

# Strategic plan 2020-2030

final version

December 2022

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# Agenda

## Foreword and Executive summary

### 1. IST 2030: our vision to become a leader in Europe



### 2. Taking action



The IST strategic plan 20-30 (SP2030) started with the work asked to Kearney, in June 2021, by the President of IST.

Following this request, Kearney implemented the methodology and chronogram presented at right.

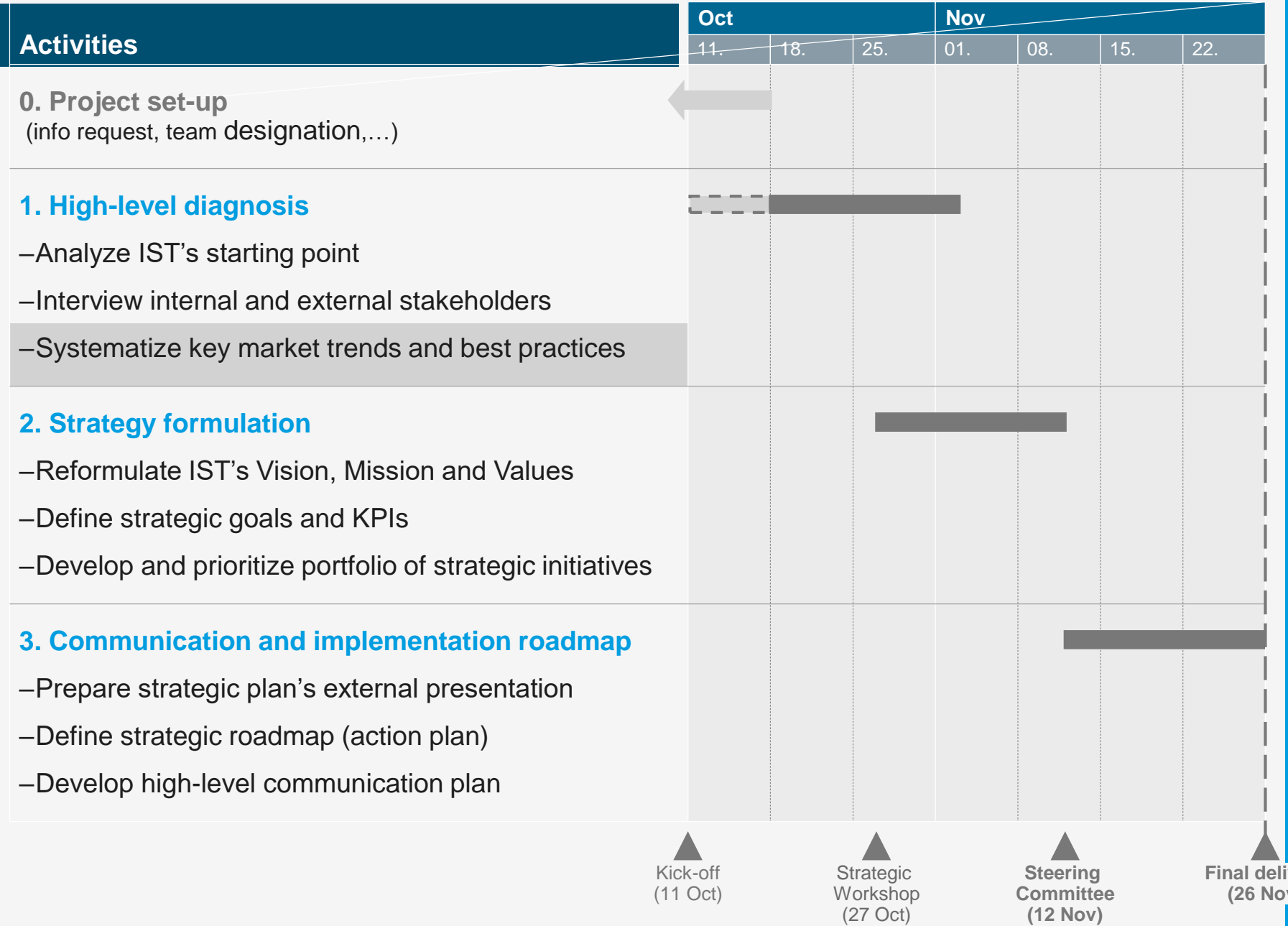
The first proposal for the SP2030 was concluded and sent to the President of IST in November 2021.

In the following months, the SP2030 was discussed in all the statutory organs of IST and accordingly changed.

In April 2022 SP2030 was submitted by the President to the School Council. In August, a public consultancy to all the school community members was promoted.

The SP2030, hereafter presented, results from the incorporation of all these contributions of Técnico 's stakeholders, considered during the last 12 months.

Foreword to the IST strategic plan 20-30 (SP2030)



# Executive summary

**IST is presently the leading engineering school in Portugal** recognized for its superior academic reputation and research track record

**The school's vision for this decade** is to become a Europe's leading Engineering, Science & Architecture school

**IST will realize this vision through seven strategic goals:**

- **Enhanced learning experience** to improve academic success, outcomes and student well-being
- **Ground-breaking research** focused on real world problems relevant to the society
- **Broad societal impact** through stronger relationships with the community (alumni, industry, entrepreneurship partners)
- **Cultural diversity** through increased mobility and exchange programs for students and faculty
- **Multipolar campi** with modernized facilities where the community can prosper
- **Autonomy and agility** to compete in a level playing field while reinforcing management and board accountability
- **Financial sustainability** through income diversification to enable the school mission

**The objectives established comprise 34 initiatives** with clear action plans, responsibilities and monitoring KPIs that will enable the implementation. In addition, a program governance structure has been defined, including an accountable PMO and initiative leaders who will drive the execution

**IST is well positioned to achieve its vision**, given its remarkable starting point as a century-old leading Engineering school in Portugal. Yet, successful execution of this Strategic Plan is contingent on IST's ability to fundamentally increase its financial and administrative autonomy, a major challenge that the management should take on shortly

# 1.

## IST 2030: our vision to become a leader in Europe

1.1 IST mission, values and vision

1.2 Strategic objectives and priorities

1.3 High-level business plan impacts





# 1.

## IST 2030: our vision to become a leader in Europe

### 1.1 IST mission, values and vision

1.2 Strategic objectives and priorities

1.3 High-level business plan impacts



# 1.1

## IST's Vision, Mission and Values will set the path for the school's strategic priorities of the next 10 years.

Source: Kearney analysis

### **Vision**

*is where you're going*  
The next big mountain you're going to summit

### **Strategic priorities**

*links the Mission & Vision*  
The path you will take to achieve your Vision

### **Mission**

*is what you do*  
Defines why you exist as an organization

### **Values**

*is where you stand*  
Defines the principles, attitudes and beliefs driving behavior and decisions



# IST is a principled institution.

## Mission

*To advance ground-breaking **innovation** and **societal impact** through cutting-edge **engineering, science and architecture education and research.***

## Values

### Critical thinking

To shape inquisitive mindsets that challenge and break the status quo through responsible science

### Excellence

To strive for excellence in everything we do, while committing to school's and society's advancement.

### Collaboration

To foster an environment that connects students, faculty, partners and alumni in an interdisciplinary community.

### Innovation

To encourage a risk-taking, entrepreneurial and creative mindset that expands the art of the possible

### Well-being

To create a diverse, balanced and healthy atmosphere that enables IST's community to thrive





**We have a bold vision for our future.**

## **Our Vision**

*A Europe's leading  
Engineering, Science and  
Architecture school that  
attracts and unlocks the  
potential of the **brightest  
minds** to solve the **most  
demanding technological  
challenges***

