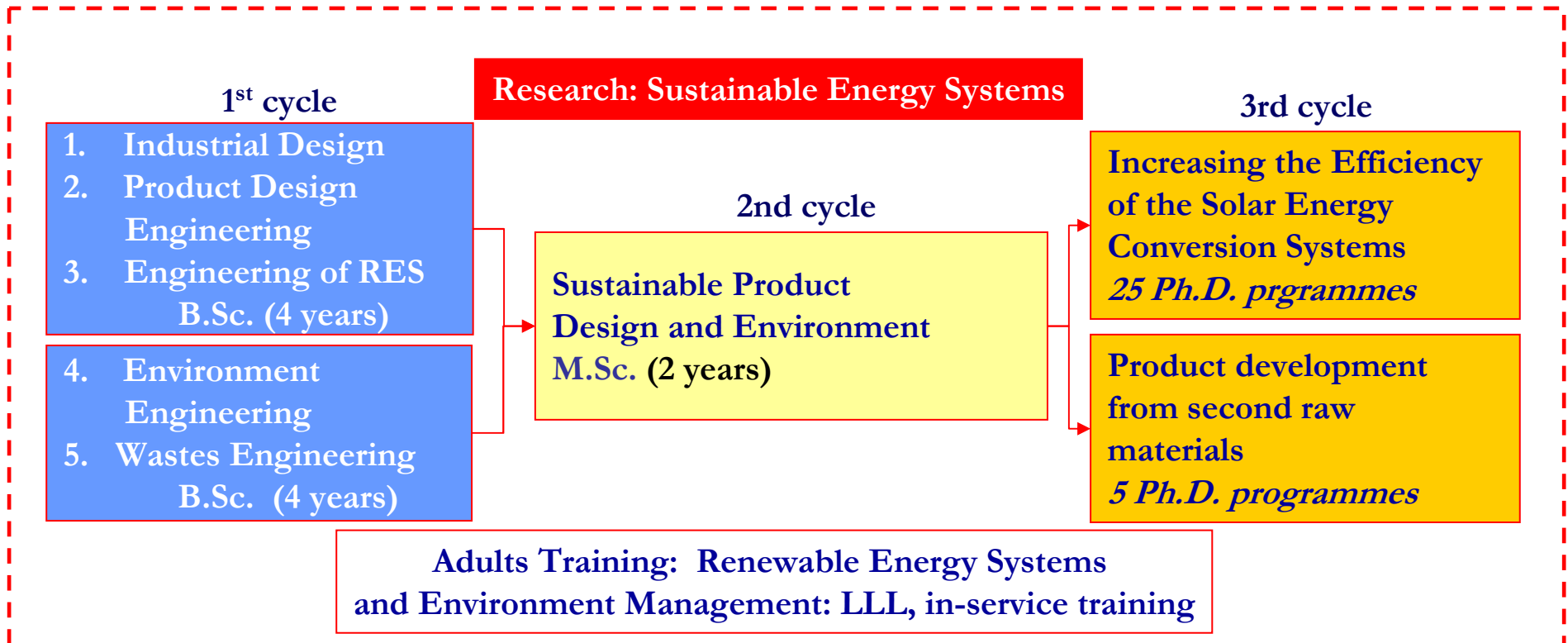




Who is the GENIUS Campus?

Restructuring Education for quality HR development

Research Department: Renewable Energy Systems and Recycling



Faculty: Product Design and Environment

Who is the GENIUS Campus? Project-based cooperation



RTD networks

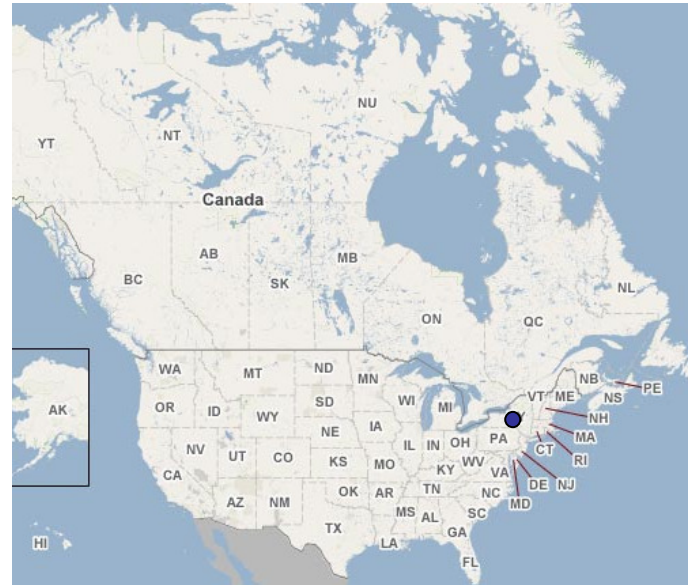
- international: 45
(FP 5, 6, 7, Life, DEFRA, IEE, COST, INTAS, BA)
- national: 350

Education and Training

- international (LLP): 86
- national: 32

Partners:

- 171 universities
- 57 RTD institutes
- 53 companies

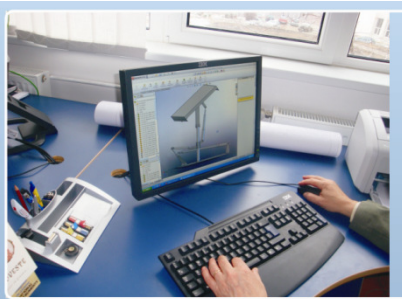


Who is the GENIUS Campus? Technology Transfer



Entrepreneurship training:

