

RiHEI

Improving Student Services & Greening Campuses

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Co-funded by the European Union

FACULTY OF MANAGEMENT University of Lodz

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KUTAISI INTERNATIONAL UNIVERSITY



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Aim of the toolkit

to provide resources, strategies, and guidance to Higher Education Institutions (HEIs) for enhancing student services and adopting sustainable practices, while strengthening their operational capacities in key areas such as:

- Student Well-being and Success: Promoting mental health, career development, and personal growth.
- Diversity and Inclusion: Creating inclusive environments that ensure equal opportunities for all students.
- Industry Partnerships: Developing collaborations that align educational goals with workforce needs and foster career readiness.
- Digital Transformation: Leveraging technology to improve accessibility and efficiency in student services.
- Sustainable Campus Practices: Implementing waste reduction, energy efficiency, and green initiatives across campus operations.

Learning outcomes

- Understand the significance of student services and sustainability in higher education and how they contribute to institutional growth.
- Identify key strategies for enhancing student well-being, career development, and inclusivity in student services.
- Develop effective partnerships with industry stakeholders to promote career readiness and sustainable campus practices.
- Utilize digital tools and platforms to improve the accessibility and efficiency of student services.
- Implement strategies to green university campuses, incorporating waste reduction, energy efficiency, and biodiversity conservation into campus operations.



Unit 1. Sustainable HEIs

Introduction: Student Services



- **Importance of Student Services:**
  - Critical in promoting academic success, personal development, and well-being.
  - Essential for addressing the needs of diverse student populations, especially marginalized and at-risk groups.

- **Key Components:**
  - **Personalized Support Systems:** Tailored assistance to meet individual student needs.
  - **Industry-Driven Career Guidance:** Ensures alignment of student skills with market demands.
  - **Digital Tools:** Enhances access to support and resources for both academic and personal development.

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Introduction: Greening University Campuses

Campus Sustainability

- ✓ Integration of eco-friendly practices into university operations and campus life.
- ✓ Alignment with global sustainability goals and the New European Bauhaus principles

Key Initiatives

- ✓ **Energy Efficiency:** Reducing the environmental footprint of buildings and facilities.
- ✓ **Green Spaces:** Creating nature-friendly, aesthetically pleasing, and inclusive environments.
- ✓ **Promoting Sustainable Behaviors:** Educating students and staff on sustainability practices.

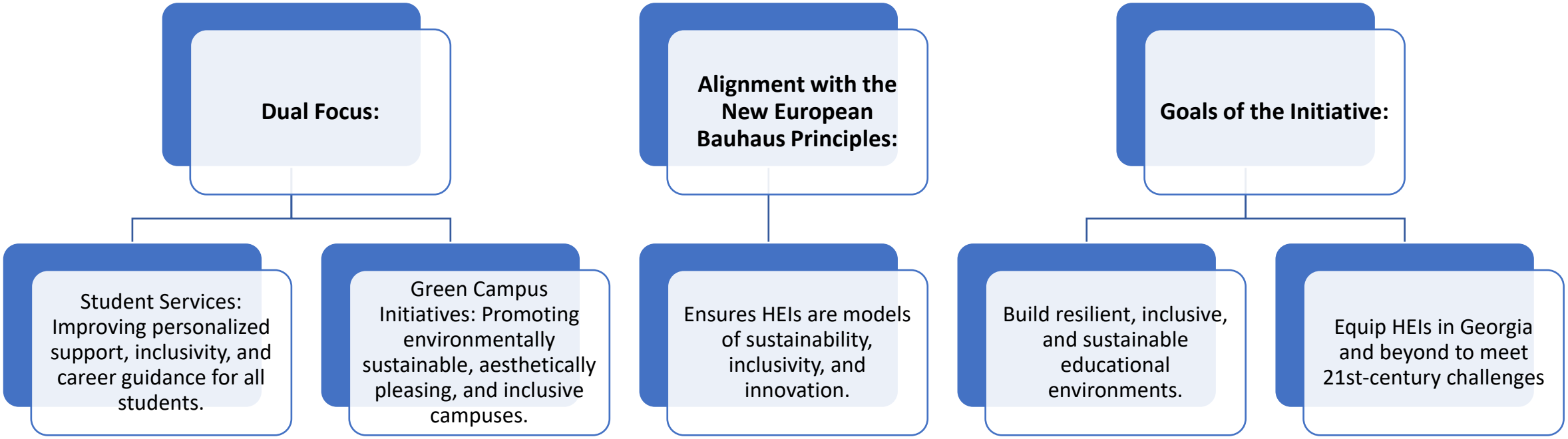
Dual focus

Campus Sustainability

Student Services

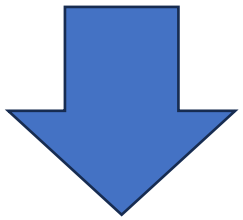
- HEIs:
  - ✓ Promote Responsible, sustainable growth
  - ✓ Gain the tools and knowledge to modernize their student services
  - ✓ enhance student support mechanisms
  - ✓ implement green initiatives on campus
  - ✓ build more resilient, inclusive, and environmentally responsible educational environments
  - ✓ Student Service
  - ✓ Campus Sustainability

RiHEI Initiative: Modernizing Student Services and Green Campus Development



The Role of Higher Education Institutions (HEIs) in Sustainable Growth

- **The role of HEIs in sustainable growth:**
  - **Capacity Building of leaders and citizens in tomorrow's society:** to drive societal impact and contribute to change management, innovation and sustainable development
  - **Shape Social, Environmental and economic conditions:** Through scientists' work with education, research and community engagement.



contribute to the transition to sustainable societies

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The Role of Higher Education Institutions (HEIs) in Sustainable Growth

- **HEIs can contribute to sustainable development through:**
  - **Integration into Education and Skill Development**

Developing professionals who will be responsible for solving sustainability problems in varied professional areas such as engineering, architecture, business and social sciences.

  - **Research and Innovation**

Developing sustainable technologies and solutions addressing specific environmental challenges

  - **Community Leadership and Engagement**

HEIs are often the anchors of their communities

  - **Sustainable Operations**

Adopting sustainable campus operations results in universities reducing or eliminating their environmental footprint

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Overview of the RiHEI Initiative: Purpose and Goals

- **Main Objectives:**
  - **Enhancing Student Services:**
    - ✓ Adding digital tools, personalization, and collaboration with industry
    - ✓ Addressing the academic and career readiness
    - ✓ Providing individualised career guidance
  - **Greening University Campuses**
    - ✓ Implementing solutions in waste, energy and renewable energy
    - ✓ Reducing the environmental footprint
    - ✓ cultivating a culture of sustainability
    - ✓ improving student and staff well-being
  - **Industry Collaboration and Skill Development**
    - ✓ gaining real-world experience and skills
    - ✓ enhancing career opportunities
    - ✓ Implementing academic knowledge in commercial applications
  - **Inclusivity and diversity**
    - ✓ Providing equal opportunities for students of all backgrounds



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Overview of the RiHEI Initiative: Purpose and Goals

RiHEI funded by the European Commission through Erasmus+, promoting transnational cooperation among regions in Europe. In line with the values of the New European Bauhaus (NEB), which focuses on sustainability, inclusivity and aesthetics, RiHEI construction cost helps to simultaneously promote excellent academic standing alongside social and environmental responsibility leadership of the HEIs.