By 2030

**Top-20**

ranked engineering  
school in Europe

**4x**

faculty members with  
active projects

**30%**

outgoing mobility  
students

**100 M€**

invested in campi  
modernization

**50%**

of non-government  
funds

# 1.

## IST 2030: our vision to become a leader in Europe

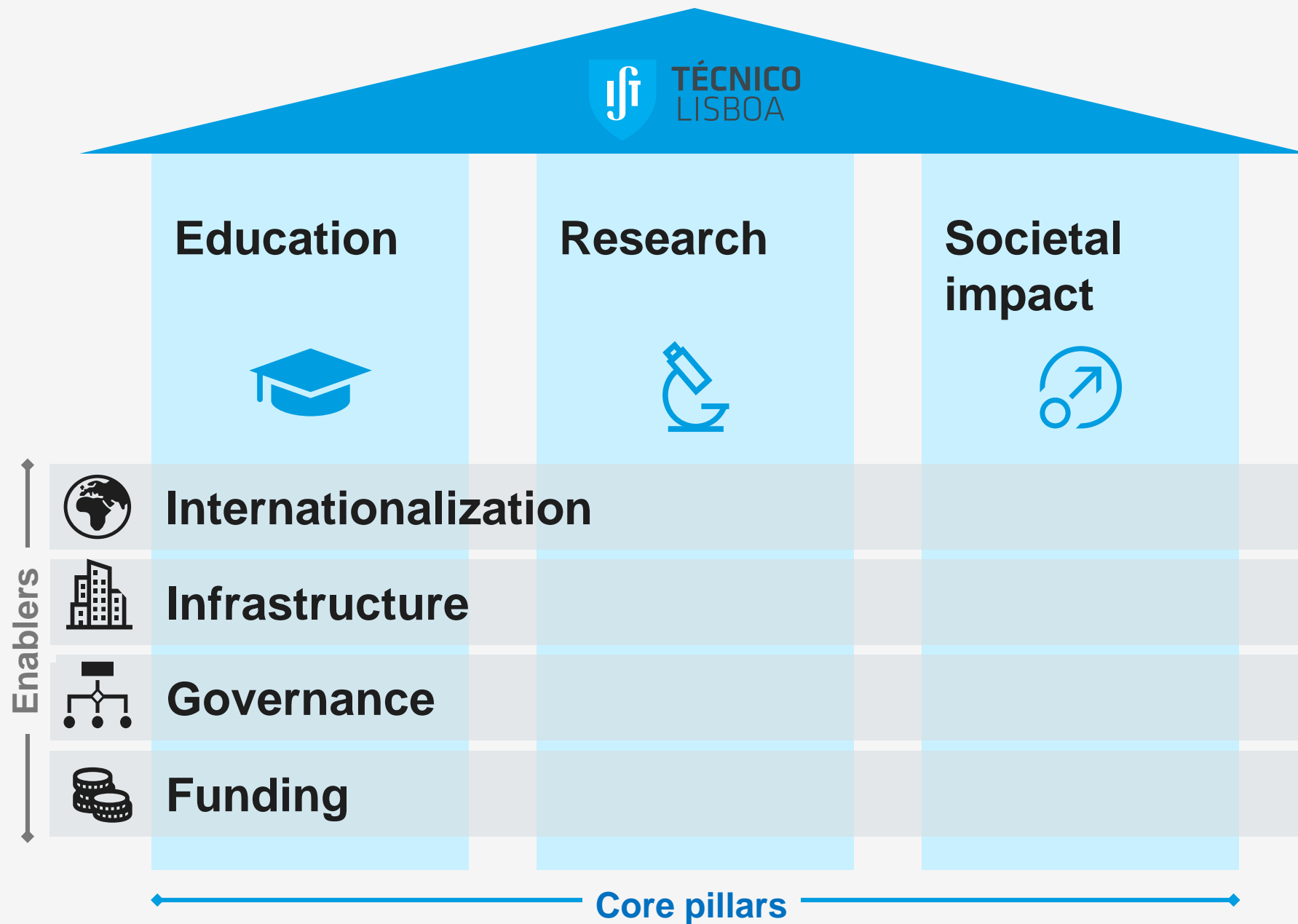
1.1 IST mission, values and vision

**1.2 Strategic objectives and priorities**

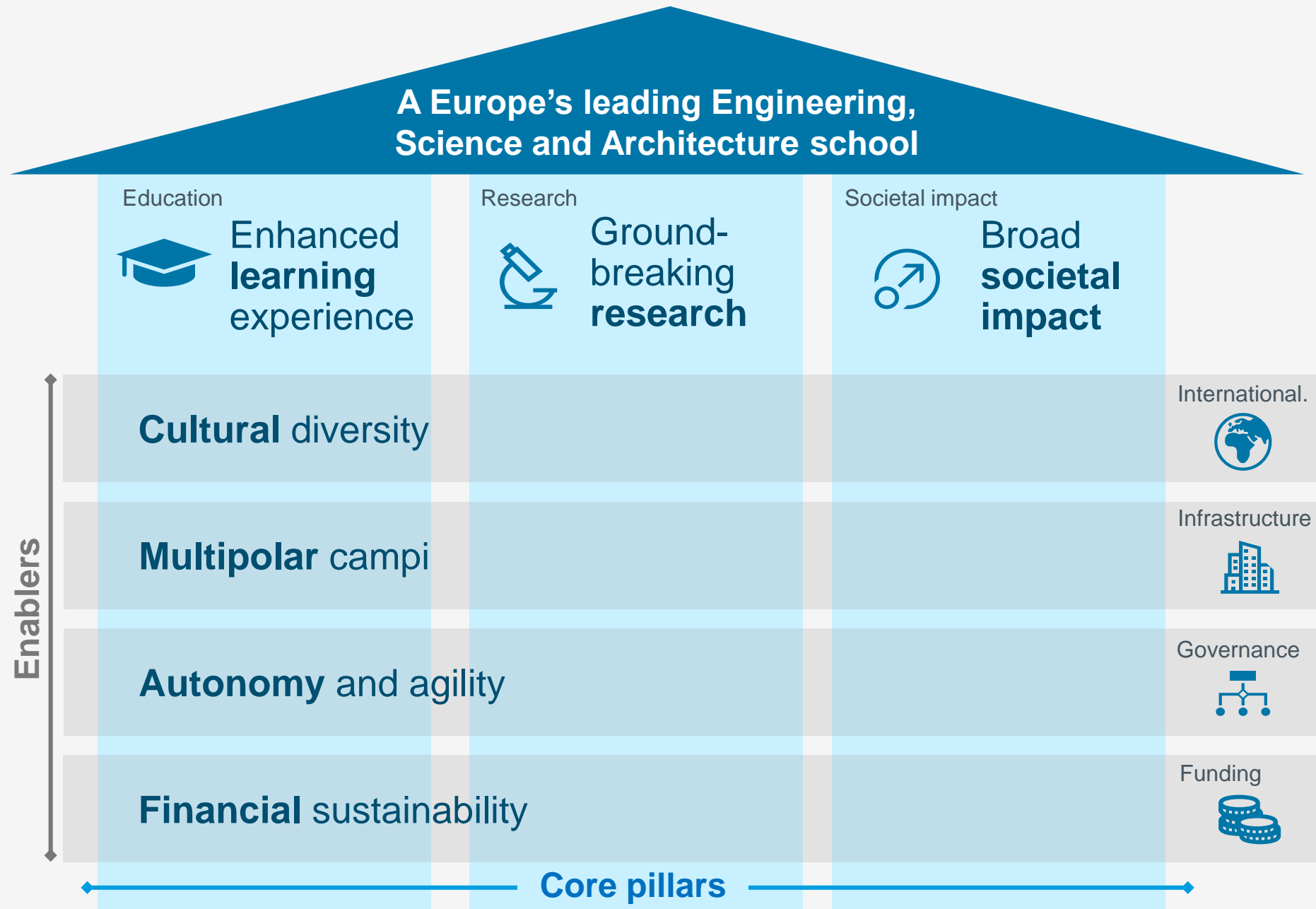
1.3 High-level business plan impacts



# Técnico in three core pillars and four enablers.



# Our strategy in a nutshell



Source: Kearney analysis



# We will grow based on our three core pillars.

## Education



### Enhanced student learning experience and outcomes

- Personalized learning paths
- First-class teaching delivery
- Expanded lifelong offering

## Research



### Ground-breaking research to solve real world challenges

- Relevant international impact
- Joint industry efforts
- Fertile research environment

## Societal impact



### Broad engagement and value given back to the society

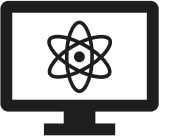
- Strong sense of belonging
- Deep ties with the industry
- More entrepreneurial support

# Education

**Attracting the highest potential students and stepping up their learning experience and outcomes**

**Innovative and personalized learning paths**

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**First-class hands-on teaching delivery**

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**Expanded lifelong education offering**

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**We will offer innovative and more personalized learning paths.**

**More flexible, interconnected and efficient curricula**



- Full adoption of an unbundled 3+2 graduation model with 30 ECTS in free course options
- Enhance multidisciplinary offer with 35 free minor options in second cycle studies
- Restructure PhD curricula to increase flexibility in line with international trends

**Project-based and learn-by-doing experience, powered by technology**



- Project-based learning with a target of at least 12 ECTS, in the context of a research unit or/and industry environment
- Closer curricula articulation with companies and research centers

**Behavioral skills training for a lifetime of success and impact**



- Leadership, teamwork, communication, presence, entrepreneurship and innovation training offered in all programs
- Humanities, Arts and Social Sciences knowledge integration with 200 electives to choose from



**We will deliver first class hands-on teaching.**

**Attracting and retaining first-class faculty**



- Differentiated faculty careers, allowing for fast-trackers
- Competitive compensation and incentive systems

