

Strategic and Operational Planning Document

2026–2028 Three-Year Plan

Faculty of Engineering

SECTION 1: INTRODUCTION

The Faculty of Engineering was established in March 2023, merging personnel, resources and initiatives formerly in the Faculty of Computer Science and in the Faculty of Science and Technology. Though ensuring a consolidated base in terms of activities and infrastructures since its start (as for instance 5 bachelor programs, 4 master programs and 3 PhD programs, with approximately 850 students), it has made particularly critical to run the ordinary (in the middle of an academic year) while recasting the organization, harmonizing the regulations and optimizing the resources. The peculiar situation determined a broad subdivision of responsibility across the academic personnel, promoting participation and commitment, even if generating some communication difficulties and producing some inefficiencies.

Nevertheless, the Faculty could immediately benefit from the inherited assets and network of local, national and international connections and collaborations, as well as is in the special condition of taking advantage of at least five elements:

- a broad range of competences, spanning from computer science, AI, electronic and information engineering to automation, mechanical, industrial and energy engineering, which makes the Faculty a credible player in the most relevant areas of interest for the current research and technological trends
- a relatively small number of students per program with a wide spectrum of specializations, which can enable a systematic introduction of experiential learning approaches, encompassing project and prototyping activities with trans-disciplinary student teams
- an under-the-spotlight position within the NOI Techpark site, which can offer special visibility, improve contacts with the companies, motivate a larger involvement in third mission initiatives and give graduates a unique possibility to enter job or to start new entrepreneurial initiatives
- an international-oriented mindset, with a strong focus on multiculturalism and inclusivity, committed to building a diverse community, which can support the contamination between different university models and the development of innovative ones.
- a one-of-a-kind macroregional position, aware of the delicacy and importance of the natural environment and of the possibility of balancing a lively and innovative economic and social development with the conservation of natural resources.

More in detail, the Faculty can count on 84 academic members (24 full professors, 2 extraordinary professors, 19 associate professors, and 2 university researchers, 4 RTD senior/RTT, 33 RTD junior), 18 persons in the administrative staff and 11 in the technical staff. Around 30 research assistants are recruited on an annual basis, generally through third party funds.

The gender balance is still low, ranging from 6 to 18 (25 %) as concerns full professors and 5 to 14 (26.3 %) for associate professors, down to 7 to 32 (17.9 %) for researchers and to 30 to 100 (23.1 %) for PhD students. Even if the situation is far from satisfactory, the Faculty has shown to take the

issue seriously, putting an action line on its three-year plan directed to assign priority to opening of positions in those areas in which female members with excellence records can compete.

Although the origin of the academic staff is mostly Italian, the language skills have been developing thanks to the support of the language centre, allowing a significant majority of the personnel certifying a C1 level in the second language and a B1/B2 in the third.

Since its foundation, the Faculty has developed a clear development strategy aiming at increasing its reputation, effectiveness and visibility in the areas of competence, to generate beneficial outcomes for the local community and stakeholders as well as for the solution of the global societal challenges.

Overall, the Faculty envisions further development opportunities and priorities in areas of trans-disciplinary relevance, in which scientific, technological and organizational advancements typical of the engineering approaches and competences can contribute to the solution of complex socio-economic-environmental problems or to the introduction of more sustainable development paradigms, in collaboration with the other Faculties at unibz or with other research institutions.

Consistently, initiatives devoted to the topics of health, sport, inclusive living, affordable housing, safety, cultural heritage conservation and valorisation, communication and education have been designed. Some of them have started (the executive masters in Fire Safety Engineering and in Hydrogeological Risk Management, the master degree in Smart Technologies for Sport and Health), while some others are in an advanced phase of development (the bachelor in Building Processes Engineering L-23 and a new centre/lab for development and application of 3D imaging technologies with a special focus on XCT and non-invasive volumetric diagnostic techniques) also in cooperation with other faculties (LM-92 with the Faculty of Education). Some have been in the pipeline for a long time and could possibly see soon some implementation (LM-26 in safety engineering with the University of Brescia). Of special interest for further development opportunities, considering the local geographic context, is the topic of transportation, which can show synergies and contact points with other mentioned focus areas.

Special mention is needed for PhD programmes. The Faculty sees PhD programmes as a key asset to identify and promote new talents, support research and ensure an effective and long term third mission impact, in particular in the framework of the revised regulations on academic roles. That is why the Faculty is running three PhD programmes and contributing directly or indirectly to others. A larger support is requested in terms of available scholarships, which seem non proportional to the number of academics, and in terms of improving the focalization, as in the case of the newly proposed PhD tentatively on Intelligent and Interactive Environments.

While local and point-in-time efficiency (as represented by specific KPIs evaluating contingent and specific aspects in each teaching, research and third mission) is definitely a criterion to assess the Faculty performance, the strategic vision is inspired by criteria of sustainable effectiveness which implies the pursuit of an overall and lasting optimization rather than of short term and local maximisation. This implies that all initiatives, as well as the development itself of the Faculty, must be motivated and supported by consistent investments in education, research, and third mission.

In this respect ELF for teaching and a new platform for interdisciplinary innovation (Joint Research Platform) involving new organizational models for developing and sharing R&D infrastructures to support research and third mission are the two flagship and pilot initiatives of the Faculty.

SECTION 2: FACULTY MISSION AND VISION

Vision (where we want to go)

Contribute to (i) the scientific and technological advancement, and (ii) the education of new generations of engineering professionals and researchers to meet the societal challenges related with climate change, demographic crisis, social divide in a comprehensive way.

Address the global dimension as well as the local impact, identifying and investigating local priorities and strengths, empowering the regional stakeholders to express their potential and contribute to the challenges.

Become a trustable partner for disciplinary and trans-disciplinarily collaborations within the university and with recognized research institution and companies, at a regional, national and international level.

Mission (why we exist)

Conduct research, educate new generations, bring up talents and support stakeholders considering human oriented technology in its interactions with the environmental, ecological, physiological, psychological, cultural, social and economic domains.

Adopt a holistic approach, investigating multi-domain interactions and defining transdisciplinary goals and trajectories to ensure their achievement, through technological progress and behavioral changes.

Contribute to the knowledge in the areas of engineering enabling sustainable, resilient, safe, inclusive, and affordable development.

SECTION 3: TEACHING

3.1 Analysis of the Situation

The current teaching offer of the Faculty of Engineering consists of several study programmes inherited and further developed from the former Faculty of Computer Science and the engineering part of the former Faculty of Science and Technology, together with new teaching initiatives. Specifically, the teaching offer consists of

- Five Bachelor programmes:
 - L-8 BEng programme in electronics and information engineering (activated since the A.Y. 2022/23)
 - L-9 BEng programme in industrial and mechanical engineering
 - L-31 BSc programme in computer science
 - L-31 BSc programme in informatics and management of digital business (jointly with the Faculty of Economics and Management)
 - LP-03 Professional Bachelor in wood technology
- Five Master programmes, plus one Master programme coordinated by the Faculty of Economics and Management and run jointly with us:
 - LM-18 MSc programme in computing for data science
 - LM-18 MSc programme in software engineering
 - LM-30 MEng programme in energy engineering (jointly with the University of Trento)
 - LM-32 MEng programme in smart technologies for sport and health (to be activated in the A.Y. 2025/26)
 - LM-33 MEng programme in industrial mechanical engineering (with a specialization offered as a double degree with OVGU Magdeburg, and another specialization offered as a double degree with TU Graz)

- Three PhD programmes (plus participation in a further one):
 - PhD programme in advanced-systems engineering
 - PhD programme in computer science
 - PhD programme in sustainable energy and technologies
 - Participation to the PhD programme in experimental research through design, art and technologies (coordinated by the Faculty of Design and Art)
- Two executive masters:
 - Executive master in fire safety engineering
 - Executive master in sustainable management of geo-hydrogeological risk in mountain areas (jointly with the Faculty of agricultural, environmental and food science – currently coordinated by that Faculty)

All programmes show a very good level of satisfaction by students, in terms of content, facilities, and administrative support. External stakeholders largely confirm the relevance and importance of topics covered in the teaching offer of the Faculty.

At the Bachelor level, trends and benchmarks of indicators in general show that all programmes are satisfactory, with a particularly positive outcome for the L-31 in Computer Science. L-9 and the Two Bachelor programmes in L-31 provide a very solid and stable contribution in terms of student numbers. L-8 has gone through a transitory phase with a number of incoming students slightly below the required minimum, finally reaching a very satisfactory number for the current A.Y. (also thanks to some corrective and improvements measures applied). We will monitor the situation in the forthcoming years. LP-03 comes with inherent criticalities mainly related to its configuration as a “professional degree”. The Faculty has carefully analysed the case, consulting with students and stakeholders. The result is indeed the proposal to move away from such a configuration, converting the programme into a standard BEng programme focussed on sustainable construction processes (in the degree class of L-23). Active contacts are in place to ponder whether to offer the programme jointly with an external, synergic and complementary partner.

At the Master level, the LM-33 programme consistently shows a very positive performance in terms of trend and benchmark of the indicators. Also, the LM-30 is a consistently solid programme (with the only caveat that it is difficult to analyse some indicators due to the management rotation of the programme between unibz and unitn). The two LM-18 programmes show a strong trend in enrolments – and improved in terms of balancing local, EU, and non-EU students. At the same time, they require some improvement for what concerns drop-outs and average graduation time. Actions are being implemented to tackle this phenomenon. Finally, LM-32 is starting this academic year with a very small cohort of students. Actions are being taken to understand how to make the programme more attractive and balanced in terms of the depth and breadth of the topics covered.