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Addressing the Global Sustainability Agenda Through HEIs

The SDGs:

SDG 4: Quality Education — Providing affordable and quality education that trains people in modern world demands is the best way Universities can contribute to SDG

HEIs:

With projects such as RiHEI, universities can be sure that every student, regardless of background, may receive the kind of education which prepares them for sustainable futures

SUSTAINABLE DEVELOPMENT GOALS

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Addressing the Global Sustainability Agenda Through HEIs

The SDGs:

SDG 5: Gender Equality — Promoting inclusive learning environments and equal rights in prevailing male-dominated areas such as Science, Technology, Engineering, Arts and Mathematics (STEAM), and this allows for raising gender barriers.

HEIs:

Programs like Girls-go-circular works on making sure there is a balance of male and female in the STEM fields (Science, Technology, Engineering and Mathematics).

SUSTAINABLE DEVELOPMENT GOALS

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Addressing the Global Sustainability Agenda Through HEIs

The SDGs:

SDG 13: Climate Action— HEIs are central to efforts to address climate change by conducting research and innovation on new sustainable practices.

HEIs:
Universities, by reducing the carbon footprints and advocating for renewable energy sources, as well as educating future change-makers, are core drivers of an international climate-action movement.

SUSTAINABLE DEVELOPMENT GOALS

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Addressing the Global Sustainability Agenda Through HEIs

The SDGs:

SDG 9: Industry, Innovation and Infrastructure- The industry-university collaboration for innovation leads to good infrastructure for sustainability.

HEIs:

Research at university level helps to create technology (from environmental energy technologies through waste treatment up to reduction of resources consumption) by receiving the last hitsertys it is developing.

SUSTAINABLE DEVELOPMENT GOALS

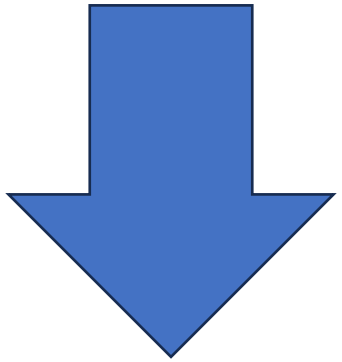
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Unit 2. Enhancing Student Services

The Evolution of Student Services in Higher Education

Past: mainly confined to administrative tasks such as admissions, financial aid, and low-level academic advising



Now: More student-centered and the range of supported services expanded to a wider range of interventions aimed at addressing students' overall academic, social, and personal emotional needs.

The RiHEI initiative:

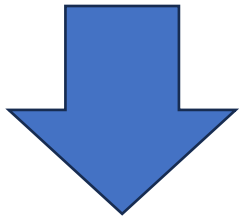
Recognizes these features

Seeks to support Georgian universities in advancing their student services online as well as developing assistance programmes for disadvantageous students.

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The Importance of Student Well-Being and Success

- **Importance:**
  - ✓ Academic Success
  - ✓ Personal development,
  - ✓ Equipping students with essential life skills like emotional intelligence and resilience.
  - ✓ Career readiness



- **The RiHEI initiative:**
  - ✓ Enhancing psychological support services
  - ✓ Improving career development opportunities
  - ✓ Fostering an inclusive campus environment that prioritizes diversity, equity, and inclusion (DEI).

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Psychological support services

- **Need:**
  - ✓ Facing higher stress, anxiety, depression and other mental health issues
  - ✓ Innated, social and interpersonal challenges

- **Initiatives :**
  - ✓ **Counseling and Therapy**:
    offer students the ability to seek out mental health professionals for both short-term and long-term therapy
  - ✓ **Crisis Intervention**:
    Provide 24/7 services for students who may need some help during an emergency.
    These services are essential for students in the throes of severe mental health crises
  - ✓ **Workshops & Support Groups:**
    Organize workshops related to stress management, mindfulness, and coping strategies, besides one-to-one counseling.
    There are also support groups for specific populations, including international students and students with disabilities.
  - ✓ **Digital Mental Health Resources**:
    Such as teletherapy, self-help modules, and robust programs
    Can benefit students in more remote or rural areas

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Psychological support services

RiHEI initiative:

- improve the on-campus counselling by incorporating digital mental health tools and increasing no of professional counselors;attending to the specific needs of disadvantaged student populations.

- These strategies work to foster healthier, more supportive spaces that will ultimately support student success and well-being.

Career Development and Personal Growth

- **Importance:**
  - ✓ Graduate students ready to meet the needs of the workforce
  - ✓ Increase student success,
  - ✓ Play an important role in the economy.

- **Initiatives :**
  - ✓ **Career Coaching and Counseling**:
    Get advice on career paths, job search strategies, and such as professional development.
    Comprise resume-training workshops, interview tips, and job placement support.
  - ✓ **Internships and Industry Partnerships**:
    Allow students to gain hands-on experience and build professional networks while in school
  - ✓ **Skill Development:**
    Cultivate the competencies necessary for professional success.
    Such as communication, teamwork, and problem-solving.
  - ✓ **Alumni Networks and Mentorship Programs**:
    facilitates significant advancement in students' professional development

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Career Development and Personal Growth

RiHEI initiatives

- try to relate with labour market demands by providing industry-specific career development services that would strengthen their work readiness in practice through training and mentoring programs.

- It will provide employment counseling and career development for students from marginalized backgrounds in order to promote equal access to professional opportunities.

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Diversity, Equity, and Inclusion in Student Services

- **Importance:**
  - ✓ An environment where all students can feel at home

- **Initiatives:**
  - ✓ **Support for Marginalized Communities**:
    Appropriate services for students who are members of underrepresented or marginalized communities (including but not limited to students of color, LGBTQ+ students, students with physical and learning disabilities), and first-generation users.
    Including mentoring, advocacy, and community building, all targeting segments.
  - ✓ **Bias Prevention and Non-Discrimination**:
    Prevent discrimination and promote a culture of respect and equity on campus.
    Offering training programs on unconscious bias, cultural competency, and anti-discrimination practices.
  - ✓ **Inclusive Curriculum and Pedagogy:**
    Incorporating inclusive pedagogical practices and curricula that reflect diverse perspectives.
  - ✓ **Accessibility Services**:
    Offer a range of services designed to ensure that students with disabilities have equal access to educational opportunities.
    Including accommodations such as extended time for exams, assistive technologies, and accessible learning environments.