**Upscaling the Teaching Assistants role**



- Closer teaching support from a higher number of Teaching Assistants
- More time for Professors to focus on course innovation and research

**Promoting outside the classroom experiential learning**



- International and intersectoral exchange opportunities
- Academic tutoring
- Education-linked internships
- Research seminars and conference presentations



**A meritocratic and revamped incentive system is key to attract and retain best-in-class faculty.**

The career progression path implemented by the scientific council in 2022 is a first step to reach this goal

## Compensation system and career progression improvement initiatives

### Merit-based compensation system



- Further differentiate faculty's fixed compensation based on yearly evaluation
- Increase share of faculty's variable compensation
- Increase total compensation for top performers (fixed+variable), to attract and maintain the best national and international talent

### Revamped career progression



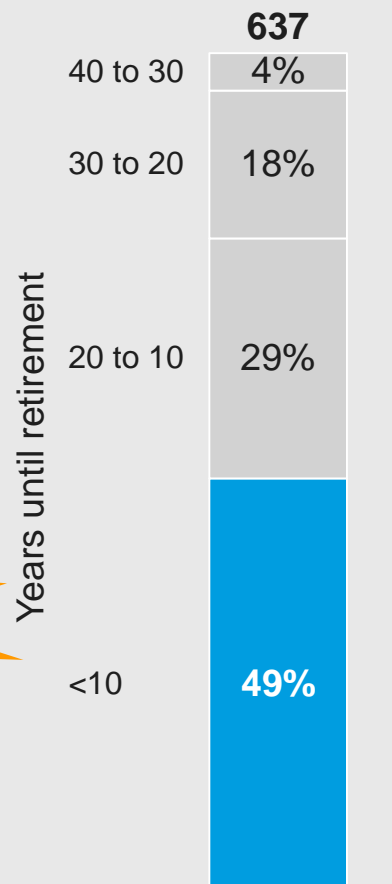
- Allow for fast-track career paths for top performers
- Define less pyramidal organization that promotes collaboration within IST's community
- Differentiate career progression based on career path (research vs. academic)

**We aim to reduce faculty academic workload and improve students' learning experience.**

IST reached a TA/professor ratio of 0,65 in 2022/2023

**~50% of Professors will reach retirement in the next 10 years...**

**Number of Professors per tenure (2021)<sup>1</sup>**



1. Assumed tenure distribution of Professor's database  
Source: IST ("IST\_docentes e investigadores\_carreira e convidados", "Plano de Negócios IST"); Kearney analysis

**... which could enable a profound change on IST's teaching organization model**

**Student to faculty ratio matrix**

(2021, # of students / # of Professors + Teaching Assistants)

Top MSc students and PhD students could be leveraged as Teaching Assistants

		Teaching Assistants per Professor			
		(As is) 0,3	1	2	3
Retirement substitution rate	1:1	13,4	8,9	5,9	4,5
	3:4	15,2	10,1	6,8	5,1
	2:3	16,0	10,6	7,1	5,3
	1:2	17,7	11,8	7,9	5,9
	1:3	19,9	13,2	8,8	6,6
	1:4	21,2	14,1	9,4	7,0
	0:1	26,3	17,5	11,7	8,7

Lower student to faculty ratio

External benchmarks on students to faculty ratio:  
– CMU: 9,6  
– MIT: 10,8  
– EPFL:12,9,

- + **Improve students' learning experience** through increased and closer academic support
- + **Increase Professors' focus on research** through reduced academic workload
- + **Improve academic career succession cycle** through an increased share of Teaching Assistants per Professor
- + Provide MSc and PhD students with **early academic work experience**

# We will expand lifelong learning and relationships with the community.

Técnico+ reskill and upskill programs have now entered in the consolidation phase with the inauguration of three new dedicated rooms in the civil engineering pavillion

## Lifelong learning stages

### Pre-college programs

#### Target:

High school students

#### Value proposition:

Prepare students joining IST's 1<sup>st</sup> cycle in their transition to higher education



*Preparing*

### College summer programs

Engineering and non-engineering students

Upskill students in advanced technical skills highly-demanded by the market



*Upskilling*

### Executive programs

Professionals and target organizations

Reskill and specialize professionals in emerging technological fields required by the industry



*Reskilling*

- Engineering accessible to all (not exclusive to alumni)
- Innovative and market relevant education programs
- Hybrid technology-enhanced learning formats

# Research

**Ground-breaking  
research to solve real  
world challenges  
relevant to the society**

**Relevant international  
impact**

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**Industry hand in hand  
research efforts**

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**Fertile research  
environment**

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# We will play a bigger role in international projects.



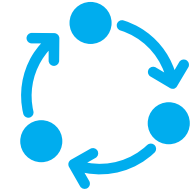
**Openness to  
develop projects  
for the entire  
ecosystem**



**International  
partnerships with  
renown universities/  
researchers**



**Globally relevant  
and impactful  
research areas**



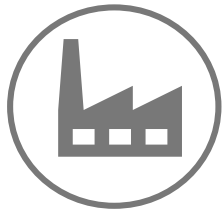
**Interdisciplinary  
research combining  
multiple research units**

**The IST pre-award program, ongoing,  
should grow and consolidate**

## We will partner with the industry...



We will focus fundamental and applied research on the most demanding technological challenges...



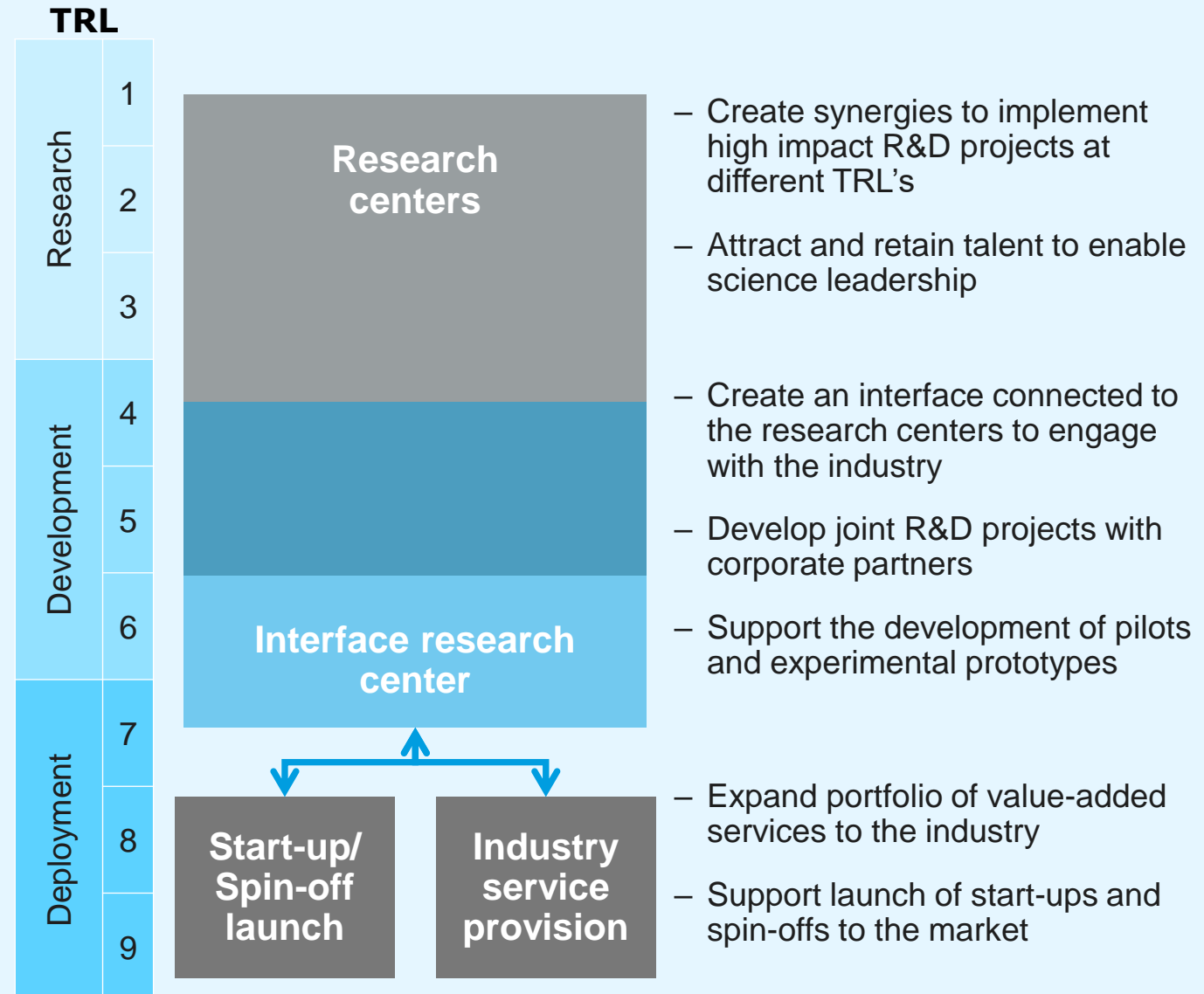
... by developing joint R&D projects with industry partners...