The three PhD programmes show a solid performance overall. Actions are being taken to understand how to improve the number of externally (co-)funded scholarships, an aspect that has been always challenging, and it is now even more so considering the increased amount per scholarship recently implemented at the entire unibz level. A related concern is the number of distinct scholarships per programme, which is currently assigned without considering the number of members in the council.

As transversal activities, the Faculty is actively working to incorporate experiential learning within and across the programmes, and is in parallel conducting several activities to homogenise processes and procedures. Besides new teaching initiatives clearly positioned within the Faculty strategy, there is also an increasing collaboration with other Faculties regarding inter- and trans-disciplinary teaching

initiatives, increasingly requiring blending in key topics of the Faculty (such as digital technologies, artificial intelligence, human-centered systems).

<p>STRENGTHS (internal to the University)</p> <p>TS1: Unique mix of engineering and computer science competences, in several cases complementary to those in neighbouring universities</p> <p>TS2: Strong commitment to develop experiential learning initiatives</p> <p>TS3: Excellent facilities and building, as well as positioning in the technology park campus</p> <p>TS4: Key competencies in teaching increasingly linked to transversal skills and study programmes offered in the other Faculties</p> <p>TS6: Overall satisfaction of our students in terms of quality of teaching, infrastructure, and administrative support</p> <p>TS7: Good balance between international competitiveness of our study programmes, and how they match with local demand in the job market</p> <p>TS8: Some solid, stable programmes in key areas of competences of the Faculty</p> <p>TS9: The trilingual model provides key transversal skills to become even more competitive in the job market (not only locally)</p> <p>TS10: Teaching formats compatible with working students (a quite large share)</p>	<p>WEAKNESSES (internal to the University)</p> <p>TW1: Drop-outs and time-to-graduation to be improved in some programmes</p> <p>TW2: Low student numbers especially in some programmes</p> <p>TW3: Lack of internal, stable personnel in scientific sectors that are key for teaching</p> <p>TW4: Some key areas of competence in teaching are only covered by non-permanent personnel</p> <p>TW5: Lack of internal personnel to expand our teaching offer in further, related relevant areas of engineering</p> <p>TW6: Impossibility of offering many differentiating options to students in personalizing their study path</p> <p>TW7: Trilingual model negatively impacts the international positioning of our Bachelor programmes, and introduces entrance/exit barriers</p> <p>TW8: Dealing with working and attending students is a challenge, especially when connected to experiential learning</p>
<p>OPPORTUNITIES (external to the University)</p> <p>TO1: Teaching expansion in timely areas, internationally and for the province (such as in safety and management of the territory, building industry, digital technologies and artificial intelligence, cyber-physical systems, interaction between human experts and technology) – see also TW5</p>	<p>THREATS (external to the University)</p> <p>TT2: Difficulties in attraction and retention of foreign students (due to normative issues and the characteristics of the local job market for non-Italian and non-German speakers)</p> <p>TT2: Housing situation within the province</p> <p>TT3: Cost of living for students</p> <p>TT4: Competitive universities positioned geographically close to unibz</p>

<p>TO2: Further integration in the NOI technology park as a key player in learning (both standard, and lifelong)</p> <p>TO3: Joining forces with other synergic and complementary national and international Universities to offer joint teaching initiatives – also to mitigate TW3-4-5</p> <p>TO4: Further integration with external stakeholders in offering instructive experiential learning initiatives</p>	<p>TT5: (Too) fast evolving market in terms of job profiles and competencies required in the job market</p> <p>TT6: The large share of working students quite heavily impacts our monitoring indicators</p>
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3.2 Strategic Goals (3 Years Span)

Faculty Strategic Plan – Teaching (2025-2027)

Strategic objectives, actions and KPIs with ANVUR indicators

The Faculty has identified three main goals for teaching, which need to be shared and supported by the university. In addition, for the above goals and related actions an enhanced support by the Study and Tuition Office and Marketing Office is expected. Regarding the Faculty Secretariat staff enough personnel resources should be warranted.

Faculty Strategic Plan – Teaching (2025-2027)

Tabular overview of objectives, actions, KPIs and targets (ANVUR & AlmaLaurea)

Table – Strategic Objectives, Actions and KPIs

Objective	Actions	KPIs
1. Increase coherence and positioning of Study Programs	<ul style="list-style-type: none"> - Labor market needs analysis & Identify gaps and opportunities - Redesign curricula based on skills and outcomes - Benchmarking and Networking 	<ul style="list-style-type: none"> - number of new enrolled students - Dropout rate (ANVUR) - Study-work coherence (AlmaLaurea) - Program satisfaction (AlmaLaurea)
2. Improve quality and effectiveness of the teaching offer	<ul style="list-style-type: none"> - Upgrade infrastructure (digital, labs) - Update curricula with new methodologies - Structured transversal skills activities - Monitoring systems 	<ul style="list-style-type: none"> - number of new enrolled students - Avg. CFU 1st year (ANVUR) - On-time graduation rate (ANVUR) - Teaching satisfaction (AlmaLaurea) - Services satisfaction (AlmaLaurea)
3. Improve efficiency and expand opportunities in strategic sectors	<ul style="list-style-type: none"> - Share courses & modularize - Joint programs across faculties (AI, digital, sustainability, etc.) and promote Transdisciplinary & international programs - Micro-credentials 	<ul style="list-style-type: none"> - number of new enrolled students - Study-work coherence (AlmaLaurea) - Internationalization rate (ANVUR) - Foreign student ratio (ANVUR) - Internships (AlmaLaurea) - Employment at 1 year (AlmaLaurea) - Employment at 3 years (ANVUR) - Avg. salary (AlmaLaurea)

GOAL T1: Increase the coherence and improving positioning of Study Programs

Description: *The Faculty aims at increasing the coherence and improving the positioning of its study programs. Considering the recent establishment of the university itself, there is need of increasing trust and differentiate the teaching offer of the Faculty, in order to better represent coherence between all study program organization and contents, enhance the bond with the region most important features and strengths, and distinguish the Faculty study programs from all others offered in the area of interest or elsewhere. This will increase the reputation of the Faculty and as a desirable outcome, strengthen the opportunities of collaborating with other universities, and attract talents, both students and academics. The goal also includes the application of a consistent approach across all study programs, to spread and share the culture of quality through the adoption of common guidelines for establishing new or redesigning existing programs. Guidelines have already been defined and shared and first applied to design the new program in class LM-32. At the end of the process, these will be refined and revised for final formal adoption. A better definition of professional profiles and their related educational skills will support a better mapping of competences and teaching loads in the Faculty or to be recruited, as well as the optimization of the use of resources, as reported in goal T3.*

Associated Indicator(s):

Indicator	Most updated value (year t)	Goal for Year t+1		Goal for Year t+2	Goal for Year t+3
Number of new enrolled students iC00a	247	265		285	310
Dropout rate iC24	30,14%	28,5%		27%	25%
Study-work coherence (AlmaLaurea)	70,8%	72-75%		72-75%	75%
Students' appreciation of the didactic offer (AlmaLaurea) iC25	94,95%	95%	95%	95%	
Satisfaction with teaching quality (Course eval)					

GOAL T2: Improve the quality and effectiveness of the teaching offer (through new models)

Description: The Faculty is developing a long-term project to extend the use of new educational models across the study programs. Although problem based and experiential learning is increasingly popular in engineering programs in the national and international academic system, the idea is to apply the paradigm extensively. This will imply recasting the existing programs and design the new ones to allocate or organize educational activities around project experiences, in which the students will be called to apply the theoretical concepts provided and understand how to bring together all conceptual tools from multiple disciplines. What represents a special focus for the Faculty of Engineering is the identification of specific projects and the definition of a suitable organization, enabling students from different study programs to work in teams around a common object, with tasks consistent with the variety of competences and job profiles proper of each study program. This will require a suitable infrastructure is put in place and operated to support conceptualization, design and prototyping, which is already in the pipeline (Engineering Learning Factory). Among the expected outcomes, a higher appreciation of the quality of the graduates, a higher attractiveness for the educational programs of the Faculty, and a higher motivation for students to attend classes in presence, contrasting an opposite trend emerged after the pandemic and affecting unibz as well as most of the university institutions across the country and elsewhere. Not last, this should offer a unique opportunity for some of the students to be accepted in the NOI techpark program for new startups. The changes requested will require a different teaching approach and mindset. This is achievable with the support of dedicated training for the teaching staff.

Associated Indicator(s)

Indicator	Most updated value (year t)			Goal for Year t+1	Goal for Year t+2	Goal for Year t+3
Number of new enrolled students iC00a	247	265	285	310		
Average CFU (credits) earned in 1st year over the expected (ANVUR) iC13	60,68%			62-65%	63-67%	65-70%
On-time graduation rate (ANVUR) iC22	32,92%			33-35%	34-37%	35-40%
Time to find a job (variation non-detectable in the timeframe) (AlmaLaurea)	3,5m			3,5	3	2,5
Average salary (variation non-detectable in the timeframe) (AlmaLaurea)*	1595	1700	1850	2000		
Teaching satisfaction (Course Eval)**	8,43			8,4-9	8,4-9	8,4-9
Services satisfaction (Course Eval)	8,73			8,7-9	8,7-9	8,7-9

*Importantly, we need to monitor the discrepancy between salaries for different genders, which is unfortunately still high (for year t, we have a 600€ difference between males and females)

**The main objective will be not only to keep the average, but also to reduce variance (in particular, tackle critical cases and align their score as much as possible to the average)