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Diversity, Equity, and Inclusion in Student Services

Strategies for ensuring inclusiveness in EU

- **Support learners facing various difficulties**

- **EU rules:**
  - ✓ European Accessibility Act, covering products and services
  - ✓ Web Accessibility Directive

Other initiatives (expected in 2024)

- ✓ European Disability Card and the European Parking Card for persons with disabilities,
- ✓ Recommendations on accessible,
- ✓ Supported housing for persons with disabilities,
- ✓ The framework for social services of excellence for persons with disabilities

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Diversity, Equity, and Inclusion in Student Services

Strategies for Gender Equity in EU

The Girls Go Circular project

- Women Entrepreneurship (Supernovas)
- Empowering Women in Agrifood
- Women Entrepreneurship Bootcamp
- Strada
- The European Prize for Women Innovators
- SUPERA project

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The Girls Go Circular project

- ✓ close gender gaps and empower women in European entrepreneurship and innovation



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Women Entrepreneurship

(Supernovas)

support to women at all levels of business creation,

from those trying to start a business

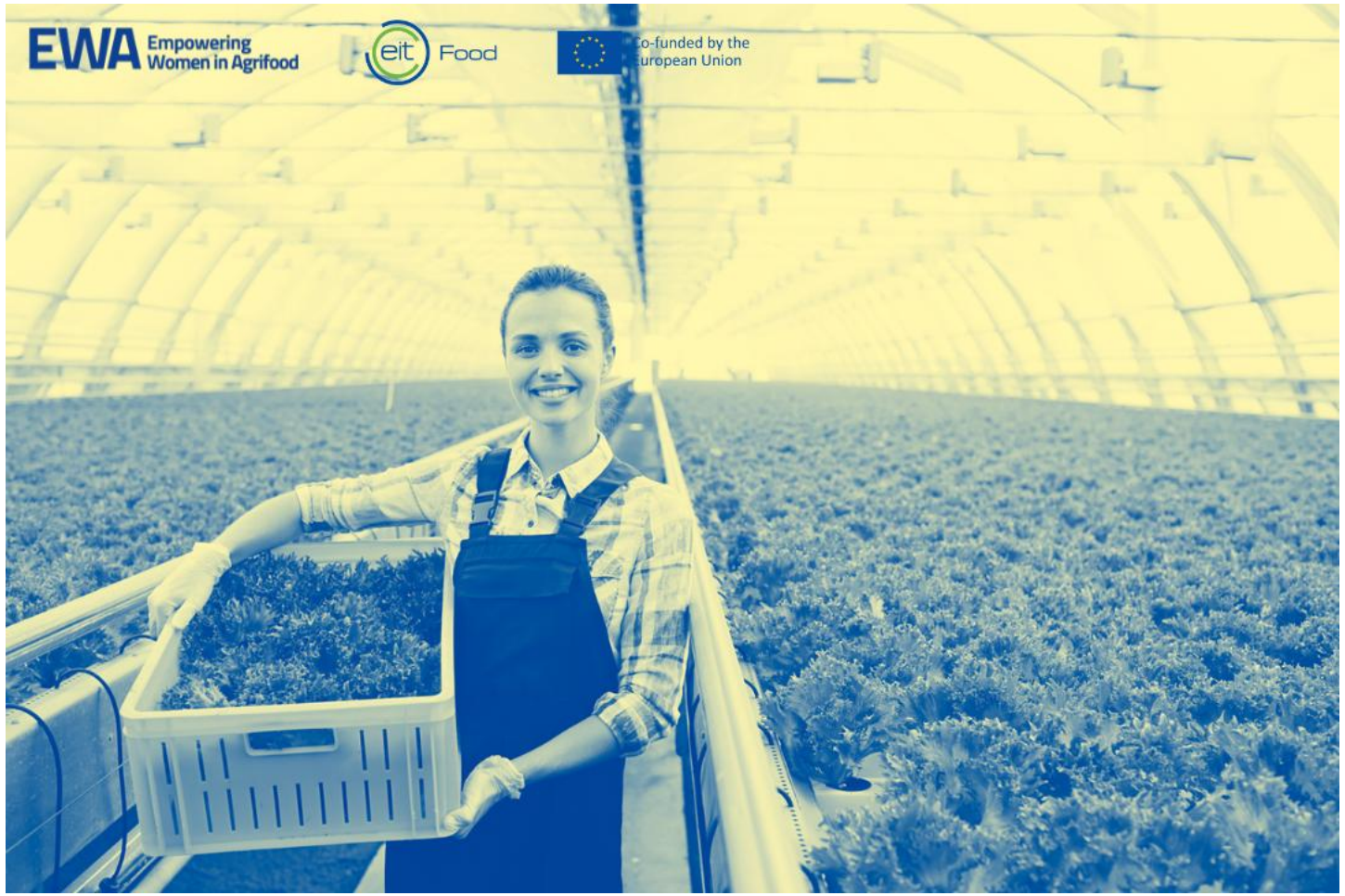
to
women who want to be venture investors to those seeking to improve their leadership skills.



EWA Empowering Women in Agrifood

Empowering Women in Agrifood

- ✓ promotes female entrepreneurship in the agrifood sector
- ✓ boosts the amount of women in leadership positions.



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Women Entrepreneurship Bootcamp

- ✓ new health sector businesses led by women
- ✓ offering business and product trainings, mentoring, and networking.



SUPERA project

- ✓ promoting the use of Gender Equality Plans, the EU-funded SUPERA project
- ✓
- ✓ aimed to address the inequalities, stereotypes and discrimination

supera

Supporting the Promotion of Equality in Research and Academia

Strada

- ✓ a leadership development programme for women who want to become leaders in the manufacturing sector

Strada. eit Manufacturing Co-funded by the European Union

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Unit 3. Strategic Industry Partnerships

Strategic Industry Partnership



Importance:

- ✓ Ensure that academic programs are closely aligned with what the job market demands
- ✓ Enhance innovation.
- ✓ Acquiring practical experience and real-world problems integrated into the academia.
- ✓ Cultivate employability
- ✓ Drive research and development into the country.