Courses developed for students and adults



The PRO-ENERG Business Incubator
Spin offs on Sustainable Energy



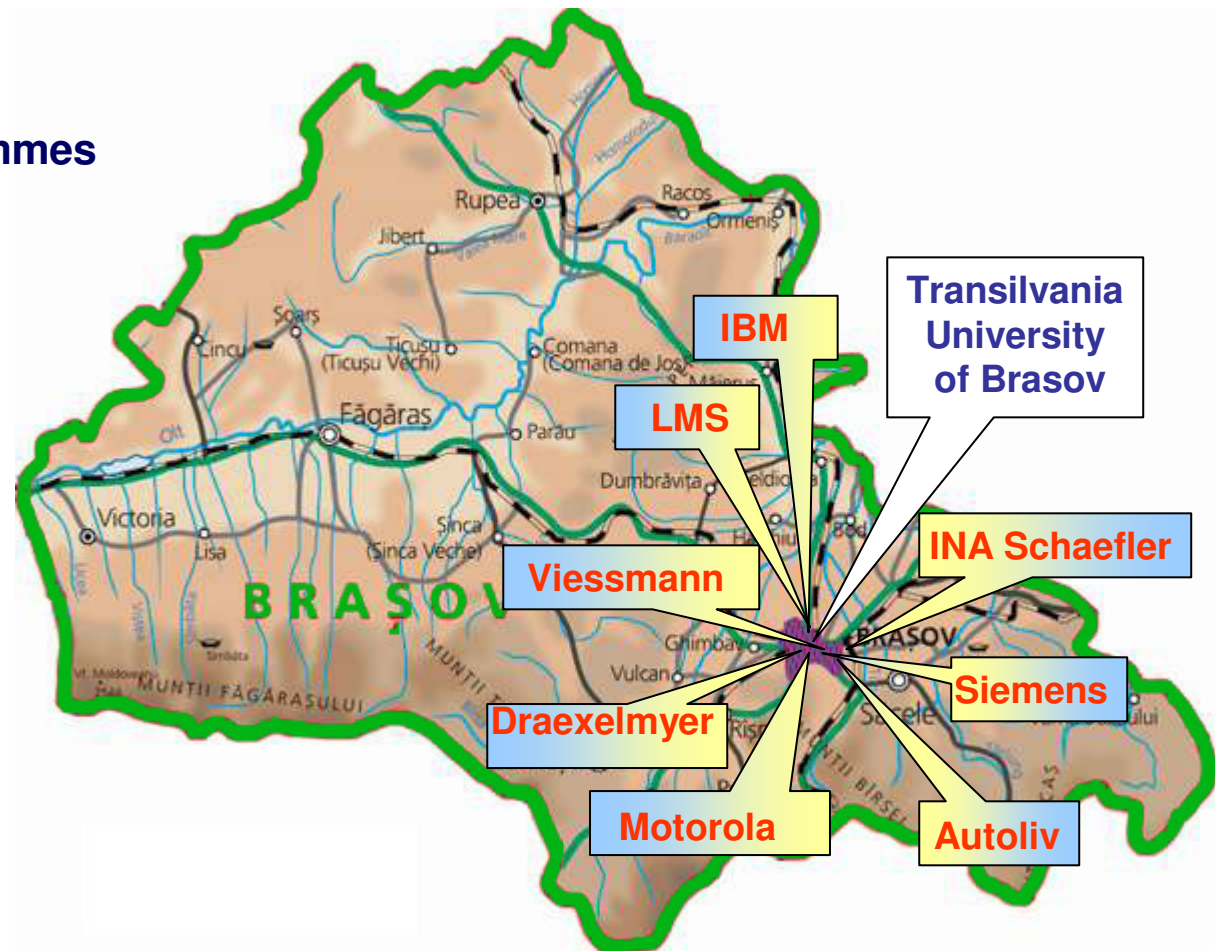
The Center for Technology and Innovation
Prototyping
Intellectual property



Who is the GENIUS Campus? Technology Transfer



1. Developing new education and training courses: M.Sc.
2. Developing novel infrastructure: laboratories National Instruments, Oracle, Siemens, INA Schaefer, Viessmann, LMS, Autoliv, Motorola
3. Applied research
4. Joint research in Ph.D. programmes



Who is the **GENIUS Campus?**

The Centre of Excellence on Sustainable Energy in the Central
Region of Romania



ETREC –

Electro-Technical Regional Cluster

Electroprecizia Group Sacele

Transilvania University

Sacele City Hall

Regional Development Agency „Center”

Chamber of Commerce and Industry Brasov

Other 25 partners (Industry, Research, Public Authorities)

ARMADA –

Regional Association Supporting Business for Sustainable Development in the 7-Center Region of Romania

Transilvania University

The Brasov Chamber of Commerce

The Brasov Metropolitan Agency

ESEIA –

The European Sustainable Energy Innovation Alliance

Transilvania University – Vice Presidency



.... And beyond

Complying with the society investment - **Partnership**

Front runners for economic growth: **Leading companies**

- Joint education & training restructuring and development
- Joint RTD projects
- Technology transfer
- Shaping the future demands



It takes time, **will and competence** to attend excellence;

It takes a **careful planning and a sound management** to implement the actions foreseen;

It takes **partnership and networking** to build a sustainable future.