GOAL T3: Improve efficiency and expand opportunities

Description: The transformation implied by the two first goals will be possible only if the existing and new resources are carefully deployed. In turn, the deep recast of study programs will enable a higher optimization of the availabilities and support further initiatives. The goal will be achieved through a better definition of knowledge competences and educational goals associated with the professional profiles. First, the modularization of this set of competences will support and integrate in the research and organizational task of defining scientific units, either existing or needed, which is among the priorities of the Faculty to facilitate resource planning and development definition. Second, this will allow identifying possible synergies and sharing opportunities, freeing resources for more specialistic profiles or for contributing to programs in cooperation with other faculties and/or universities. The overall outcome will be a higher modularization of the study programs, increasing the opportunity for flexibility and personalization of the study plan for the students. In addition, a higher integration between all the different levels of academic education (bachelor, master degrees, post-graduate first and second level masters, etc.) offering also the employers a higher degree of specialization and correspondence with the actual needs, higher interest in hosting traineeships, and opening to platform of continuous learning. Together with the impact of the action in goal T1 and T2, this should finally increase the attractiveness and the reputation of the Faculty and university as a multi-dimensional educational hub in the domain of engineering. Modularization and personalization should support opportunities of bi-directional internationalization

Associated Indicator(s):

Indicator	Most updated value (year t)			Goal for Year t+1	Goal for Year t+2	Goal for Year t+3
Number of new enrolled students iC00a	247	265	285	310		
Study-work coherence (AlmaLaurea)	70,8%	72-75%	72-75%	75%		
Internationalization rate (ANVUR) iC11	60,68%			60-65%	60-65%	62-68%
Employment at 1 year iC07	92,31%			92-95%	92-95%	92-95%
Employment at 3 years iC07bis	92,31%	92-95%	92-95%	92-95%		
Average Salary (variation non-detectable in the timeframe) (AlmaLaurea) *	1595			1700	1850	2000

*Importantly, we need to monitor the discrepancy between salaries for different genders, which is unfortunately still high (for year t, we have a 600€ difference between males and females)

3.3 Actions and Operational Goals

GOAL T1: Increase the coherence and improving positioning of Study Programs

Action T1.1: Analyze labor market needs through structured stakeholder engagement & Identify gaps and opportunities for development

Description: The Faculty has established a stakeholder steering committee, intended to provide constant feedback either orienting the strategic choices or evaluating everyday performance. While dedicated working groups would take care of specific initiatives, the overall committee should be allowed to consider a broader perspective, making sense of the complex range of interactions. In this framework, planning and identifying gaps is not a mere effect of observing the environment and collect needs and wishes, rather participating in envisioning the future trends for the region and the world. This require the implementation of a clear procedure, to be reiterated, encompassing strategic

discussion as well as ordinary revision activities. Market research and statistics updates are of key importance as well as the collaboration and exchange opportunities with external partners and networks.

Timing: 3 y to implement the process and test it

Indicators for monitoring: see the KPIs for the overall goal, while action should lead to formalization of processes

Responsible: Dean, vice dean for teaching, vice dean for third mission, study program directors

Resources: Funds for marketing and communication

Action T1.2: Redesign programs based on professional skills and learning outcomes

Description: Once gaps and strategic profiles have been identified, study programs must be redesigned and/or assessed based on their consistency with the profiles and their skills. This is conducted in a comprehensive and structured way, to support other goals and actions. Redesign includes for example redistribution of topics inside the program or with other programs, allowing sharing or redefinition of profiles. More profession-oriented teaching contents and methods should be adopted from the single course to the study program, ensuring a more synergistic effect of the educational effort.

Timing: 3 y to define and implement the process – periodic and cyclic reiteration will be requested

Indicators for monitoring: see the KPIs for the overall goal, while action should lead to formalization of processes

Responsible: vice dean for teaching, teaching board, study program directors

Resources: -

Action T1.3: Benchmark with, distinguish from and create synergies with national and international players

Description: A clear leadership should emerge from the above activities, which needs to be made explicit. A working group should analyze and interpret data from other actions and goals and identify peculiar traits and strengths of the Faculty and its teaching approaches and initiatives. From this an explicit definition of the leadership aspect which need to become central in the Faculty operation must be proposed for discussion and agreement across the Faculty. Implications through the entire range of missions need to be highlighted. Finally, collaboration and exchange opportunities will become part of the strategy to implement innovative educational approaches and deploy synergies in terms of specialization and complementarity.

Timing: 1 y to define and implement the process – periodic and cyclic reiteration will be requested

Indicators for monitoring: action should lead to formalization of processes and produce documentation

Responsible: Dean, vice deans, and a dedicated working group to be established

Resources: -

GOAL T2: Improve the quality and effectiveness of the teaching offer (through new models)

Action T2.1: Develop appropriate infrastructure (digital, labs, learning spaces): Engineering Learning Factory

Description: *The Faculty has recently moved in the area of NOI Techpark, where a new building (B1) was built to host offices, administrative spaces, classrooms and labs, including some teaching laboratories. The Faculty flagship project in teaching of establishing a new Engineering Learning Factory has found a temporary collocation outside the main building in some temporary sub-optimal spaces, where the first large batch of investments have been distributed. The Faculty needs to start the operation of the factory in its current form, identifying organizational and governance structures and procedures, while contributing to the design of the final infrastructure in the already planned B2 building.*

Timing: *1 year to define and operate the new operational model. 2-3 y to finalize the design in time for being included in the plans of the new building (B2).*

Indicators for monitoring: *the governance and organizational model will be approved by the Faculty and operated by the Faculty staff within the established time. The design needs to be finalized and made available, in cooperation with the professionals in charge and the NOI team. Other performance indicators are those foreseen for the current and the two other goals for teaching.*

Responsible: *Dean, Vice Dean for Studies, Teaching Board and a dedicated working group to be formalized.*

Resources: *Resources for additional investments and consumable will be requested to the university. Technical personnel will be necessary as agreed (to be hired) to support the activities*

Action T2.2: *Revise and enhance existing study plans to incorporate innovative teaching methodologies such as flipped classrooms, blended learning, and project-based approaches.*

Description: *This initiative aims to promote active student engagement, deepen conceptual understanding, and strengthen practical skills. Not only will the Faculty foster a more interactive and learner-centered educational environment that aligns with industry needs and global best practices, but it will move further on, deeply recasting the organization of study program, in order to organize learning around projects involving groups of disciplines. This action is requested to support the goal T2 and T1, capitalizing from the opportunities offered by the new facilities, such as the Learning Factory, and opening to a higher-level integration of the educational programs as from action T2.3. A first pilot study will apply to the recast of an existing study program (LM33) and to the design of a new one (L23)*

Timing: *First pilot concepts will be ready in less than 1 year. The analysis and extension of the concepts to the other programs will follow based on the outcomes of these pilot projects.*

Indicators for monitoring: action should lead to formalization of concepts and produce documentation to be discussed, shared and serve as a support for extending the initiative to all study programs.

Responsible: Dean, Vice Dean for studies, Teaching board, directors of the involved programs, working group for experiential learning as from Action T2.1

Resources: resources are related to the implementation of experiential learning teaching approaches (learning factory) including the development of educational support materials (introductory/theoretical teaching multi-media material) enabling the optimization of time and in presence activities.

Action T2.3: Define and experiential structured activities for transversal skills across study programs

Description: This action will bring the implementation of the experiential learning models to an upper level, aiming at the development of coordinated joint activities. Some pilot projects will be proposed to allow students from different study programs to work in multi-disciplinary teams at the solution of complex technological challenges, in order to show how specialized competences have to be complemented in a realistic job-like environment. In parallel the pilot recast/design of the programs mentioned in Action 2.2 will provide the information necessary to organize a full-scale model embracing all study programs.

Timing: Pilot projects are already operating from the current academic year. The overall project will be delivered within the 3-year horizon of the current strategic plan.

Indicators for monitoring: action should lead to formalization of concepts and produce documentation to be discussed, shared and serve as a support for extending the initiative to all study programs.

Responsible: Dean, Vice dean for teaching, teaching board, study program directors, working group for experiential learning as from Action T2.1

Resources: resources are related to the implementation of experiential learning teaching approaches (learning factory) including the development of educational support materials (introductory/theoretical teaching multi-media material) enabling the optimization of time and in presence activities.

Action T2.4: Implement/improve quality monitoring systems and support the teaching staff in the evaluation and improvement of their performance

Description: This action is intended to contribute to the academic processes devoted to the implementation and improvement of quality monitoring systems. Indicators and data are not always easily available and updated, and the quality of information need to be validated. This is distracting the focus from quality assurance analysis and creating an extra burden to the involved people, which reduces the possibility of moving from a quality assurance approach based on reactive actions to a more pro-active approach. Dedicated training opportunities (courses, workshops, etc.) will be identified and proposed in order to support the transition to the new paradigm of experiential learning on all the different levels (course, program, Faculty).

Timing: while it is urgent to start and some activities are already running, it is independent of the Faculty to fix a deadline. Nevertheless, the Faculty aims at providing feedback and formulating functional requests within 1 y

Indicators for monitoring: (please specify the indicator, the current value and its target value)

Responsible: Dean, Vice dean for teaching, teaching board, QA groups, will provide input to the central bodies involved in the improvement of the university information and monitoring system and the Quality committee.

Resources: resources are related to the implementation of the quality assurance system and information platform at unibz.

GOAL T3: Improve efficiency and expand opportunities on strategic sectors

Action T3.1: Share courses and modularize programs, allowing flexibility and personalization

Description: Restructure study programs into modular components to facilitate course sharing across degree levels and disciplines. This approach will enable flexible and personalized learning pathways for students, improve resource optimization, and strengthen interdisciplinary learning. Modularization will also support better alignment of educational content with professional competencies and evolving industry needs, as well as consistency with scientific units operating in the Faculty. This action is coordinated with action T2.2

Timing: The action will start with some pilot projects in 1 year and express an overall project in 3 y. The actual implementation of the plan will consider procedural aspects and constraints.

Indicators for monitoring: action should lead to formalization of concepts and produce documentation to be discussed, shared and serve as a support for extending the initiative to all study programs.