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Models of Successful University-Industry Collaborations

Internships and 1 Co-op Programs

- Work directly in fields related to their fields of study
- combines work experience with academic studies

Research Collaborations

- Institutions and private sector partners combine forces, experience, and infrastructure
- Often funded by industry looking to solve tangible technological or business problems

Industry-Sponsored Degree Programs

- Design degree programs tailored to the needs of specific sectors
- Particularly prevalent in fields like engineering, IT, and business

Innovation Hubs and Incubators

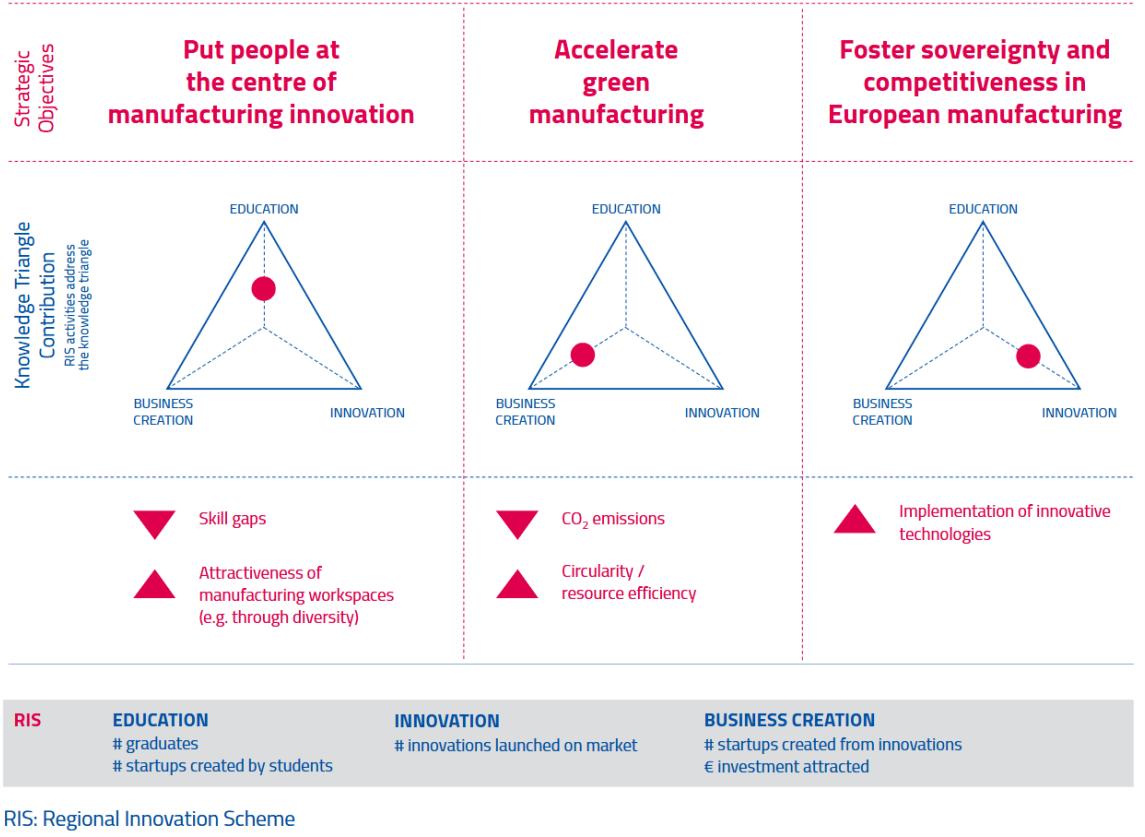
- Often hosted by universities
- Provide a space for students, faculty, and industry partners to work on innovative solutions to contemporary challenges
- Universities offer research expertise and facilities, while industries provide funding, mentorship, and market access

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Career and Skill Guidance via Strategic Industry Partnerships in Europe

EIT Manufacturing's Teaching Factory concept

- ✓ Put people at the centre of manufacturing:
- ✓ Accelerate green manufacturing
- ✓ Foster sovereignty and competitiveness



RIS: Regional Innovation Scheme

Practical Application in Georgia:

- Localized Industry Collaboration
- Curriculum Enhancement

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Career and Skill Guidance via Strategic Industry Partnerships in Europe

Horizon Europe

- ❑ An essential driver of strategic partnerships between universities and industries

Successful Case: TU Delft

- collaborated with Shell to develop innovative renewable energy systems

Practical Application in Georgia:

- **Targeted Funding Applications**
- **Collaborative Research Projects**

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Case Studies of Industry-HEI Partnerships in Europe

Success Stories: Collaboration in Innovation Hubs

Case Study 1 : ETH Zurich and the Industry Partners in AI Research Based in Switzerland, ETH Zurich is one of the leading universities that has a strong alliance with industry giants like Google, IBM, Siemens etc. The key thrust areas for these collaborations are AI and machine learning research. This partnership provides students use of leading-edge research labs and industry mentorship. ETH Zurich also provides internship and co-op opportunities in these companies that help sculpt tomorrow's leaders in AI while pushing forward on to the brink of technological advancements. This has laid the foundation for numerous patents and advancements that have been commercialized globally, and advanced both academia and industry.

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Case Studies of Industry-HEI Partnerships in Europe

Success Stories: Collaboration in Innovation Hubs

Case Study 2 : TU Delft and the Dutch Wind Energy Consortium In a similar vein, in the Netherlands, the Technical University of Delft (TU Delft) has embarked on a collaboration with a consortium of wind energy experts to study sustainable solutions for wind energy. As a partnership, this has contributed to the next generation of offshore wind technology with hands on involvement from students on research and development projects. The partnership has helped create jobs for graduates and establish the Netherlands as a leader in sustainable energy. When students are studying to be engineers and environmental scientists, they have the opportunity to do practical work in wind farms enabling them a great start towards their career development while driving the renewable energy revolution forward.

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Challenges in University-Industry Engagement

Key Challenges in University-Industry Engagement

Challenge	Description
Misalignment of Goals	Universities focus on long-term research, while industries seek immediate practical solutions, leading to potential tension.
Intellectual Property (IP) Conflicts	Determining how to manage intellectual property rights from joint research can be a major hurdle in collaborations.
Resource Constraints	Smaller universities may lack the infrastructure or funding to build strong partnerships with industries.
Bureaucratic Barriers	Differences in administrative processes between universities (rigid) and industries (flexible) can lead to operational challenges.

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Metrics for Measuring the Success of University-Industry Collaborations

Metric	Description	Indicators/Measures
Student Employability	Measures the success of students participating in industry-sponsored programs and internships.	• Job placements of graduates • Salaries • Career advancement
Research Output and Innovation	Assesses the impact of joint research projects between the university and industry, including the commercialization of research outcomes.	• Number of patents • Publications • Innovations • Commercialized outcomes
Revenue Generation	Evaluates the financial benefits derived from partnerships, including research funding and income from IP licenses and collaborative projects.	• Research funding • Revenue from IP licenses • Income from projects
Student and Industry Satisfaction	Gathers feedback from students and industry partners on their experiences and the overall success of the collaboration through surveys and interviews.	• Satisfaction rates (students & industry) • Feedback on strengths and weaknesses

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Unit 4. Digital Transformation of Student Services

Digital Transformation of Student Services

- **Impact:**
  - Powers personalized learning platforms, e-mentorships, virtual peer support networks and a host of other capabilities
  - Help HEIs operate more efficiently, bolster student satisfaction and provide responsive offerings.
  - Help HEIs Serve new generations that represent an increasingly more diverse and tech-savvy student body in a post-pandemic global higher education.

Challenges: data privacy, accessibility and concerns about a digital divide.

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The Impact of Technology on Student Services

Enhanced Accessibility and Convenience

Access to academic advising, career counseling, mental health support, and administrative assistance through available Internet connectivity from everywhere

Streamlined Administrative Processes

Manage tasks like course registration, financial aid applications, and housing services easier. Reduced wait times, improved accuracy, and allowed university staff to focus on more complex student needs.