... and by contributing to the national Recovery and Resilience Plan

By now IST participates in 24 of the 52 PRR innovation agendas

## ... through an agile research development model with higher TRLs.



**We will create the conditions to attract the best researchers and make them thrive.**

**Increase administrative support for researchers** to reduce low-value added time-consuming tasks

**Promote “excellent” and “very good” FCT evaluations** on all research units, fostering their repositioning, if needed

**Attract the best researchers to IST**

**Review researchers’ objectives and incentives** leveraging a potential change in IST’s governance



# Societal impact

**Engaging more broadly  
and giving back to our  
community, partners  
and the society at large**

**Nurturing a strong sense of  
community and belonging**



**Building deep ties with  
industry partners**



**Supporting entrepreneurial  
activities on campus**





**We will make the IST community stronger while igniting our sense of belonging.**

**Enhance working conditions for the technical and administrative staff**

- Revamp skills by reskill and upskill courses
- Renovation and reinforcement plan for T&A staff
- Promote teleworking when possible

**Excellence at every touchpoint of the student journey**

- Students' experience office to improve the end-to-end journey
- Excellence delivered through outstanding staff, efficient operations and digital technology

**Revamp alumni program**

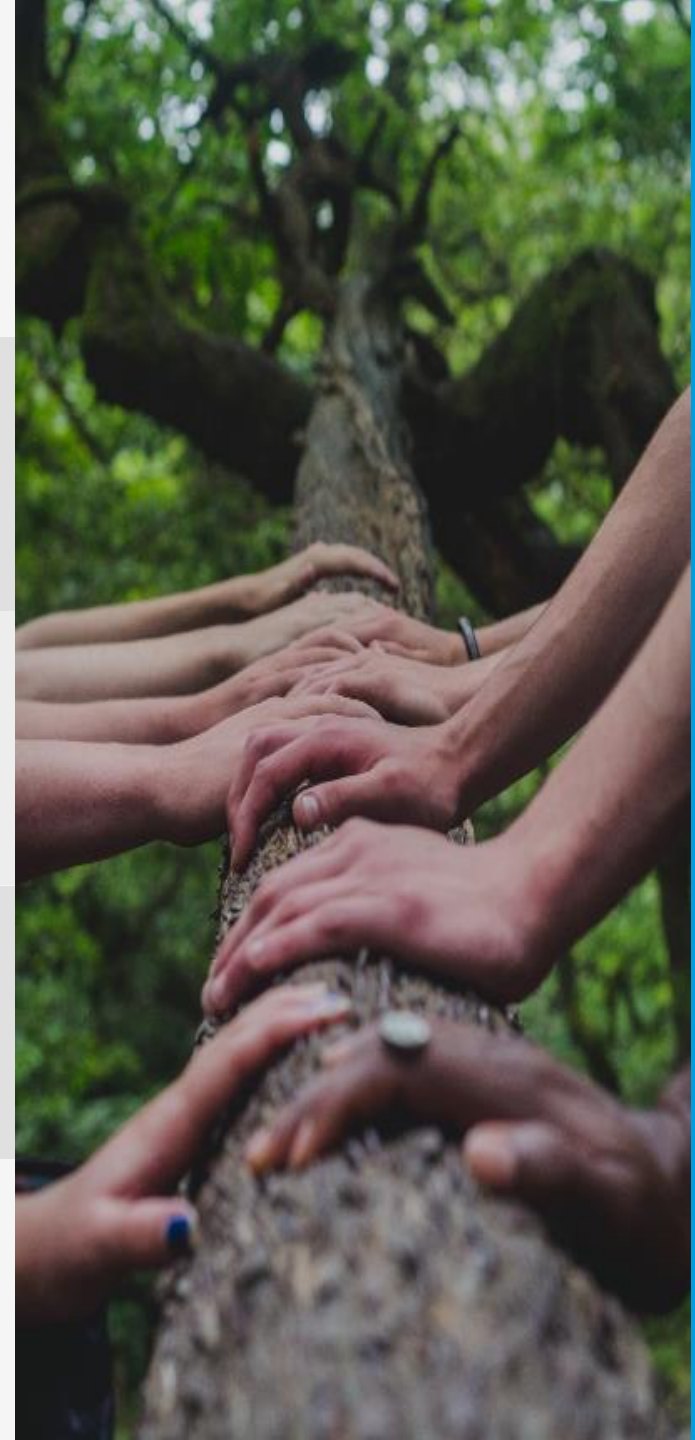
- Benefits program
- Alumni events
- Career support services
- Access to IST facilities

**Promote more sustainable *campi***

- Preparation of a GHG Emissions Inventory of IST
- Installation of solar panels
- Awareness of the IST community

**Active promotion of our brand and purpose within and beyond IST**

- Higher social media engagement
- Stronger media exposure
- Relevant events' hosting



## We will enhance the working conditions for the technical and administrative staff

– Revamp skills by reskill and upskill courses

– Renovation and reinforcement plan for T&A staff

– Promote **integration and welcome initiatives** for T&A staff

– Promote **teleworking** when possible

**Creation of the ombudsman office**

By now IST initiated a number of these actions



# We will deliver excellence at every touchpoint of the student journey, in and outside the classroom.

NON-EXHAUSTIVE

Discovery	Onboarding	In-class environment	Evaluations	Extracurricular activities	Job search	Alumni connection
<p><b>External communications department to increase school's awareness</b></p> <ul style="list-style-type: none"> <li>– Engage with communication agencies to increase national and international social media engagement positioning IST as a thought-leader</li> <li>– Define annual communication plan to foster senior IST members' participation on media channels</li> <li>– Identify opportunities for IST to host/ participate in large-scale events (e.g. WebSummit)</li> </ul>	<p><b>Students' life and wellbeing office to define teaching guidelines and mediate relationship between faculty &amp; students</b></p> <ul style="list-style-type: none"> <li>– Organize a "standard" initiation week with planned speaker sessions to welcome new students</li> <li>– Collaborate with corporate partners to offer an "initiation pack"</li> </ul>	<ul style="list-style-type: none"> <li>– Collaborate within and between departments to look for opportunities to increase synergies between classes' curricula</li> <li>– Launch mid-semester feedback surveys to assess teaching quality</li> <li>– Increase awareness and reward Faculty's Excellence</li> </ul>	<ul style="list-style-type: none"> <li>– Define set of materials to supply to the students (exams' mock-ups and resolutions, slides, exercise booklets,...)</li> <li>– Collaborate with class student representatives to schedule academic exams and project due dates' calendar to ease the workload</li> </ul>	<ul style="list-style-type: none"> <li>– Promote and allocate budget to students-led clubs and students' association activities</li> <li>– Keep promoting sports activities leveraging IST's brand name</li> </ul>	<ul style="list-style-type: none"> <li>– Host full-day career discovery sessions (no-classes) for BSc students to present potential career path (e.g. research, entrepreneurship, tech, consulting,...)</li> <li>– Further strengthen Técnico Alumni Mentoring program, aligned with students' career goals</li> <li>– Create career services and counselling to support students' outplacement</li> </ul>	<p><b>Alumni association to continuously support and engage with alumni</b></p> <ul style="list-style-type: none"> <li>– Create career support services to IST alumni (coaching, workshops, lifelong learning)</li> <li>– Grant access to IST's facilities to start-ups made-in-IST</li> <li>– Host IST's alumni events (graduations, reunions,...)</li> </ul>



## A more sustainable IST

IST must walk the path of increasing the sustainability of its campuses and, as a reference STEM school, increase the effort of including the topic of sustainability and climate change in research and training, innovation, awareness and social responsibility.