Responsible: Vice dean for teaching, teaching board, study program directors

Resources: -

Action T3.2: Contribute to joint programs across faculties (AI, digital, sustainability, culture, economics, design, agriculture) and launch transdisciplinary and international joint programs/formats

Description: Develop and participate in cross-Faculty and international academic programs that integrate engineering with complementary fields. These joint initiatives will foster transdisciplinary education, broaden students' competencies, and enhance collaboration within and beyond the university. Such programs will also strengthen the Faculty's global positioning and contribute to innovative research and teaching synergies. This is contributing to the general vision of a Faculty involved in the topical areas of technology for health, inclusive living, affordable housing, safety, culture and education.

Timing: The implementation time will depend on external factors, due to the involvement of other faculties and universities. However, discussion and support are already provided for specific initiatives (LM 92 from the Faculty of Education, L 23 with an agreement with the University of Applied Science in Biberach)

Indicators for monitoring: *The presentation of specific proposals will be formalized and shall be considered as an indicator of progress for the described action.*

Responsible: *Dean (for new initiatives), Faculty Board (for new initiatives), Vice dean for teaching, teaching board, study program directors, proponent working groups*

Resources: *Resources will depend on the specific initiatives and on the degree of collaboration with the partners.*

Action T3.3: Promote micro-credentials and short courses/post graduate professional education

Description: *Design and offer targeted micro-credentials and specialized short courses that address emerging technological and societal needs. These will contribute to a flexible ecosystem of learning formats, from bachelor and master degrees to the professional masters and PhD programs, able to support continuous professional development, strengthen connections with industry and employers, and increase the Faculty's role as a provider of lifelong learning opportunities. This initiative will also enhance the visibility and attractiveness of the Faculty's educational portfolio.*

Timing: *1 y for presenting an overall plan*

Indicators for monitoring: *action should lead to formalization of concepts and produce documentation to be discussed, shared and serve as a support for extending the initiative to all study programs*

Responsible: *Dean (for strategic aspects), Faculty Board (for strategic aspects), Vice dean for teaching, teaching board, study program directors, proponent working groups*

Resources: -

SECTION 4: RESEARCH

4.1 Analysis of the Situation

The Faculty of Engineering was established in 2023 by joining the former Faculty of Computer Science with the engineering part of the Faculty of Science and Technology. It is consequently still relatively young, which limits its current national and international recognition. But its reputation is steadily increasing, especially with the help of some research units that already reached a critical mass giving scholars in that area excellent international visibility.

The Faculty comprises three institutes (Computer Science and Artificial Intelligence, Information Engineering, and Industrial and Energy Engineering), which are subdivided into three Macro Areas each. A proper research development strategy based on an analysis of research units with clearly defined strategies for investment into existing and new research areas of computer science and engineering is currently under development.

The Faculty can rely on a significant number of laboratories with modern infrastructure allowing to perform cutting-edge research. The limited available space for laboratories is however hindering their expansion and submission of new infrastructure-related proposals. Further, the laboratories are spread all over and related groups are not systematically grouped in related spaces leading to a suboptimal usage of resources and duplications. Here the new building B2 represents a unique chance for the Faculty to change this situation.

The publication output of the Faculty is significant. Publications in journals dominate, immediately followed by conference papers. The two indicators of ASN products and VQR products show a significant difference since a large set of Faculty members belong to computer science, which community mainly publishes in conference papers. Publications with respect to ASN criteria show an increasing trend, indicating a tendency to go for high-quality publications. Numbers of Q1 journals and A*/A conference publications (CORE list) are rather stable over years.

The Faculty was able to acquire a significant amount of project funding (both internal and external), however, with a strong reliance on local research calls, a low number of EU financed projects (even though a reasonable number of submissions were made), and a large number of commissioned research projects with low individual budgets creating significant administrative overhead. The Faculty actively collaborates with a large series of local companies (also once more enforced due to the EDIH project). Collaborations with national and international companies are still rather limited.

A series of Faculty external, but university internal weaknesses affect the Faculty operation in terms of research: a rather low number of PhD fellowships with respect to members of the PhD councils and missing bonus schemes for bringing in co-funding from companies, long-lasting administrative procedures to make needed regulations and procedures for new research positions available, long periods from announcing a position call to hiring people, missing updates on the purchasing regulation currently not allowing purchase of small goods and software directly by researchers, creating overhead in terms of times and money and purchasing periods practically limited from mid-January to mid of October, which contradicts needs of running laboratories and in general long times to purchase items, delays in handling legal contracts and NDAs by the research office as well as rigid procedures for managing research projects and lack of flexibility of internal rules.

Finally, monitoring of research-related key performance indicators is currently not supported by software solutions hindering regular and easy access to indicators without tedious and manual extraction of data, making the development of proper strategies and measures difficult.

STRENGTHS (internal to the University)	WEAKNESSES (internal to the University)
<p>RS1: Increasing reputation of the Faculty and its members, in both local and international contexts.</p> <p>RS2: Significant publication output.</p> <p>RS3: Significant number of project funding attracted (both internal and external).</p> <p>RS4: Availability of modern laboratory infrastructure.</p> <p>RS5: Successful in bringing in small to medium-sized scientific events.</p> <p>RS6: Some of the research areas have reached a critical mass that gives scholars in that area excellent international visibility.</p> <p>RS7: Diverse and broad range of competences, allowing to address complex problems in the domain of the major scientific trends.</p>	<p>RW1: Relatively young Faculty (established in 2023) leading to a current low recognition on national and international level, particularly a constraint for international cooperations.</p> <p>RW2: Limited available space for laboratories hindering expansion and submission of new infrastructure-related proposals and undersized scientific units in terms of personnel.</p> <p>RW3: Laboratories spread all over and related groups not systematically grouped in related spaces leading to a suboptimal usage of resources and duplications.</p> <p>RW4: Strong dependence on local research calls.</p> <p>RW5: Number of EU financed project still rather limited.</p> <p>RW6: Commissioned research projects with low individual budgets (lots of contracts for little money) creating significant administrative overhead.</p> <p>RW7: Limited collaboration with national and international companies.</p> <p>RW8: Low number of PhD fellowships granted per PhD programme and no bonus scheme for bringing in co-funding from companies.</p> <p>RW9: Long-lasting administrative procedures to make needed regulations and procedures for new research positions available, which bears the risk that the Faculty cannot spend all its research funds as planned.</p> <p>RW10: Long periods from announcing a position call to hiring people.</p> <p>RW11: Purchasing: regulation not allowing purchase of small good and software directly by researchers, creating overhead in terms of times and money; purchasing practically limited from mid-January to mid of October, which contradicts needs of running laboratories; general long times to purchase items.</p>

	<p>RW12: Delays in handling legal contracts and NDAs by research office.</p> <p>RW13: Rigid procedures for managing research projects, lack of flexibility of internal rules (risk losing funds).</p> <p>RW14: Monitoring of research-related key performance indicators not supported by software solutions that allows regular and easy access to indicators without tedious and manual extraction of data.</p>
<p>OPPORTUNITIES (external to the University)</p> <p>RO1: New planned building B2 to obtain new spaces for laboratories as well as providing the opportunity to bring related research groups closer together to improve the usage of resources and reduce duplications.</p> <p>RO2: Investments into research related to health as a series of agreements were recently put in place, which will bring new opportunities.</p> <p>RO3: Funding availability through several agreed funding agreements of the province with other countries and institutions.</p> <p>RO4: Building a proper research development strategy based on an analysis of research units with clearly defined strategies for investment into existing and new research areas of computer science and engineering.</p> <p>RO5: Recruitment of high-quality researchers willing to leave USA.</p>	<p>THREATS (external to the University)</p> <p>RT1: Lack of understanding of university approaches and mechanisms leading to some competition with local research institutes and suboptimal allocation of resources/autonomy to university.</p> <p>RT2: Priorities in the provincial/regional research strategy only partially matching our research expertise (as a possible consequence of no representation by the Faculty in the strategic RIS3 Board).</p> <p>RT3: Other universities (e.g., Innsbruck and Trento) and research centres (e.g., Eurac, Fraunhofer) with more established networks and faster administrative procedures could lead to lost opportunities of research projects.</p> <p>RT4: The lack of a dedicated Faculty development strategy due to the unibz organizational model might limit the Faculty researchers' willingness to cooperate and follow their own strategy.</p> <p>RT5: Prevalence of SMEs with limited capital available to finance research activities.</p> <p>RT6: Attitude of the local SMEs towards receiving incentives and free services from the Province reducing the attitude for direct investment in research.</p> <p>RT7: Missing agreement with IEEE for open access publications.</p> <p>RT8: Generally, lower salaries for research staff compared to surrounding countries making it difficult to hire high-quality personnel.</p> <p>RT9: The salary model of professors is not enough attractive anymore (e.g. for German-speaking</p>

	<p>countries) due to missing compensation measures for inflation making the acquisition of qualified professors with a high scientific profile (and with specific language knowledge skills required for teaching and third mission) difficult.</p> <p>RT10: The language model and strict requirements on language knowledge can impact negatively on strategically important recruitments.</p>
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4.2 Strategic Goals (3 Years Span)

The Faculty has identified three main goals for research, which need to be shared and supported by the university. In addition, for the above goals and related actions an enhanced support by the Research Office is expected. Regarding the Faculty Secretariat staff enough personnel resources should be warranted.

GOAL R1: Increase the capability of self-evaluating the scientific performance and high-quality research output

Description: The aim is to increase the capability of the Faculty to self-evaluate the scientific performance by supporting the university in the development of automatic tools for research evaluation and to increase high-quality research output (not general output).