Data-Driven Decision Making

Collect and analyze vast amounts of data on student behavior, academic performance, and service utilization and improve service delivery, identify at-risk students, and tailor support to individual needs.

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The Impact of Technology on Student Services

Enhanced Accessibility and Convenience successful case Study:

The University of Edinburgh has a central "Student Hub" online, which brings together support in the form of academic guidance, careers services and mental health support. Students are able to make a virtual appointment, find resources, and talk to university staff all in one place so they can seek help without having to visit various different physical offices.

The Impact of Technology on Student Services

Streamlined Administrative Processes successful case Study:

Purdue University in the U.S. uses an AI-powered chatbot, “Purdue Pete,” to answer student questions about financial aid, registration, and campus services. The chatbot handles thousands of queries annually, freeing up staff time for more personalized support.

The Impact of Technology on Student Services

Data-Driven Decision Making successful case Study:

Georgia State University implemented an early warning system that uses predictive analytics to identify students at risk of dropping out. The system tracks academic performance, attendance, and other indicators, enabling advisors to intervene early and offer support. This approach has led to significant improvements in retention rates, particularly among first-generation and low-income students.

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Personalized Learning Platforms

Benefits:

- ✓ ensure every learner gets the support they need for their individual strengths, weaknesses and learn styles.

Adaptive Learning Technology

helps students master material at their own pace providing additional support where needed and allowing advanced students to move ahead more quickly

Tailored Academic Advising

use data to recommend courses, suggest study habits, and offer insights into potential career paths based on students' academic performance and interests

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Personalized Learning Platforms

Adaptive Learning Technology successful case Study:

Arizona State University has partnered with adaptive learning company Knewton to offer personalized learning in large introductory courses. The platform adjusts content based on student performance, offering additional exercises for those who struggle with specific concepts and allowing advanced students to skip over material they have already mastered. This has led to higher pass rates and improved student satisfaction.

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Personalized Learning Platforms

Tailored Academic Advising successful case Study:

The University of Florida offers the "Pathway to Graduation" platform, which provides personalized course recommendations based on a student's major, academic history, and career goals. The system helps students stay on track for graduation while offering guidance on internships and job opportunities related to their field of study

E-Mentorship and Digital Career Services

E-Mentorship Platforms:

- ✓ Connects students with mentors who provide guidance on academic choices, career planning, and professional development.
- ✓ provides valuable networking opportunities.

Digital Career Counseling:

- ✓ virtual access to career advisors, job search tools, and skill development resources.
- ✓ include features like resume builders, interview preparation modules, and job databases that are tailored to individual career goals.

Challenges in E-Mentorship and Career Services:

- Difficulty of building strong personal relationships virtually
- Some may lack the digital literacy skills needed
- Maintaining the same level of personalized attention online as in face-to-face interactions can be challenging for mentors and career counselors.

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E-Mentorship and Digital Career Services

E-Mentorship Platform successful case Study:

The University of Melbourne offers an e-mentorship program where students are paired with alumni mentors based on their field of study and career aspirations. The platform allows for virtual meetings, message exchanges, and progress tracking, making mentorship accessible even to students who cannot meet in person due to time or location constraints.

E-Mentorship and Digital Career Services

Digital Career Counseling successful case Study:

Handshake, a widely used career services platform, connects students from hundreds of universities with job opportunities, internships, and virtual career fairs. Universities like Harvard and Stanford have adopted Handshake to streamline job searches and offer virtual career counseling sessions, ensuring that students can access support remotely.

Virtual Student Communities and Peer Support

Online Peer Mentorship Programs:

- ✓ connect students with upperclassmen or recent graduates
- ✓ often focus on supporting first-year students or those from underrepresented backgrounds

Virtual Study Groups and Learning Communities:

- ✓ provide platforms for students to collaborate on coursework, share resources, and engage in academic discussions outside the classroom.
- ✓ often use collaborative tools like video conferencing, shared documents, and discussion boards to foster academic engagement

Challenges:

- Some students may struggle with digital literacy or lack reliable internet access
- building strong, meaningful relationships online can be more difficult than in person

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Virtual Student Communities and Peer Support

Online Peer Mentorship Programs successful case Study:

The Open University in the UK, which primarily offers distance learning, has implemented a robust peer mentorship program where new students are paired with experienced peers who offer support through virtual meetings, group chats, and forums. This has helped reduce feelings of isolation among remote learners and increased retention rates.

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Virtual Student Communities and Peer Support

Virtual Study Groups and Learning Communities successful case Study:

Coursera, an online learning platform, offers students the ability to form virtual study groups, participate in discussion forums, and collaborate on assignments. The platform's community features help students from around the world connect with peers, making learning a more interactive and social experience.

The Europass Initiative; An example of a personalized support system

The Europass Initiative

❑ **support educational and working mobility in Europe**

❑ **Include:**

- The Europass Curriculum Vitae (CV)
- The Europass Language Passport (ELP)
- The Europass Certificate Supplement (ECS)
- The Europass Diploma Supplement (EDS)
- The Europass Mobility Document (EMD)

❑ Other EU online information services and tools:

- Online tools for the documentation of skills
- Tools for career and learning guidance
- Tools to assist jobseekers and employers (EURES);
- Tools for recognition of skills and qualifications
- Skills forecasting data (EU skills Panorama);
- General conceptual frameworks
- Tools for common terminology of skills, qualifications and competences (ESCO).

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Challenges of Digital Transformation

Data Privacy and Security:

Ensuring that this data is protected is essential to maintaining student trust and complying with privacy regulations like the General Data Protection Regulation (GDPR) in Europe.

Accessibility and the Digital Divide:

Not all students have equal access to the technology needed to benefit from digital student services. Specially:

- Students from low-income backgrounds or rural areas
- Those with disabilities

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Unit 4. Greening University Campuses



Greening University Campuses

- **Objective: F**ostering a culture of sustainability among students, faculty, and staff

- **RiHEI Initiative:** Aims to promote sustainable practices through education, research, and operational initiatives, serving as living laboratories for sustainability

Global Efforts in Campus Sustainability

➢ Campus Sustainability Ranking Systems

- ✓ To promote sustainability and encourage competition among universities, several global ranking systems have emerged
- ✓ assess and compare the sustainability efforts of HEIs
- ✓ One of the most prominent sustainability ranking systems: the UI GreenMetric World University Ranking

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Global Efforts in Campus Sustainability

Key indicators that used in UI GreenMetric:

- **Energy and Climate Change:** Initiatives related to energy efficiency, renewable energy use, and efforts to reduce carbon emissions.
- **Waste Management:** Programs for recycling, composting, and reducing landfill waste.
- **Water Conservation:** Measures taken to reduce water consumption, manage stormwater, and recycle water.
- **Sustainability Education:** The integration of sustainability topics into the curriculum and extracurricular activities.
- **Green Infrastructure:** The development of green spaces, eco-friendly buildings, and sustainable transportation systems.