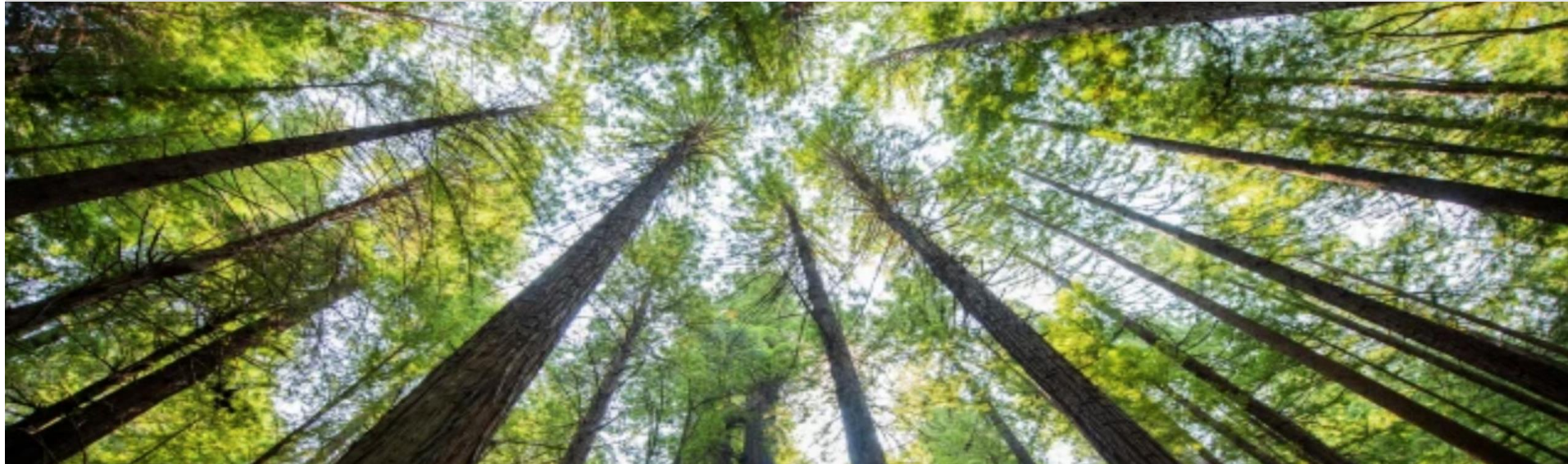
- **Awareness of the community** by promoting open debate initiatives and training for energy and resource conservation

Evaluate the creation of a **transversal curricular unit** on the topics of sustainability and climate changes

- Consolidation of the **Sustainable Campus Project**

- Installation of **2300 solar panels** until 2024 (1M kWh)

- Preparation of a **GHG Emissions Inventory** of IST



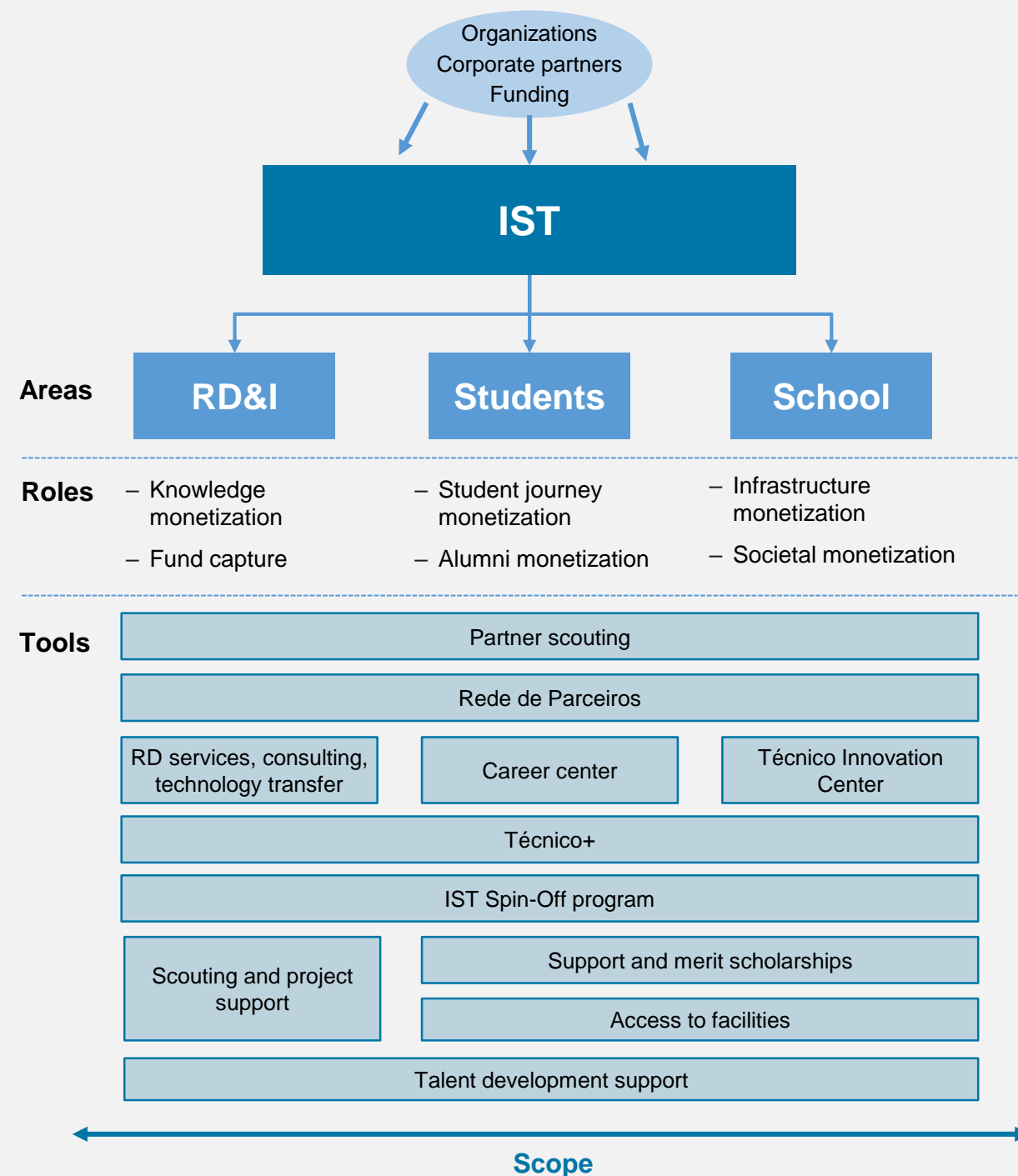


**We will grow our industry partnerships in support of students, faculty and the school's mission.**

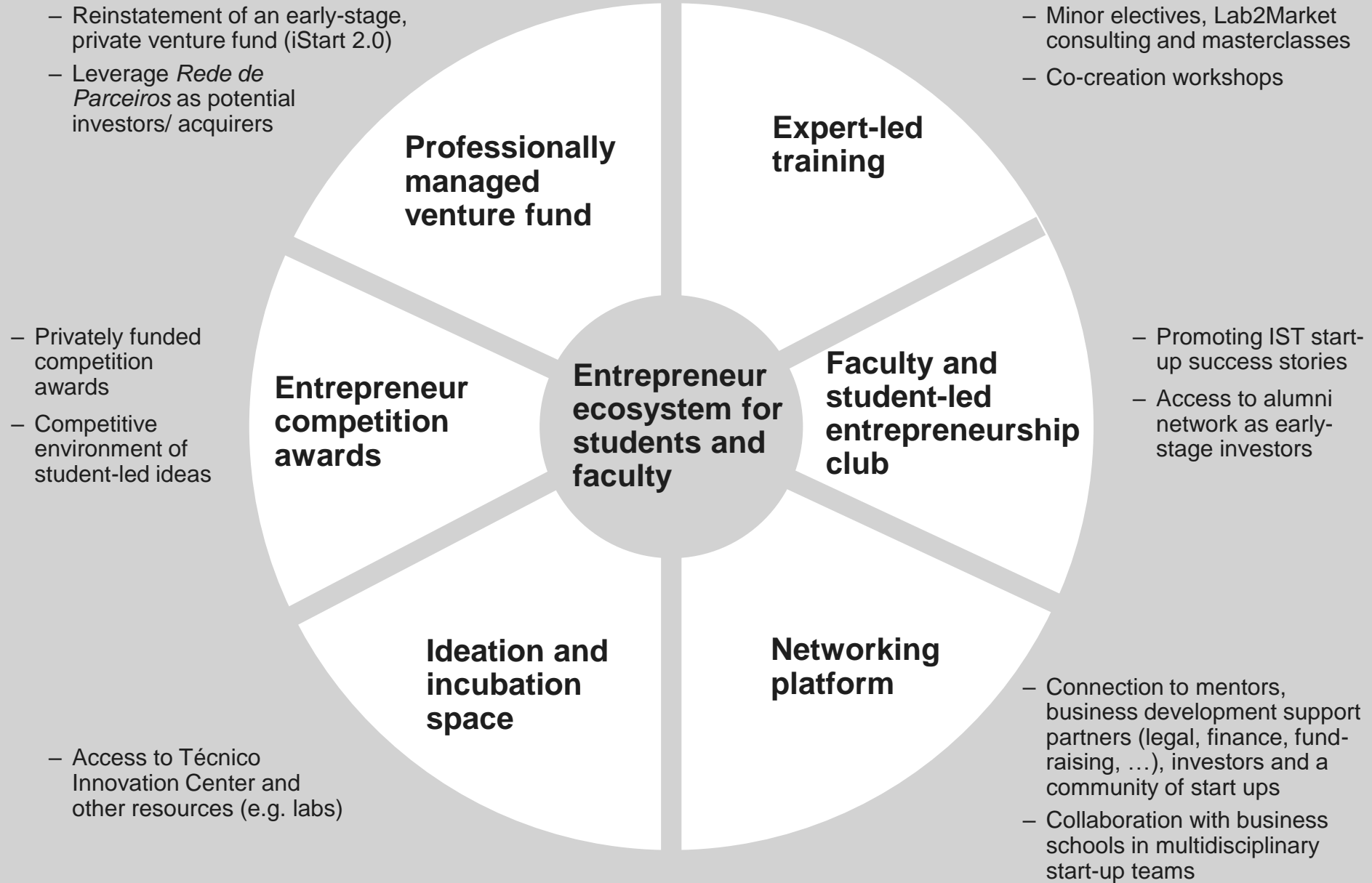
A single **partner-centric interface** for companies and institutions to RD&I support, students recruitment and school life participation...