Associated Indicator(s):

Indicator	Most updated value (2024)	Goal for Year t+1	Goal for Year t+2	Goal for Year t+3
Number of automatic self-evaluations performed	0	0	1/year	2/year
Number of information events organized and held about Italian research evaluation system	0	0	2/year	2/year
Number of Q1 journal publications	28 (2023)	30	32	34
Number of A*/A conference publications (CORE list)	15	17	19	21
Number of academic staff in service with no scientific production (VQR Products) during a year	4	4	3	2
Numbers of open access publications (currently these numbers are not available as they are not systematically monitored by the university)	Numbers not available	Numbers not available	Numbers available	Numbers available
Application for cumulative funding of publications to the Open Access Fund of the province filed	0	0	1	1

GOAL R2: Increase of external fundings

Description: The aim is to strategically increase external funding by boosting the success rate of EU project applications as they come with a relatively good ratio of funding versus administrative overhead compared to national projects or commissioned research contracts that we have in a high number but with rather low budgets representing a challenge for administration. The overall success rate for European projects, including RIA/IA/CSA initiatives under Horizon Europe, is currently around 16%, whereby we have only about 6.25%, which shows a significant room for improvement. Also the overall success rate for the Marie Skłodowska-Curie Actions (MSCA) Doctoral Networks (DN) call for 2024 was 10.6%, being significantly larger than our success rate.

Besides, we also aim to further support young academics in becoming skilled to submit their own project applications.

Associated Indicator(s):

Indicator	Most updated value (2024)	Goal for Year t+1	Goal for Year t+2	Goal for Year t+3
Ratio of funded versus submitted EU direct funding applications for RIA/IA/CSA	1/16 = 6.25%	6.25%	12%	16%
Ratio of funded versus submitted EU direct funding applications for MSCA Doctoral Networks	0/6 = 0%	0%	5%	10%
Number of submitted EU direct funding applications for RIA/IA/CSA as coordinator	1/6 = 6.25%	6.25%	15%	30%
Number of submitted EU direct funding applications for MSCA Doctoral Networks as coordinator	2/6 = 33.3%	33.3%	33.3%	33.3%
Number of young academics active in PI/Co-I roles in project applications	34	35	35	35
Number of research events organized	0	0	4	4

GOAL R3: Consolidation of research infrastructure

Description: The Faculty aims to consolidate the available infrastructure by fostering sharing of spaces through a joint service platform and planning towards the new B2 building.

Associated Indicator(s):

Indicator	Most updated value (2024)	Goal for Year t+1	Goal for Year t+2	Goal for Year t+3
Number of services delivered through joint lab service platform	0/year (platform not existent)	0/year (platform not existent)	5/year (development and first trial of platform)	15/year (roll-out of platform)
Lab planning documents for building B2 available	0	Initial plan available	Detailing according to demand	Detailing according to demand

4.3 Actions and Operational Goals

GOAL R1: Increase the capability of self-evaluating the scientific performance and high-quality research output

Action R1.1: Working with library on usage of Criterium software for auto-evaluation of publication output

Description: Working with the library on improving the usage of the Criterium software for automatically determining publication criteria as foreseen in the self-assessment report (total number of VQR and ASN products, number of academic staff in service with no scientific production (ASN or VQR products) per year, number of Q1 and A*/A conference publications (CORE list) to allow for regular auto-evaluation. This will involve adapting Boris entries for conference publications to allow Criterium to automatically label A*/A publications (CORE list) and workshop papers as well as creating procedures within Criterium to determine aforementioned criteria automatically and with this enabling regular self-evaluation without manual intervention.

Timing: end of implementation by 12/2026, then regular self-evaluations every half a year

Indicators for monitoring:

- number of automatic self-evaluations performed (current value: 0, target value: two/year)

Responsible: Vice Dean for Research

Resources: Support by Library and Quality Committee

Action R1.2: Informing researchers and PhD students about Italian research evaluation system and how to identify high-quality venues

Description: Regular information events will be organized to inform researchers and PhD students about the Faculty goal to increase high-quality research output with the first events focusing on existing staff and the following ones on new incoming staff and PhD students. The events will be used to explain the peculiarities of the Italian research evaluation system and how to identify high-quality venues and open access support.

Timing: First event in spring 2026 followed by events every half a year for new incoming people.

Indicators for monitoring:

- number of events organized and held (current value: 0, target value: two/year)
- number of academic staff in service with no scientific production (VQR Products) during a year (current value: 4, target value: 2)
- number of Q1 journal publications (current value: 28, target value: 34)
- number of A*/A conference publications (current value: 15, target value: 21)

Responsible: Vice Dean for Research

Resources: support by the Quality Committee and Library

Action R1.3: Rewarding successful high-quality publications

Description: High-quality publications should be rewarded by providing monetary incentives for each successful Q1, A*/A publication.

Timing: implementation in 2026

Indicators for monitoring:

- number of Q1 journal publications (current value: 28, target value: 34)
- number of A*/A conference publications (current value: 15, target value: 21)

Responsible: Faculty, University Research Council

Resources: 500 Euro for each high-quality publication amounting to 27500 Euro that will be paid out to fondo sviluppo nuovi progetti of researchers

Action R1.4: Promote open science and research visibility

Description: Open science publications and with this research visibility should be further promoted by monitoring the number of open access publications made per year and by making the unibz Open Access Publishing Fund more flexible. This should include allowing more flexible upper limits compared to the current 3000 Euro/paper and giving the possibility to top the contribution of the university up with own funds (meaning that the invoice can be split over two costs centers). Further, the Faculty will file an application to the Open Access Fund of the province for the cumulative funding of publications to have some resources at its disposal when no other funding option is available. Since the open access fund of the province further foresees that researchers must cover publication costs in advance with the "fondo personale/persönlicher Fond" or other unibz funds, Faculty asks for the establishment of a temporary budget fund that can be used to overcome this issue.

Timing: implementation in 2026

Indicators for monitoring:

- numbers of open access publications (currently these numbers are not available as they are not systematically monitored by the university)
- Application for cumulative funding of publications to the Open Access Fund of the province filed (current: 0, targeted value: 1/year)

Responsible: Vice Dean for Research, Library

Resources:

- More flexible handling of the upper limit of the open science publication fund of the university
- Establishment of a temporary fund to overcome issue of anticipating funds from own resources in case application to province fund has been made

GOAL R2: Increase of external funding**Action R2.1:** Increase of success rate of EU project applications

Description: We aim to collaborate closely with the research office to boost the success rate of EU project applications. This will include a more selective participation to calls as well as an increase of submissions with unibz as coordinator to be able to drive the preparation and content of the applications. Further, specific trainings for established researchers and experienced people in submitting EU project applications should be organized together with the research office to enhance the chances of successful proposals.

Timing: Specific actions planned with the research office through 2026 and 2027

Indicators for monitoring:

- ratio of number of EU project applications funded versus submitted (current value: 6.25%, target value: 16%)

Responsible: Vice Dean for Research and Faculty Research Board

Resources: Support by the Research Office, specific training events: 20.000 Euro

Action R2.2: Rewarding submission of EU project applications as coordinator

Description: The aim is to work closely with the University Research Council to develop reward mechanisms for researchers when submitting EU project applications. Specific emphasis should be given to submissions as coordinator.

The aim will be to have monetary rewards once having successfully submitted the application as coordinator and once it is awarded. This will allow for the compensation of the work that went into the preparation of the proposal.

In addition, the availability to act as coordinator should be awarded by making available additional proposal drafting experience and support from an external company experienced in this task as well as by dedicated personnel in the research office with technical writing skills able to assist in the active writing of the proposals.

Timing: implementation in 2026/7

Indicators for monitoring:

- Number of submitted EU direct funding applications for RIA/IA/CSA as coordinator (current value: 1/16=6.25%, target value: 30%)
- Number of submitted EU direct funding applications for MSCA Doctoral Networks as coordinator (current value: 2/6=33.3%, target value: 33.3%)

Responsible: Vice Dean for Research and University Research Council

Resources:

- Monetary award in form of 5000 Euro/submission with unibz as coordinator and 5000 Euro/awarded project with unibz as coordinator
- Monetary support to request assistance by external company experienced in supporting the submission of EU proposals
- Creation of a new figure in the research office with technical writing skills able to assist in the active writing of the proposals

Action R2.3: Young researchers in PI/Co-I roles

Description: In collaboration with the research office and the supervisors of young researchers we aim to continue to educate young researchers in writing successful project applications by involving them early on in project applications and by delivering targeted training.

Timing: end of 2027

Indicators for monitoring: Number of young researchers in PI/Co-I roles (current value: 34, targeted value: 35). Since the value is already very high, we will commit to sustain this very high number.

Responsible: Vice Dean for Research and supervisors of young researchers

Resources: Support by the Research Office

Action R2.4: Strengthen interdisciplinary, cross-institute research projects and international collaboration

Description: Special events will be organized where unibz researchers but also invited researchers from other faculties and other institutions can present their work and labs to make each other more familiar and to start discussions about joint research projects.

Timing: end of 2026

Indicators for monitoring:

- Number of research events organized (current value: 0, targeted value: 4/year)

Responsible: Vice Dean for Research and Faculty Research Board

Resources: Funds for inviting researchers (10 kEuro/year)

GOAL R3: Consolidation of research infrastructure

Action R3.1: Joint lab service platform

Description: The Faculty is available to play a role in the distribution and allocation of space including the planning for perspective academics, as well as in consequence of an increasing number of projects and funding. Sharing is an option that should be taken into consideration and discussed by the research units covering topics closer to the ones of new position calls from the beginning of the hiring process. In addition, multiple allocations of spaces can be considered in case of positions covered by internal staff.

Further, to facilitate sharing, the Faculty aims to implement a joint lab service platform that groups available machinery virtually for an optimal use of resources and investments and allows Faculty members to book machinery not placed in their own lab or services they are not skilled for on demand. On a longer term, also dedicated spaces for the service platform should be foreseen as well as its extension to commissioned research services beyond internal services.