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Global Efforts in Campus Sustainability

- Wageningen University & Research (Netherlands) consistently ranks as one of the top universities for sustainability, particularly excelling in environmental sciences and agriculture through its research and education efforts
- University of California, Davis (USA) is highly recognized for its initiatives in waste reduction, energy efficiency, and water conservation, with a notable commitment to achieving carbon neutrality by 2025.
- The University of Nottingham (UK) also ranks among the leading institutions, known for fostering sustainable campuses and promoting environmental stewardship through community outreach programs.

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The Role of HEIs in Promoting Sustainable Behaviors

Category	Description	Example
Sustainability in Education	Universities influence future leaders by integrating sustainability into curricula, offering courses on environmental science, renewable energy, and green architecture across disciplines.	The University of British Columbia (UBC) offers over 812 sustainability-related courses at both undergraduate and graduate levels, alongside a "Sustainability Ambassadors Program" that empowers students with leadership and learning opportunities in sustainability.
Behavioral Change through Campus Design	Sustainable campus designs encourage behaviors like walking, biking, and using green transportation. Dining initiatives promote plant-based options and reduced food waste.	Monash University in Australia supports sustainable behaviors with solar panels, rainwater systems, and a pedestrian-friendly layout. The "Net Zero Initiative" targets carbon neutrality by 2030.
Sustainability Research and Innovation	Universities serve as research hubs, developing renewable energy, waste management, and sustainable agriculture technologies to address environmental challenges globally and locally.	University of Tokyo established a Sustainability Research Center focused on climate change, renewable energy, and biodiversity, collaborating with governments and industries.
Student-Led Sustainability Initiatives	Universities support student-led sustainability initiatives, including environmental campaigns, green competitions, and clubs that empower students to implement change on campus.	Harvard University's "Resource Efficiency Program" empowers students to reduce energy and water use in dorms, leading to substantial decreases in waste and energy consumption.

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Impact of University Campuses on Local Communities

Category	Description	Example
Economic Impact	• Universities invest in local green infrastructure projects. • Stimulate local economies by creating jobs in construction, renewable energy, and environmental management. • Partner with local businesses to promote sustainable practices.	University of Vermont partners with local farmers to source organic food for its dining services and collaborates with Burlington on renewable energy projects, benefiting the community.
Environmental Stewardship	• Manage green spaces and engage in biodiversity restoration. • Promote conservation efforts by preserving natural habitats. • Contribute to cleaner air and healthier environments.	Cornell University manages a 4,300-acre campus with natural areas and forests, showcasing sustainable practices through its "Sustainable Landscapes Trail."
Public Engagement and Education	• Engage local communities through education and outreach programs. • Host workshops, public lectures, and community events focused on sustainability. • Collaborate with schools and local governments.	University of Gothenburg offers public courses on sustainability and works with the city on initiatives like waste reduction and renewable energy installations.
Social Impact	• Promote social inclusivity and address issues of equity and environmental justice. • Ensure marginalized communities benefit from sustainability efforts. • Focus on creating equitable and accessible spaces.	University of Cape Town (UCT) integrates sustainability with social justice, partnering with NGOs to promote equitable access to water and energy for underprivileged communities.

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Waste Reduction and Sustainable Campus Operations

Circular Economy Principles

- **Strategies:**
  - **Design for longevity:** Creating durable, repairable, and recyclable products, including campus infrastructure and equipment
  - **reuse and repair:** Be prioritized over disposal.
  - **Recycling and upcycling :** Repurpose discarded materials into valuable resources
  - **organic waste management:** Composting food scraps and landscaping materials

Benefits: Enhances sustainability on campuses and within their communities.

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Best Practices in Waste Management in HEIs

University of California, Berkeley (UC Berkeley)

- a comprehensive composting program that collects organic waste from dining halls, cafes, and landscaping operations, aiming to achieve zero waste by 2025 and significantly reducing landfill contributions

Stanford University

- developed a robust recycling program that diverts 65% of its waste from landfills, offering dedicated bins for various materials and promoting initiatives like "Swap It" programs to encourage students to recycle clothing and other items



Reducing Single-Use Plastics on Campus

Single-use plastics:

a significant waste on university campuses

Response:

Reducing or eliminating single-use plastics by promoting reusable alternatives.

- ✓ **The elimination of plastic water bottles**; some universities have banned their sale and installed water refill stations to encourage the use of reusable bottles.
- ✓ **Promote reusable alternatives** by incentivizing students and staff to use their own cups, utensils, and containers.

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Reducing Single-Use Plastics on Campus

The elimination of plastic water bottles successful case Study:

- Harvard University has successfully removed the sale of single-use plastic water bottles across its campus, complementing this initiative with water refill stations and offering reusable utensils and dishware in dining services, which has led to a significant reduction in plastic waste.

Reducing Single-Use Plastics on Campus

Promote reusable alternatives successful case Study:

- The University of Exeter in the UK exemplifies this approach with its "Cup for Life" campaign, where students and staff can purchase reusable cups at a discounted rate. Those who use these cups enjoy discounts at campus cafes, leading to the gradual phase-out of disposable cups and a noticeable decrease in plastic waste.

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Case Studies: Zero-Waste Universities

University of California, Davis

- Composting: Processes organic waste through on-site composting facilities, converting food scraps and landscaping debris into compost for use on campus farms and gardens.
- Recycling: Invested in high-tech sorting systems to achieve over 90% diversion rate.
- Student Involvement: Engages students through waste reduction campaigns, workshops, and student-led recycling drives.

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Case Studies: Zero-Waste Universities

The University of Edinburgh

- Recycling Initiatives: Campus-wide recycling program for paper, plastic, glass, and metal, with e-waste recycling programs for safe disposal of electronic devices.
- Food Waste Reduction: Introduced portion control, surplus food donation programs, and composting systems in dining services.

Case Studies: Zero-Waste Universities

The University of Melbourne

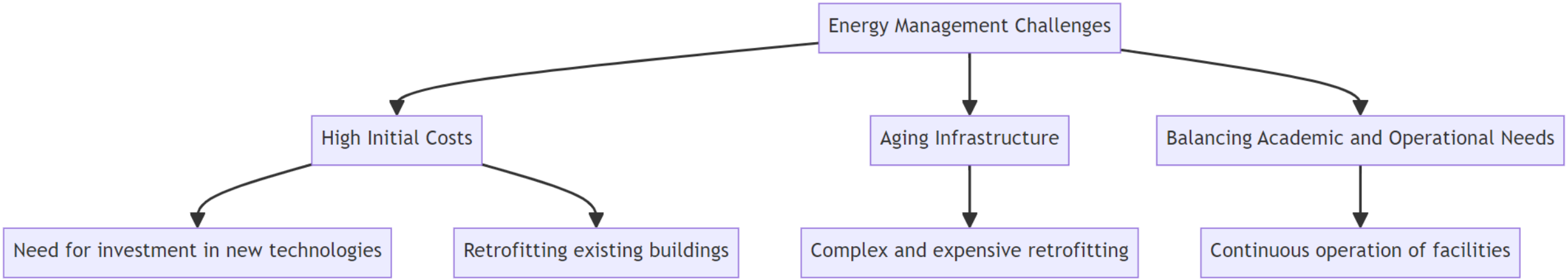
- Sustainable Procurement: Prioritizes purchasing products made from recycled materials and avoiding single-use plastics, with suppliers required to meet sustainability standards.
- Student Engagement: Created the "Sustainability Advocates" program, where students lead waste reduction initiatives, organize waste audits, and promote recycling and composting.