... **better helping students** through their career discovery and transition paths

**TTO services are dealing with this topic. More HR are needed**



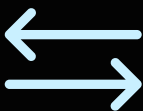
# We will enhance the support for entrepreneurial activities on campus



# Internationalization: Cultural diversity



**Extensive international alliances with leading universities**  
to expand and promote double and joint-degrees



**Vast student mobility program offering**  
targeting key markets and students' demand



**Renown Professors with international experience**  
from reference universities



**Gender balance promotion**  
to further foster diversity within our community

# Internationalization:

Enhancing IST's international visibility is paramount for the school's internationalization path.

## Enhance IST's international visibility to...

Goal

1

... attract international top talent

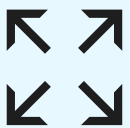


2

... boost participation in international research projects



Lever



Design an **international ambassador program**, leveraging students and faculty in outgoing mobility programs



Incorporate incoming international students and faculty in **IST's alumni network**



**Host and sponsor international summits** and global conferences



**Increase participation in students' fairs** from leading engineering schools on target markets (Europe, Brazil ...)

### EuroTech Universities Alliance's actions to boost members' international visibility

- Organize partner days to network, reflect on international education and experience the host institution
- Host international conferences and events on a wide range of education and research topics
- Support stakeholders in promoting the results and impacts of their work through the Alliance's communication channels
- Provide access to the Alliance's vast network of decision makers



Source: EuroTech Universities Alliance's website, Interviews with IST's stakeholders, IST's Strategic Workshop, Kearney analysis



## Infrastructure:

Stimulating facilities to improve quality of life on campus for everyone...

Aiming at

**€100 Mn**

investment in  
modernizing  
IST's facilities



**Enhanced learning facilities**  
to improve our students'  
experience



**Modern research infrastructure  
and equipment** for a productive  
environment



**Welcoming social areas**  
for the health and well-being of  
our community



## Infrastructure: ... and a multipolar specialized model

### Alameda

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Main IST campus in the heart of vibrant Lisbon, with a track-record of ground-breaking multidisciplinary academy and research

### Taguspark

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A modern campus with specialized research infrastructures supporting 2.000 students, located in Portugal's largest Science and Technological park

### Campus Tecnológico e Nuclear





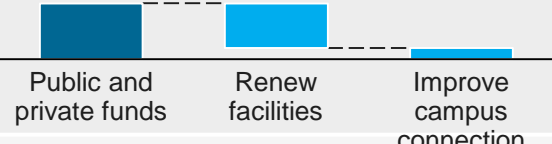
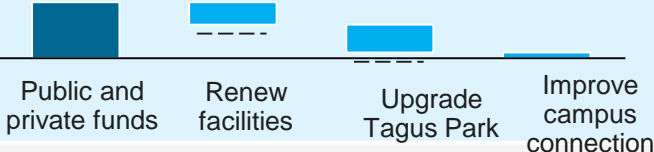
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Leading nuclear science research center, with unique equipment and infrastructure in Loures



**Técnico Innovation Center in Alameda:**  
*Opening in 2023, this 21<sup>st</sup> century hub will engage the community by providing an open space for entrepreneurship and culture*

# Infrastructure: IST will follow multipolar specialization strategy

	Selected model	
	As-is Alameda as the main IST's hub	Specialized <i>campi</i> Alameda and Tagus Park as specialized and complementary <i>campi</i>
<b>Requirements</b> 	<ul style="list-style-type: none"> <li>– <b>Alameda:</b> Modernize Alameda's infrastructure</li> <li>– <b>Tagus Park:</b> as is</li> <li>– <b>CTN:</b> as is</li> </ul>	<ul style="list-style-type: none"> <li>– <b>Alameda:</b> Modernize Alameda's infrastructure</li> <li>– <b>Tagus Park:</b> Upgrade campus capacity to migrate specific high-demand courses and research areas</li> <li>– <b>CTN:</b> valorization of Quinta do Remédios to invest in CTN infrastructure</li> </ul>
<b>Pros</b> 	<ul style="list-style-type: none"> <li>– Low operational disruption</li> <li>– Lower investment required (vs. create from scratch)</li> </ul>	<ul style="list-style-type: none"> <li>– Centralized knowledge centers</li> <li>– Optimized campi capacity</li> <li>– Improved Tagus academical perception</li> </ul>
<b>Cons</b> 	<ul style="list-style-type: none"> <li>– Limited ability to fully reform Alameda's infrastructures</li> <li>– No clear <i>campi</i> specialization, with overlapping courses' offering</li> <li>– Insufficient capacity utilization (e.g. infrastructure and faculty's time)</li> <li>– Inefficient Tagus Park's accessibility</li> </ul>	<ul style="list-style-type: none"> <li>– Limited ability to fully reform Alameda's infrastructures</li> <li>– Inefficient Tagus Park's accessibility</li> </ul>
<b>Illustrative business case</b> 		

Tagus and CTN should implement their development programs, approved by the end of 2021, to accomplish the IST multipolar specialization strategy



Governance:

# Autonomy and agility

Making  
change  
happen  
faster



Administrative and financial **autonomy** to compete in a level playing field

Simplified governance statutes to increase decision-making **agility**

Reviewed board structure and roles for higher leadership **accountability**



## Governance:

# Changing IST's legal framework can be an opportunity and a key enabler for the school's transformation

The discussion of what the school wants (as is, option A or option B) should start during 2023

Source: Diário da República Eletrónico (Regime jurídico das instituições de Ensino superior); Universidade do Porto (Relatório de avaliação do período experimental de cinco anos de vigência do regime fundacional na Universidade do Porto); Kearney analysis

### Public university (as is)



#### Financing

- Yearly allocation of **government budget** based on number of students
- Access other sources of funding through **R&D and IP revenues**



#### Infrastructure

- **Acquisition of assets** (real estate and equipment) based on **governmental procurement framework**



#### HR management

- **Same faculty career path** on all public universities
- Faculty hiring process based on the **governmental hiring framework** (*Regime do Contrato de Trabalho em Funções Públicas*)

### Public university with philanthropic foundation or association (option A)

- More flexibility to **accept and use donations**

- **Flexibility to acquire all assets**

### Foundational university (option B)

- **Public financing through pluriannual contracts**, with a min. duration 3 years
- Access **other sources of funding** through R&D and IP revenues
- More flexibility to accept and use donations

- **Flexibility to acquire all assets**

- Faculty hiring process based on *Contrato individual de trabalho* (direito privado)
- **Career path can be tailored by IST** (e.g. progression, compensation)