Timing: end of 2027

Indicators for monitoring:

- number of machinery/services booked through joint lab service platform (current value: 0 bookings/year (platform not existing), target value: 15 bookings/year)

Responsible: Vice Dean for Research and Faculty Research Board

Resources: Support by ICT to create software environment to support joint lab service platform.

Action R3.2: Planning of B2 building

Description: The Faculty is prepared to play a major role in the planning of the new building B2 and the systematic grouping of existing and new research labs resulting in an optimal usage of resources and reduction of duplications.

Timing: as planning of B2 building progresses

Indicators for monitoring:

- lab planning documents available

Responsible: Vice Dean for Research assisted by dedicated working group

Resources: Building B2

SECTION 5: THIRD MISSION AND SOCIAL IMPACT

5.1 Analysis of the Situation

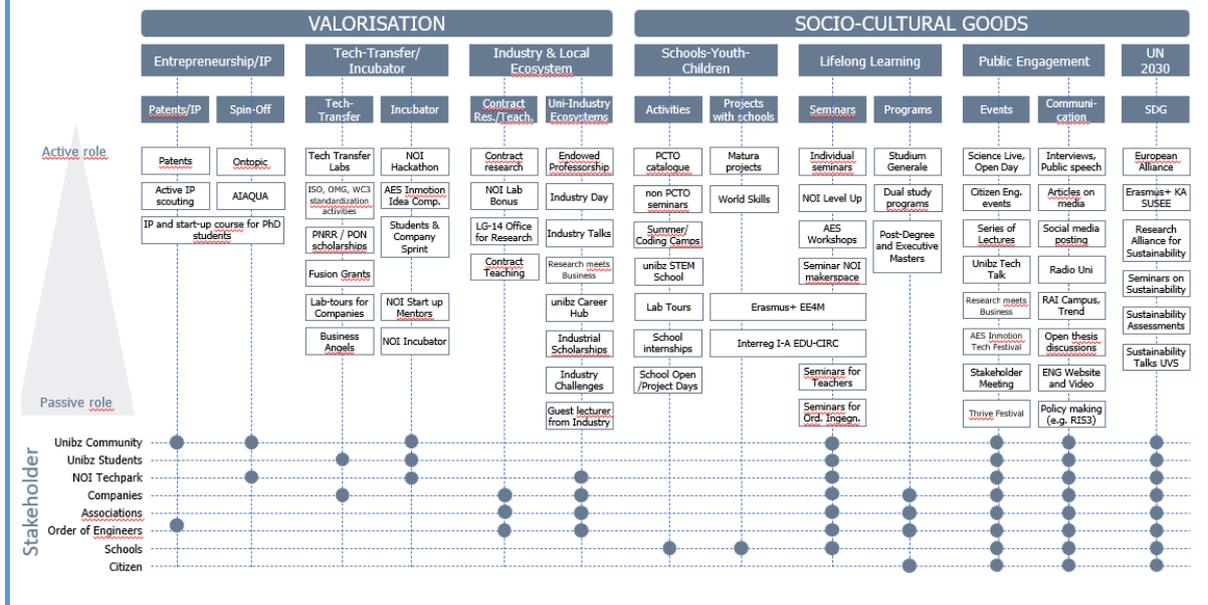
The Faculty of Engineering at unibz has been founded in 2023 through a merger of the former Faculty of Computer Science with the engineering part of the Faculty of Science and Technology. Activities of third mission concentrated on technology transfer and innovation support for local industry, lifelong learning, community engagement and outreach, and policy & standard advisory. An important step after this merger was a detailed analysis and collection of all third mission activities done before and to create in 2023 a mapping and categorization of existing and new activities for the new Faculty. The scheme at the end of this paragraph shows the result as Third Mission Map of the Faculty.

Based on this analysis the new Faculty was/is doing well in the area of technology transfer through specific laboratories dedicated to applied research and tech transfer (e.g. Smart Data Factory or Smart Mini Factory) as well as dedicated grants for supporting industry (Fusion Grants). At the same time the amount of contract research is increasing although there is still opportunity to improve. Another strength lies in the interaction with schools, where many activities are offered and where we found a strong collaboration with the local authorities for school development. Activities in this area have been systematized by offering in 2024 the first STEM school as a dedicated week in February for activities with schools, which has been a big success. Similar activities are planned for the future for better and more efficiently organizing the large number of school visits to our labs. Another strength is public engagement in the sense of events for the public and communication. The Faculty is participating in many internally or externally organized events (e.g. Science Live, Thrive, AES Inmotion Tech Festival, TFO Firmenmesse, Futurum, Science Slam) with speeches as well as demonstration sessions of advanced technology. A large number of Faculty members are serving as contact person to local authorities, press media or associations for interviews, articles etc. First attempts to strengthen the visibility on website and social media have been launched (e.g. videos of

research groups). Further the Faculty is engaged in UN SDG activities (e.g. Research Alliance for Sustainability, SUNRISE alliance, Sustainability Assessment for South Tyrol label)

While the above-mentioned strengths need to be further developed in the future main weaknesses can be identified in the area of IP and start-up culture as well as Lifelong Learning. Being a young university and even more Faculty, these areas are not yet developed how they could be. Compared to other international and European universities (e.g. TUM Munich start up ecosystem or TU Graz LLL Center) and given the strategic situation at NOI Techpark a focus should be given to improve in these areas. In the area of LLL the Faculty is active with several initiatives (e.g. Studium Generale, NOI Level Up), Executive Masters, individual seminars by professors and Erasmus projects with LLL offers for teachers and professionals but it lacks in a systematical platform for offering and promoting LLL for re- and upskilling existing workforce.

In general, the analysis showed that there were and are ongoing many single third mission activities by individuals with similar/same target groups. In the future those activities need to be systematically redesigned and coordinated in order to increase not only efficiency but also impact and outreach. Third Mission activities are often recorded inconsistently, causing under-counting of impact.



<p>STRENGTHS (internal to the Faculty)</p> <p>TMS-1: New focused image and visibility through the creation of the new Faculty of Engineering</p> <p>TMS-2: Strong networking with schools and high school engagement activities</p> <p>TMS-3: Endowed Professorships for fostering targeted research in collaboration with local industry</p> <p>TMS-4: Close collaboration and interaction with local industry stakeholders</p> <p>TMS-5: Yearly stakeholder meeting to communicate with stakeholders and to receive feedback</p> <p>TMS-6: Tech Transfer Laboratories dedicated to applied research (Smart Data Factory, Smart Mini Factory, ...)</p> <p>TMS-7: Studium Generale as form for lifelong learning</p>	<p>WEAKNESSES (internal to the Faculty)</p> <p>TMW-1: Low number of patents and exploitation of results from research</p> <p>TMW-2: Low number of spin-offs and start-ups by researcher and students (missing start-up culture)</p> <p>TMW-3: Missing centralized coordination and organization of lifelong learning courses, micro-credentials and other up-/reskilling activities</p> <p>TMW-4: Growing but still limited amount of industry projects and not by all Faculty members</p> <p>TMW-5: Not enough commitment from companies to work with UNIBZ-ENG in commissioned projects (communication)</p> <p>TMW-6: Not many initiatives for fostering women in technology and engineering</p> <p>TMW-7: Limited awareness of Faculty activities and services towards stakeholders and society (visibility and communication)</p> <p>TMW-8: A large share of the Third Mission activities is currently carried out by a smaller number of Faculty members, and the number of (documented) initiatives could be higher.</p>
<p>OPPORTUNITIES (external to the Faculty)</p> <p>TMO-1: Increasing visibility of the new Faculty of Engineering in the territory</p> <p>TMO-2: New infrastructure opens opportunities for hosting events of stakeholders to create visibility</p> <p>TMO-3: Expand Endowed Professorships also to corporations outside the territory of South Tyrol</p> <p>TMO-4: Increase exploitation of research results in sense of Spin-Offs and Start-Up culture (in collaboration with NOI Incubator and NOI Tech Transfer Office)</p> <p>TMO-5: Increasing awareness of Tech Transfer, IP and start-up opportunities for students and researchers (e.g. workshop on Tech Transfer and IP for PhD-students)</p> <p>TMO-6: Offer lifelong learning activities for qualifying existing workforce in companies</p> <p>TMO-7: Involving mentors/experts from local industry for students</p>	<p>THREATS (external to the Faculty)</p> <p>TMT-1: Potential overlapping of activities with stakeholders by single people from the previously two faculties – need to merge activities for increasing visibility and impact</p> <p>TMT-2: Higher attractiveness of other neighbour countries for talented young and experienced people (brain drain)</p> <p>TMT-3: Too many initiatives could lead to losing the focus and impact</p> <p>TMT-4: Low communication about what is happening at the Faculty and about news and updates</p> <p>TMT-5: Right positioning towards industry as partner for tech transfer and R&D projects/initiatives</p> <p>TMT-6: Differentiation from other institutions (NOI, Eurac, Uni, Laimburg, ...)</p>

5.2 Strategic Goals (3 Years Span)

GOAL TM1: Consolidation, Impact and Visibility of Third Mission Activities

Description: The aim is to finalize already started efforts in consolidating and more efficiently organizing and coordinating third mission activities as well as to increase the impact and visibility of the conducted activities and achieved results.