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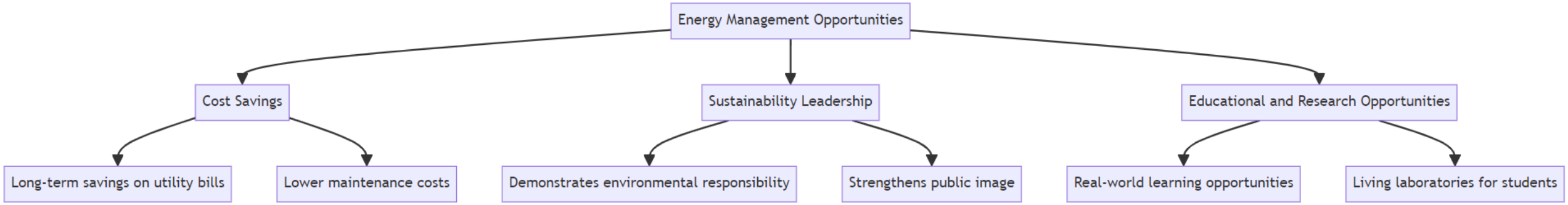


Energy Efficiency and Renewable Energy Initiatives

Energy Management in HEIs: Challenges



Energy Management in HEIs: Opportunities





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Implementing Smart Energy Systems on Campuses

Key components of smart energy systems:

- **Energy Management Software:** These systems monitor and analyze energy usage in real-time, allowing universities to identify inefficiencies, optimize energy use, and make data-driven decisions to reduce consumption.

- **Smart Grids and Meters:** Smart meters and grids enable better control and distribution of electricity, allowing universities to track energy consumption in specific buildings or departments. This granular data helps pinpoint energy waste and allocate resources more efficiently.

- **Automated Building Controls:** Automated systems for heating, ventilation, air conditioning (HVAC), and lighting ensure that energy is only used when and where it is needed. These controls adjust to occupancy patterns, weather conditions, and time of day to maximize efficiency.

Energy Management in HEIs: Challenges and Opportunities

For the Georgian HEIs participating in the RiHEI initiative, addressing energy management challenges presents both obstacles and opportunities.

- These universities can benefit from adopting energy management strategies that reduce energy consumption and operational costs.

- The integration of smart energy systems, such as automated building controls and energy management software, will allow Georgian universities to become models of energy efficiency and environmental stewardship, in line with the goals of the RiHEI project

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Renewable Energy Case Studies: Solar, Wind, and Geothermal

Stanford University (USA)

Stanford operates a solar generating plant that provides over 60% of its electricity needs as part of its commitment to achieve carbon neutrality by 2050.

Costs and Benefits:

- Upfront Investment: Approximately $500 million.
- Annual Savings: Millions in energy costs.
- Carbon Emission Reduction: 68%.
- Payback Period: Expected to pay for itself within 20 years.

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Renewable Energy Case Studies: Solar, Wind, and Geothermal

University of Twente (Netherlands)

The university has installed several wind turbines on campus to generate renewable energy, significantly reducing reliance on non-renewable sources

Costs and Benefits:

- Challenges: Local regulations, community resistance, and variability in wind patterns.
- Carbon Footprint Reduction: 30%.
- Provides a steady supply of green energy despite challenges.

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Renewable Energy Case Studies: Solar, Wind, and Geothermal

Ball State University (USA)

Ball State operates the largest geothermal heating and cooling system in the U.S., using the Earth's natural heat to regulate campus building temperatures, drastically reducing energy consumption.

Costs and Benefits:

- Upfront Investment: $83 million.
- Annual Savings: Projected savings of over $2 million in energy costs.
- Carbon Emission Reduction: Nearly 50%.
- Supports university’s sustainability goals.

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Case Studies: Zero-Waste Universities

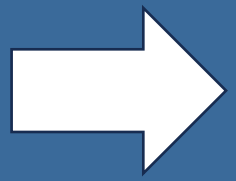
The RiHEI initiative aims to

- Foster sustainable growth and responsible university operations by enhancing student services
- implementing green practices on campuses
- Waste reduction and sustainable campus operations

By embracing zero-waste policies,

promoting composting and recycling initiatives

reducing single-use plastics,



The goals of environmental stewardship, resource efficiency, and sustainability.

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Case Studies: Zero-Waste Universities

The lessons learned:

- Helps Georgian HEIs to design and implement waste management strategies
- Reduces the environmental footprint of HEIs
- Creates healthier, more sustainable learning environments that model responsible behavior for students and staff.

By focusing on waste reduction,

- the RiHEI initiative ensures
- modernize student services
- Become leaders in environmental sustainability.
- Building resilient, inclusive, and environmentally responsible educational environments

Advancing the overall objectives of the RiHEI project and the broader European sustainability agenda.

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Biodiversity and Ecosystem Services on University Campuses

Biodiversity and Ecosystem Services on University Campuses

- **The RiHEI initiative's focus on greening campuses can be further expanded through biodiversity and ecosystem services.**

- **Creating green spaces and promoting local biodiversity align with the initiative's goal of developing environmentally sustainable campuses**





The Role of Green Spaces in Enhancing Campus Life

Green spaces on campuses are more than just aesthetically pleasing areas; they contribute to the overall well-being of students, staff, and faculty.

Benefits:

- **Mental Health Benefits:** Provide areas for relaxation, reflection, and recreation, helping students disconnect from the stresses of academic life
- **Academic Success:** Green environments improve concentration and academic performance.
- **Community Engagement:** Outdoor areas like gardens, parks, and green courtyards provide communal areas where students and staff can engage in social, cultural, and recreational activities

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The Role of Green Spaces in Enhancing Campus Life

The RiHEI initiative :

- ✓ emphasizes the importance of creating modern and inclusive student services, and green spaces play a pivotal role in enhancing the well-being of students, staff, and faculty.

- ✓ For Georgian universities involved in the project, developing biodiverse green spaces can improve student mental health, increase social interaction, and support academic success.