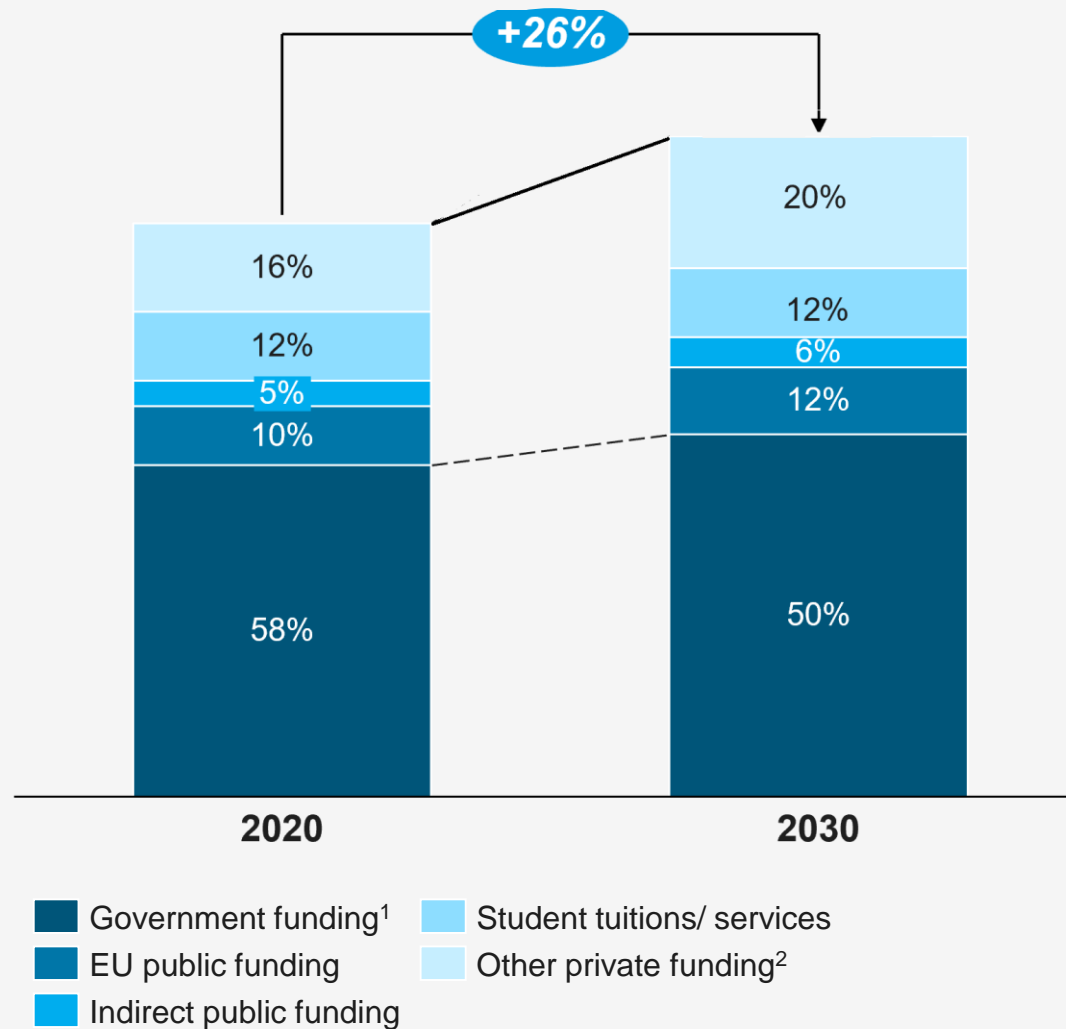
# Funding: Financial sustainability will be achieved through income growth and diversification.

Detailed underlying assumptions can be found on the next chapter.

Note: at constant prices  
1. Increase in Government funding in proportion to the increase in number of students; Assumed to be equally matched by an increase in costs; 2. Includes projects with private third-parties, lifelong learning, donations, *Rede de Parceiros* fees, space rental and finance income  
Source: Kearney analysis

## Diversify sources of income and investment in line with IST's vision for the future

Income sources (M€)



# 1.

## IST 2030: our vision to become a leader in Europe

1.1 IST mission, values and vision

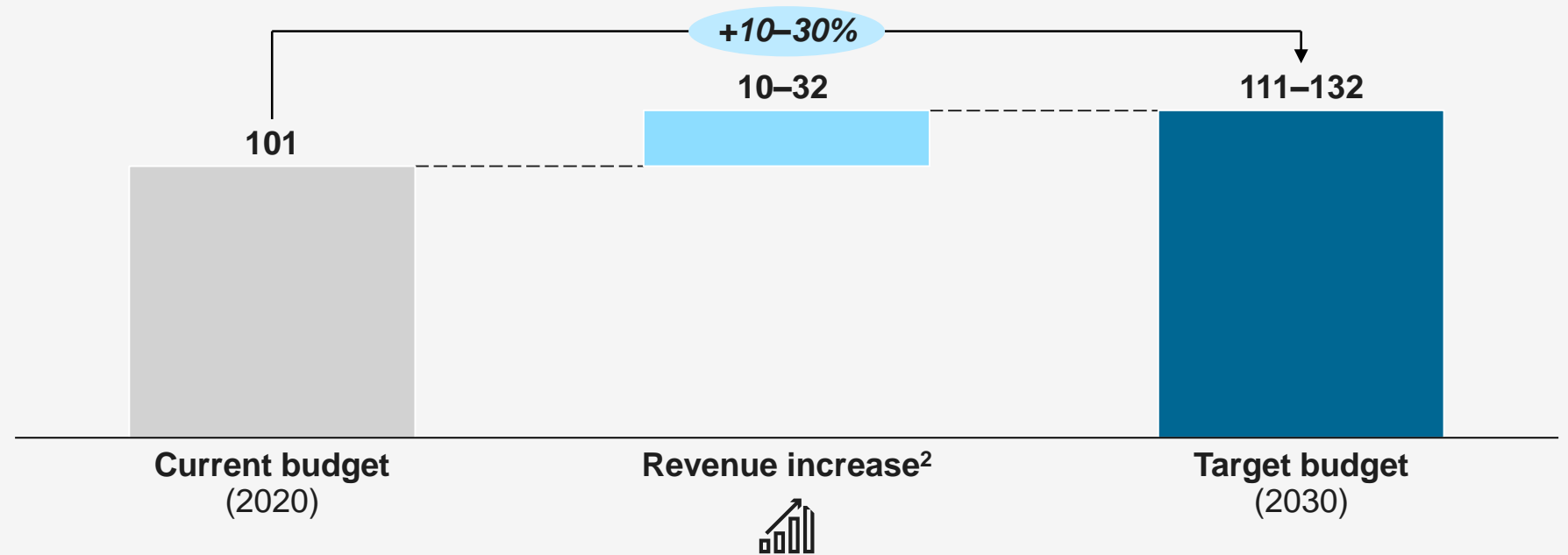
1.2 Strategic objectives and priorities

**1.3 High-level business plan impacts**



# IST can increase its budget by up to 30% through several revenue levers.

## High-level business case estimation<sup>1</sup> (M€)



HIGH-LEVEL ESTIMATIONS

### Revenue drivers

- Tuition fees revenue:
  - **Adjusting MSc tuitions** in line with local peers
  - Increase share of **international students**
- **15%-40% increase on other non-governmental funding** (excl. all tuitions)<sup>2</sup>, by:
  - Increasing **research funding**
  - **Expanding lifelong curricula** (executive education and summer courses)
  - Fostering alumni and industry partners **donations**

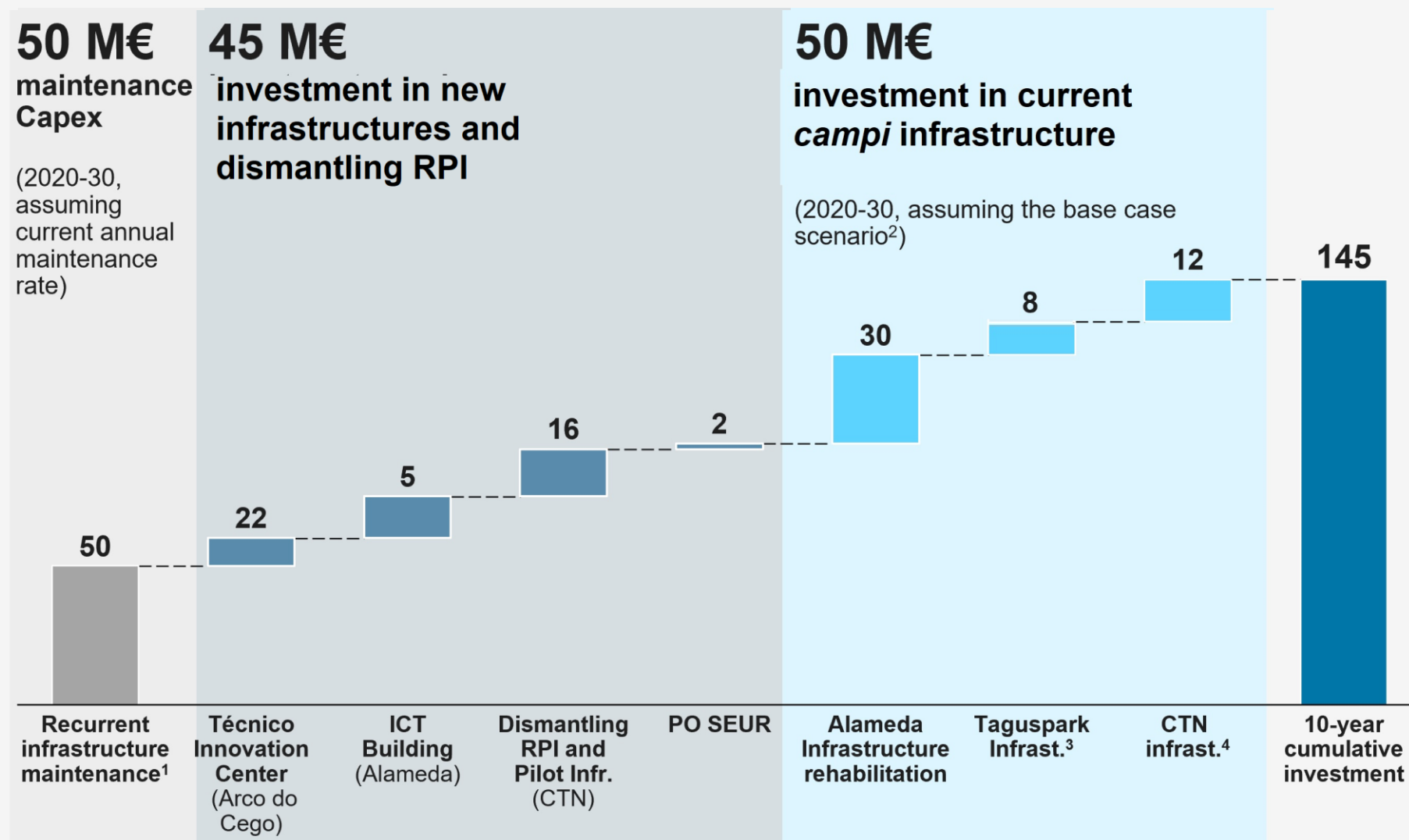
1. At constant prices; Increase in Government funding assumed to be equally matched by an increase in costs;  
2. Includes research, institutional and alumni donations, services provision, Rede de Parceiros' membership fees, lifelong learning and student services revenues  
Source: IST ("Plano de atividades IST 2020", "FCT Tabela de Valores SMM 2021", "IST\_docents e investigadores\_carreira e convidados\_2021", IST's tuition fees, "Base de dados cursos + alunos", "Plano de Negócios IST"); Kearney analysis