Associated Indicator(s):

Indicator	Most updated value (2024)	Goal for 2025	Goal for 2026	Goal for 2027
Number of academic staff without third mission activities	46%	<30%	<20%	<15%
Participants reached with activities (impact)	Not yet available in systems	Not available yet in systems	Implement measurement in IT system	First IT based monitoring
Social Media posts – Faculty LinkedIn	n.d.	48	100	150
ENG T-Shirts to students	/	/	All freshers students	All freshers students
Industry Talks	2	5	6	8
ENG Company Tours	0	5	6	8
External events hosted at ENG Faculty	0	2	4	6

GOAL TM2: Increase IP and Start-Up Culture

Description: The aim of this goal is to create a long-term oriented basis for increasing patents/IP and establishing a start-up culture at the Faculty of Engineering. Being at the strategic position at the NOI Techpark this requires a strong collaboration with actors like Noi Incubator.

Associated Indicator(s):

Indicator	Most updated value (2024)	Goal for 2025	Goal for 2026	Goal for 2027
Number of patents per year	1	1	2	3
Number of Start-Ups / Spin-Offs derived from unibz ENG	1	1	1	2
Meetings with NOI Tech Transfer Office	0	0	1	2
Created leads/contacts for exploitation with NOI TTO	0	0	3	6
Open labs for prototyping for students	0	1	1	1
Start-up pitches or idea pitches	1	1	2	3
External funds for student projects/ideas	0	0	3.000 €	5.000 €

GOAL TM3: Develop a targeted and consolidated LLL catalogue

Description: A weakness identified in the analysis is the limited offer as well as the high opportunity of LLL for re- and upskilling existing workforce in a) industry/crafts, b) public authorities and c) schools-teacher. Currently several individual seminars and courses are given by individuals of the Faculty but those are not aligned well with each other. A goal is to identify the internal competencies (and availability of academic staff) for conducting LLL on a larger scale as well as to identify the stakeholder's needs. Based on this, there is potential for setting up a consolidated LLL catalogue with different formats fulfilling the needs of the territory. This goal, being also connected with activities of other faculties, will be strongly aligned with the general unibz strategy for LLL or creating an own LLL center/school.

Associated Indicator(s):

Indicator	Most updated value (2024)	Goal for 2025	Goal for 2026	Goal for 2027
Competence analysis	0	0	1	0
Needs analysis	0	0	0	1
Cross-analysis	0	0	0	1
Draft catalogue	0	0	1	0
Final catalogue	0	0	1	1

5.3 Actions and Operational Goals

GOAL TM1: Consolidation, Impact and Visibility of Third Mission Activities

Action TM1.1: Individual Interviews with Faculty Staff

Description: Interviews with Faculty staff (Full professors, Associate Professors, Researchers) who do not offer actually TM activities for explaining current activities and for individually identifying opportunities for contributing to the overall third mission areas (e.g. entrepreneurship, LLL, public engagement, ...). Based on the monitoring analysis we have noted that especially younger researcher as well as newly arrived Faculty staff do not offer any third mission activities. Through these interviews we will identify and plan activities with individuals adding them with their competences, expertise etc. to new or already existing activities for increasing impact.

Timing: 1 interview with everyone within the year 2026

Indicators for monitoring: number of individuals without Third Mission activity
PO (current 45%, target within 2027 15%)
PA (current 28%, target within 2027 5%)
RIC (current 58%, target within 2027 20%)
TOT (current 46%, target within 2027 <15%)

Responsible: Third Mission delegate

Resources: Support by Third Mission Board members and secretary of the Third Mission Board

Action TM1.2: Consolidation and Increase of Impact of Public Engagement Activities

Description: Revision and redesign of the current offer of third mission activities based on interviews (see TM1.1) not with the aim of increasing the number of actions but to increase efficiency and impact. This activity will pave the way for future monitoring by setting up a systematic and IT based process for measuring the outreach/impact of public engagement activities. Thus, it will be conducted together with the university IT/Boris team for integrating possible fields to insert and measure participants reached through the activities.

Timing: within 2026 adaptation of the IT system (boris) and within 2027 first quantitative monitoring of impact/outreach

Indicators for monitoring: number of participants reached (current value: not measured with current IT systems; future value: first monitoring with IT systems for year 2027)

Responsible: Third Mission delegate

Resources: Support by Third Mission Board members and boris/IT team of unibz

Action TM1.3: Increasing Visibility of the Faculty and of Third Mission Activities

Description: The activity foresees a more focused engagement on increasing the visibility of the Faculty and its third mission activities through several activities:

- i. A major instrument will be Social Media. Actually, the Faculty disposes of social media channels (e.g. Faculty linkedin page), but it is not well cared. The engagement of 1-2 motivated people taking care of editorial planning of social media activities, collection of content, creating posts, regularly posting in social media etc. should increase the visibility of the Faculty especially in modern channels. An emphasize will be taken to provide also more regularly content for the general unibz channels.

- ii. Another action will be to create in collaboration with the marketing department of unibz an Engineering Faculty T-Shirt for students. This T-Shirt should be provided then to each fresher-student when arriving at the first week of lecture. With around 900 engineering students wearing at lecture (and in their free time) we expect to increase visibility of the Faculty especially in the local territory and on the campuses. The budget for buying them will be foreseen in the yearly Faculty budget for 2027.
- iii. Strengthening visibility to the local industry by inviting industry companies as well as by going to industry companies. This will be achieved by introducing Industry Talks and ENG Company Tours. At Industry Talks company representatives come to the university and mainly speak in front of students for introducing innovative actions/projects at the company and for paving the way for thesis, internships or jobs. ENG Company Tours are visits of local companies by delegations of professors and researchers for visiting facilities of companies and discussing potential topics for collaboration. Pilots for industry talks have already been conducted in 2024 and 2025. Pilots of ENG company tours have been conducted in 2025.
- iv. Hosting events of other institutions at the Faculty facilities (e.g. Aula Magna, Foyer, labs) for increasing visibility and for efficient use of public facilities.

Timing: the activities should be launched within 2026

Indicators for monitoring:

- Social Media posts on Faculty LinkedIn page (current value 2024: n.d.; 2025: 48; 2026: 100, 2027: 150)
- ENG T-Shirts: current value 2024: 0; target value: all fresher students
- Industry Talks: current value 2024: 2; 2025: 5; 2026: 6; 2027: 8)
- ENG Company Tours: current value 2024: 0; 2025: 5; 2026: 6; 2027: 8)
- Hosting external events: current value 2024: 0, target per year: 6 events)

Responsible: Third Mission delegate

Resources: Support by Third Mission Board members, secretary of the Third Mission Board and Marketing department of unibz

GOAL TM2: Increase IP and Start-Up Culture

Action TM2.1: Build up awareness for IP and Entrepreneurship

Description: Very often the results from research, PhD thesis as well as Master thesis are not exploited, and people are not aware of how these results could lead to commercial exploitation. Thus, the aim of this action is to build up more awareness towards potential of IP and start-ups focusing especially on researchers, PhD students as well as Master students. The goal would be to organize a 1-day event on Tech Transfer & Entrepreneurship. Structure: seminar sessions with speakers in the morning and interactive workshops for groupwork in the afternoon. Speakers in the morning could be from the internal unibz Tech Transfer team (explaining what the procedures are for exploiting an idea within unibz), the NOI Incubator (they could present the pre-incubation program at NOI) as well as the Chamber of Commerce (explaining their services for patent filing). Finally, we would invite some start-ups (e.g. Arbor Insight of unibz PhD students) to talk about their experience of bringing research results into commercial solutions. These events should then take place every two years in alternation with another planned 1-day workshop on Engineering Ethics for making target groups aware of ethical aspects when developing new solutions (e.g. AI ethics etc.).

Timing: first workshop implemented in 2026

Indicators for monitoring:

Number of patents/years: current value (2024: 1 patent filed; 2025: 1; 2026: 2; 2027: 3)

Number of start-ups derived from Faculty: current value (2024: 1 ENG start up; 2025: 1; 2026: 1; 2027: 2)

Note for indicators: this is a long-term oriented action where notable results will be visible within the next 5-10 years.

Responsible: Third Mission Delegate

Resources: Support by Third Mission Board members, secretary of the Third Mission Board, unibz Tech Transfer Office and study program directors of PhD and Master programs

Action TM2.2: Collaboration with NOI Tech Transfer Office

Description: NOI Techpark is planning to open a new Tech Transfer Office. While the typical tech transfer services will still be available at unibz this office will mainly support research actors like unibz to promote existing patents and to do marketing for commercializing the patents or IP. ENG will set up regular meetings with the NOI Tech Transfer Office to discuss with ENG patents/IP holders specific ideas and actions for commercial exploitation.

Timing: as soon as the NOI TTO is launched, probably within 2026

Indicators for monitoring:

- Regular meetings: current value 2024: 0; 2025: 0; 2026: 1; 2027: 2
- Created leads/contacts for IP exploitation: current value 2024: 0; 2025: 0; 2026: 3; 2027: 6

Responsible: Third Mission delegate

Resources: Support by Third Mission Board members, secretary of the Third Mission Board, unibz Tech Transfer Office and NOI Tech Transfer Office

Action TM2.3: Start-up Culture and Ecosystem

Description: The aim of this action is to create the basic ecosystem for increasing and creating a start-up culture at the Faculty of engineering. For this we are planning following sub-actions:

- i. Opening some of the laboratories for prototyping, in order that students can work on their own projects and ideas. This is in line with the new strategy of the Experiential Learning Factory where such spaces should be created in a new B2 building. In the meantime, spaces like the Prototyping Lab can take over this function.
- ii. Developing internal start-up call and pitch opportunities for students. First pilots have been launched with PNRR projects like iNEST and the unibz-wide Call4Start-Ups. The third mission board will interact with the iNEST responsible for creating synergies and developing start-up programs being integrated also into the idea of the Experiential Learning Factory, where students should pitch their developed ideas and prototypes also to industry mentors and judges.
- iii. Fund raising for internal student projects. This action foresees raising funds from industry to finance early-stage ideas of students for developing and creating first prototypes, also by

using the ENG facilities as mentioned above. In alignment with point (ii) these funds will be then assigned to students with potential project ideas.