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Green Roofs and Vertical Gardens



Green Roofs and Vertical Gardens

plant installations on the exterior or interior walls of buildings

Benefits:

- ✓ Purify the air,
- ✓ Reduce urban heat islands
- ✓ Provide green space in densely populated urban areas.
- ✓ Incorporate nature into their built environments.
- ✓ provide aesthetic value
- ✓ Enhance biodiversity
- ✓ Improve air quality
- ✓ Reduce energy consumption by providing natural insulation.
- ✓ regulate building temperatures by absorbing heat

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Green Roofs and Vertical Gardens

Green roofs successful case study:

The University of Toronto has installed green roofs on several buildings, contributing to biodiversity by providing habitats for birds and insects. The green roofs also help manage stormwater, reducing runoff and preventing flooding during heavy rains.

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Green Roofs and Vertical Gardens

Vertical Gardens successful case study:

Columbia University in New York City has incorporated vertical gardens into several of its campus buildings. These living walls help improve indoor air quality, provide natural beauty, and support the university’s sustainability goals by promoting biodiversity in an urban setting.

The Role of Green Spaces in Enhancing Campus Life

The RiHEI initiative goal :

- ✓ Implementing green roofs and vertical gardens offers a practical solution to expanding green spaces, especially in urban environments.
- ✓ These innovative designs not only improve energy efficiency but also promote biodiversity and enhance air quality, contributing to healthier campus environments.

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Green Roofs and Vertical Gardens

Landscaping for Biodiversity: Enhancing Campus Ecosystems:

Native Plant Species:

- Supports local ecosystems
- Reduces water use and maintenance
- Adapts better to local climates

Wildlife Habitats:

- Create habitats for birds, pollinators, and small mammals
- Green corridors, tree planting, ponds, and wetlands

Sustainable Water Management:

- Rain gardens, permeable pavements
- Water-efficient irrigation systems



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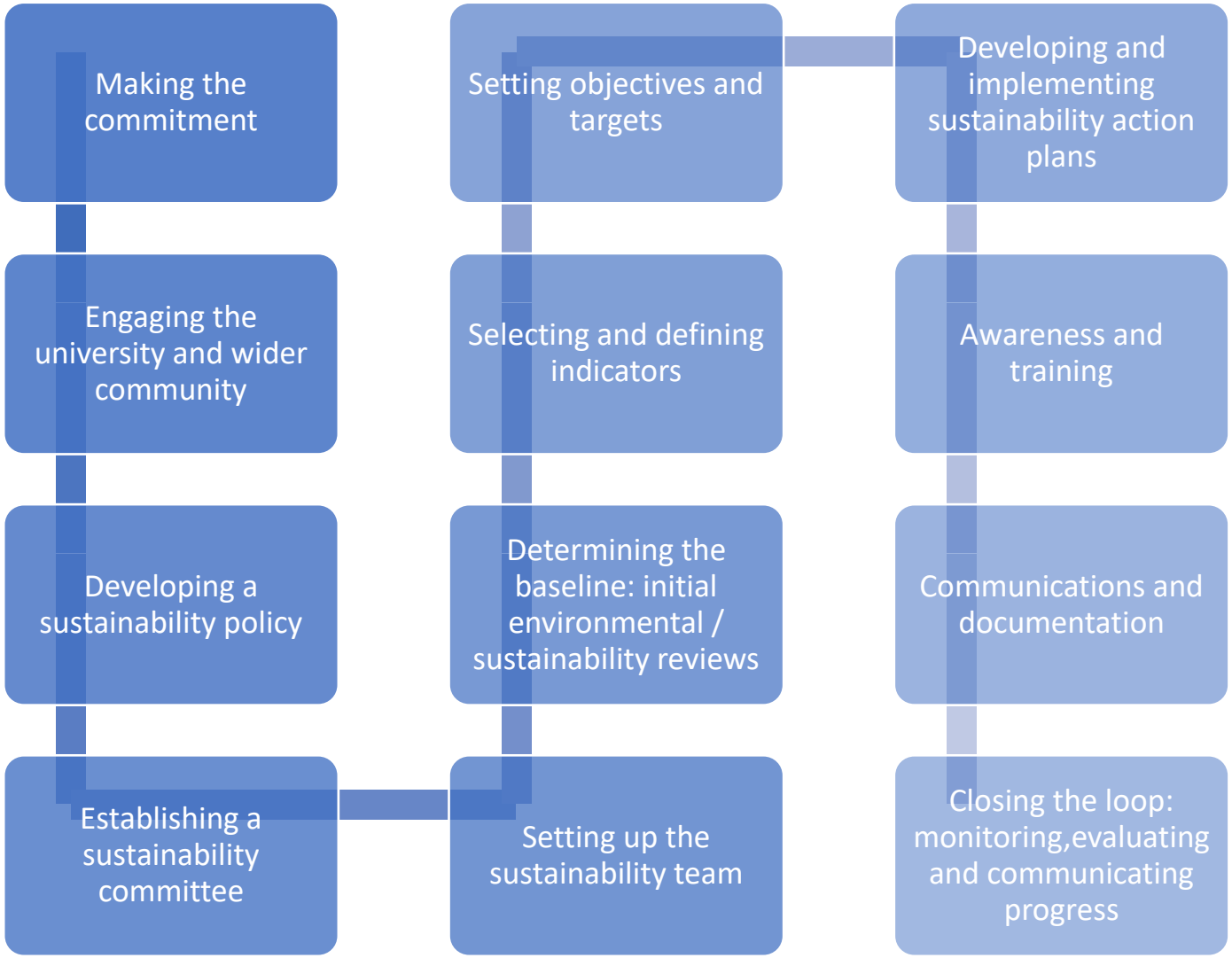
Green Roofs and Vertical Gardens

Impact for Georgian Universities (RiHEI Initiative):

- ✓ Enhance local biodiversity
- ✓ Foster ecological resilience
- ✓ Provide educational opportunities for environmental learning

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Implementation



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Conclusion

Conclusion

Modernizing Student Services

Career Guidance

- **Strategy:** Integrate industry partnerships for personalized counseling
- **Focus:** Enhance career prospects and skills development

Digital Student Profiles

- **Strategy:** Utilize for customized learning experiences
- **Focus:** Tailor education to individual needs

Practical Learning Models

- **Strategy:** Adopt Teaching Factory concept
- **Focus:** Hands-on, real-world learning

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Conclusion

Fostering Sustainability on Campuses

Waste Reduction

- **Action:** Implement comprehensive recycling and composting systems

Energy Efficiency

- **Action:** Upgrade to energy-efficient lighting, heating, and cooling systems

Renewable Energy Integration

- **Action:** Install solar panels and geothermal systems

Biodiversity Projects

- **Action:** Create green spaces and protect campus biodiversity

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Conclusion

Aligning with New European Bauhaus Principles

Sustainability

- **Goal:** Reduce environmental impact

Aesthetics

- **Goal:** Enhance the visual appeal of campus environments

Inclusivity

- **Goal:** Ensure accessibility and inclusivity for all students

Benefits

- **Student Well-being:** Improved career readiness and personalized learning
- **Environmental Impact:** Reduction in carbon footprint and waste
- **Institutional Future:** Modernized campuses ready for sustainable future

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