Timing: launch of activities within 2026

Indicators for monitoring:

- Open prototyping laboratories for students: current value 2024: 0, 2025/2026/2027: 1 (Prototyping lab for a dedicated number of hours per week)
- Start-up pitches of students: current value 2024: 1 (Call4Startups); 2025: 1; 2026: 2, 2027: 3
- External funds for student projects: current value 2024: 0, 2025: 0, 2026: 3.000 Euro; 2027: 5.000 Euro

Responsible: Third Mission Delegate

Resources: Support by Third Mission Board members, secretary of the Third Mission Board, unibz iNEST responsible.

For supervising and supporting students in open labs for prototyping there will be the need for technologists and/or lab technicians.

GOAL TM3: Develop a targeted and consolidated LLL catalogue

Action TM3.1: Cross-analysis of needs and competencies for stakeholders

Description: Actually, several professors/researchers are offering individual seminars and workshops to stakeholders like the Chamber of Commerce, EDIH, associations, single companies as for professionals well as for schools/province for teachers. An internal survey for identification of existing competencies to be taught in LLL seminars, courses etc. will already be conducted in 2026. Examples for formats (1-day seminars vs. longer courses vs. Executive Masters) could be taken from the EDIH training program. Giving priority in 2026 to actions in the previous goal TM2 (IP/Start-up culture and ecosystem) this action will have priority in 2027. Based on the internal survey, stakeholder meetings, interaction with single stakeholders/associations as well as surveys the need from industry as well as from schools will be identified. As this is not affecting only the Faculty of Engineering we will search the discussion with the unibz management to undertake actions in this direction together with other faculties. The cross-analysis between internal competencies and needs from external stakeholders will lead to identifying potential topics and programs (see TM3.2).

Timing: Internal analysis of competencies in 2026, needs analysis in 2027, cross-analysis in 2027.

Indicators for monitoring:

- Competence analysis: Current value 2024: 0; 2025: 0; 2026: 1; 2027: 0
- Needs analysis: Current value 2024: 0; 2025: 0; 2026: 0; 2027: 1
- Cross-analysis: current value 2024: 0; 2025: 0; 2026: 0; 2027: 1

Responsible: Third Mission Delegate

Resources: Support by Third Mission Board members, secretary of the Third Mission Board, unibz LLL

Action TM3.2: Development of a catalogue for LLL formats and defining procedures

Description: After the analysis in TM3.1 we will develop a catalogue of LLL formats ranging from short courses (e.g. 1 day) to micro credentials (several weeks/months) or entire Executive course programs for executives (university course, Executive Masters). In addition, there is the need for defining procedures (and resources) for credits, promotion, conduction of courses and accountability of course fees. This will be done in strong collaboration with internal unibz offices.

Timing: first draft based on internal competencies in 2026, final catalogue after cross-analysis with needs in 2027

Indicators for monitoring:

- draft: current value 2024: 0; 2025: 0; 2026: 1; 2027: 0
- final catalogue: current value 2024: 0; 2025: 0; 2026: 0; 2027: 1

Responsible: Third Mission delegate

Resources: Support by Third Mission Board members, secretary of the Third Mission Board, unibz LLL offices

Resources will be needed to coordinate and promote the programs with/to external customers (companies, public authorities or schools).

SECTION 6: CRITERIA FOR ALLOCATION OF RESOURCES

With respect to the allocation of resources it seems important to clarify that according to the organizational model of unibz, faculties do not receive budget to be allocated in a second moment. Annually the Faculty negotiate with the university council the economic resources it is entitled to receive and spend in the following year. Non-spent budget is given back to the university.

There are two major categories that are subject to negotiation, namely (1) costs for personnel and (2) costs for activities. As concerns costs for personnel, they refer to (a) the contracts of the active personnel, including personal funds for travel and research, (b) positions already assigned to the Faculty but for some reasons not yet occupied, (c) new contracts/positions, including all forms of internal and external recruitment/advancement, and (d) extra teaching load and contract professors/teaching assistants. As concerns 1.a, 1.b and 1.c, rewarding components as the three-year award, the scientific component, as well as incentives for language certification are not managed by the Faculty. Criteria are formalized in the contract structure and the periodic evaluation (if foreseen) to establish levels and amounts are independent of the Faculty.

With respect to the budget for activities (including running, maintenance and investment costs for teaching, research, PhDs, events, etc.), the Faculty is annually informed of an overall cap based on the previous year performance and needs, adjusted to account for new initiatives.

The Faculty is then entitled to:

- define the needs and priorities for new hirings and additional budget for personnel, formulating requests for new budget (criteria then apply to the definition of requests and their priority rather than the allocation of budget)
- define priorities and distribute the budget assigned for the activities

Budget requests for personnel are following the definition of priorities in agreement with a development strategy aimed at pursuing the mission of the Faculty. The process starts from the analysis of the peculiar features of the Faculty and the identification of needs, opportunities and potential in the reference region, as well as at a global level. Strategic development is always considering a consistent balance of opportunities across the three missions. Once these aspects have been clarified, the requested scientific competences are defined and compared with the existing resources. The ongoing process of definition of scientific units, or teams with high integration and strong specialization, at a

finer level with respect to the research macro-areas and institutes, is intended to support this activity. From the comparison between needs and availability in terms of competences and size, a decision is made on which units need to be upgraded or to be started. The final definition of the requests is also considering the completion of pre-existing strategies, which lead to balanced development of the Faculty and a fair distribution of resources across units and institutes. The process is expected to promote the Faculty consensus and assumption of responsibility with respect to the decision and priorities. Fair distribution implies a balanced consolidation of the existing units, and an effective allocation for the new ones. Specific additional criteria, besides (A) a balanced and strategy-consistent growth, in relation to some shared objectives and values include: (B) improvement of gender and language balance, (C) balanced mix of academic levels to ensure a long term generational change, (D) conservation of existing teaching availability in the transition to a new model without RTDa, (E) optimization of pre-assigned budget non spent or returned in the Faculty availability due to resignations/retirements.

Needs for external contracts are finally determined based on the internal availabilities for regular or extra teaching.

As regards activities, most of the cost items are kept constant and assigned in equal amount or confirmed with respect to the previous year either to study programs or macro-areas. Within macro-areas rotational criteria are applied in case of limited resources. Besides, some items, such as events, must be considered as a guarantee fund, which is generally given back in the availability of the Faculty after the event has been completed and the budget is closed, considering external revenues (fees, sponsorships).

In case some priority is needed due to lack of funds/excess of requests, some criteria apply. Vice deans are requested to provide rational criteria and ensure an even rotation of the allocation of resources. The Faculty is organized in a teaching board, consisting of all study program directors, a research board, including all macro-area spokespersons, and a third mission board, with representatives from all institutes, entitled to revise the proposal ranking and fix conflicts. Once these boards have finalized their proposals, the Faculty board, including institutes spokespersons, evaluate critical cases and the overall consistency with the Faculty strategy. Finally, the proposal is approved by the Faculty council and submitted to the university council.

Example of criteria adopted for prioritizing requests are reported in the following table for the different categories.

1 Maintenance / Safety / Materials

- | | |
|---|---|
| <i>1.1 Maintenance budget</i> | no specific rules - based on previous budget (centrally determined) |
| <i>1.2 Safety budget</i> | no specific rules - based on previous budget (centrally determined) |
| <i>1.3. Materials-consumables for Labs - Teaching</i> | (Vice Dean for teaching): necessity/urgency; balance between different labs; general interest |
| <i>1.4. Materials-consumables for labs - Research</i> | (Vice Dean for Research): necessity; balance between research labs; general interest |

2 - Agreements/Affiliations

- | | |
|--------------------------|--|
| <i>2.1. Affiliations</i> | no specific rules - based on previous budget |
| <i>2.2. Agreements</i> | no specific rules - based on previous budget |

3 - Student jobs

- Eligibility criteria for requesting support:
- activities for interest of the Faculty
 - activities to support running or setting up labs
 - activities to support running or setting up study programs
 - activities to support running or setting up third mission initiatives

4 - Business Trips

- | | |
|--|--|
| <i>4.1. Business Trips in interest for the Faculty</i> | Eligibility criteria for requesting travel budget:
- delegate trips on behalf of the dean |
|--|--|

4.2. <i>Trips for new professors' selection</i>	- traveling for interest of the Faculty no specific rules - based on previous budget
5 - Excursions	(Vice Dean for Teaching): synergies between courses-programs to promote interdisciplinary activities; balance between study programs (Vice Dean for Teaching): necessity, balance between study programs, general interest
6 - Teaching material (consumables) 7 – Macro area initiatives (Visiting, affiliations, student jobs, sw licenses)	(Vice Dean for Research): balance between macro-areas (equal budget assigned)
8 - Research events/Conferences	(Vice Dean for Research) fixed budget per event depending on the potential audience: impact of the event; visibility of the Faculty (periodic events); previous success story; opportunities for self-funding/sponsorships; balanced distribution between institutes/areas Priority rules for the ranking of proposals: impact and visibility of the Faculty
9 - Third Mission initiatives	number of reached target groups/individuals no specific rules - based on previous budget
10 – Other (ex. maker space)	
11 - Investment Teaching	(Vice Dean for Teaching): combined requests (within or among study programs); experiential learning facilities and equipment Only small purchases are allowed in the interest of the Faculty
12 - Investment Labs	
13 - Teaching Cost	(Vice Dean for Teaching): exams (in case of contract professors with expired contract), final exams, thesis supervision by external supervisors
14 - Furniture maintenance	no specific rules - based on occurring needs
15 - PhD Cost	cost based on 4 scholarships per program – non-negotiable
16 - Extraordinary initiatives (ex. marketing)	no specific rules - based on needs/urgency/funding opportunities