**IST will invest approximately 100 M€ in infrastructure expansion and renovation until 2030**

## 10-year cumulative infrastructure investment (M€; 2020-30)



Note: at constant prices

1. Assumes a constant recurring investment of 5,1 M€ per year based on the cost items in the Plano de Atividades 2020 "Edifícios – Conservação e Recup.", "Construções diversas", "Equipamento administrativo", "Outros equipamentos básicos"; 2. Assuming in 2026-2030, IST has additional proceeds of 5M€ (2026), 7,5M€ (2027), 10M€ (2028), 15M€ (2029) and 20,6M€ (2030) vs today (2020); 3. Based on Taguspark's Strategic Plan; 4. Based on CTN's Strategic Plan

Source: IST ("Plano de Atividades 2020", "Plano\_Estrategico\_CTN\_20\_30\_final", "PlanoEstrategicoTagus2030"), Kearney analysis

# 2.

## Taking action

2.1 Implementation governance

2.2 Action plan and monitoring KPIs

2.3 Communication plan



# Chapter summary

**The implementation of IST' Strategic Plan will require a solid governance structure:**

- A Project Management Office appointed by Management will lead and monitor execution
- The Strategic Plan leader and sponsor will be the President of IST
- Selected members of IST's Conselho de Gestão, Conselho Pedagógico and Scientific Council will be the leaders of the Plan's 34 individual initiatives

**A time-bound and detailed action plan will support implementation**, backed by strategic KPIs and 5/10-year targets which will help IST track execution

**The Strategic Plan communication should be leveraged to mobilize the IST community towards a new shared vision:**

- Distinct stakeholders will require different messages and communication channels – from face-to-face meetings to mass/ targeted media channels
- Two main content materials will be leveraged by IST – a visual presentation that informs on IST's vision and ten-year Strategic Plan and a short corporate video to inspire the IST community

# 2.

## Taking action

### 2.1 Implementation governance

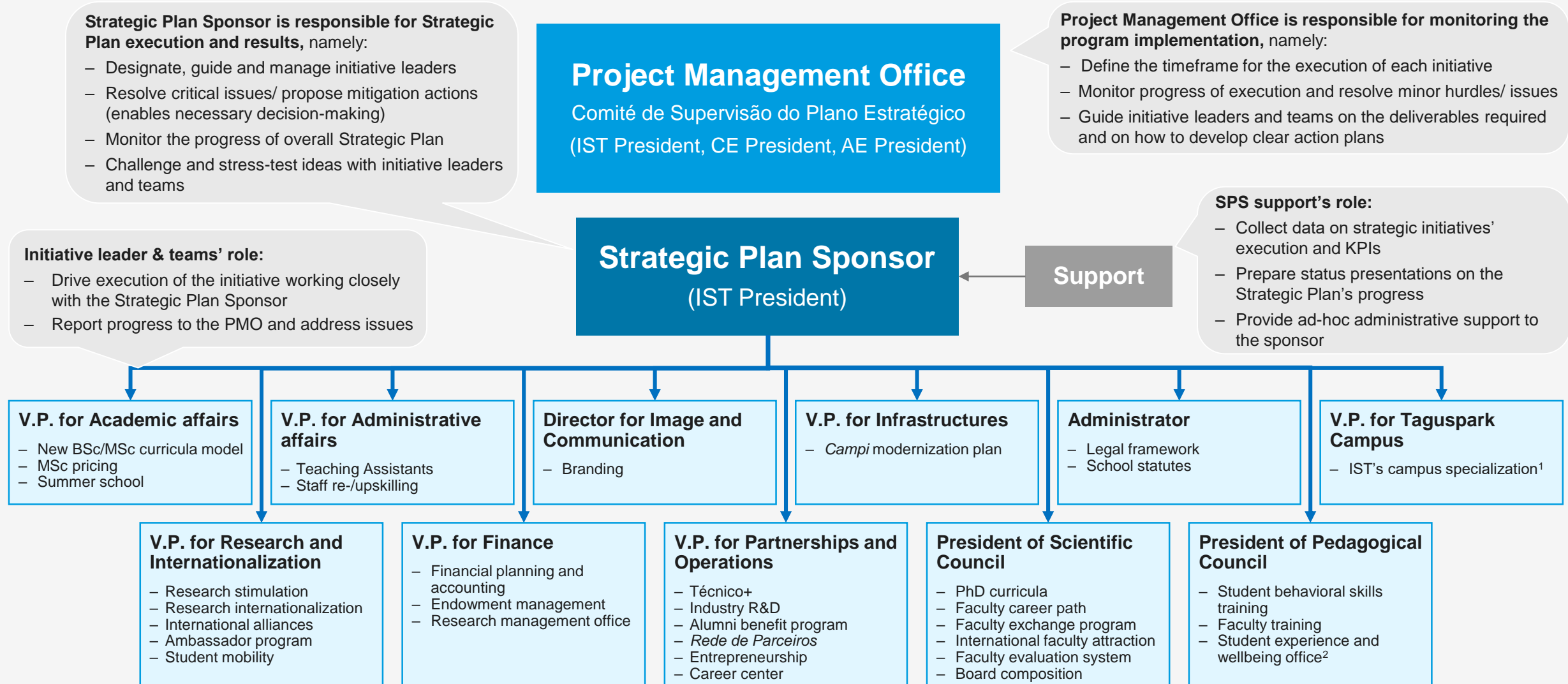
2.2 Action plan and KPIs

2.3 Communication plan









# A Strategic Plan PMO with clear responsibilities and sponsorship will lead and monitor execution.



**Execution should be monitored closely through frequent meetings.**

Forum 	Meeting frequency 	Participants 	Responsibilities 
<b>Steering Committee</b>	Biannually	<ul style="list-style-type: none"> <li>– PMO</li> <li>– Conselho de Gestão</li> </ul>	<ul style="list-style-type: none"> <li>– Follow-up global implementation advance and KPIs</li> <li>– Discuss potential solutions to mitigate main risks and hurdles (enable necessary decision-making)</li> <li>– Steer initiatives &amp; decide on assigned resources</li> <li>– Challenge and stress-test ideas/ initiatives</li> </ul>
<b>Strategic pillar status meetings</b>	Bimonthly	<ul style="list-style-type: none"> <li>– Strategic Plan Sponsor</li> <li>– Initiative leaders</li> </ul>	<ul style="list-style-type: none"> <li>– Monitor implementation advance vs. defined milestones and KPIs</li> <li>– Ensure initiative alignment and interdependency coordination</li> <li>– Discuss and challenge the progress of each initiative within the strategic pillar</li> <li>– Discuss potential solutions to mitigate minor risks and hurdles</li> <li>– Guide initiative leaders to develop clear action plans and on their deliverables</li> </ul>
<b>Initiative follow-up (per initiative)</b>	Monthly	<ul style="list-style-type: none"> <li>– Initiative leader</li> <li>– Initiative team</li> </ul>	<ul style="list-style-type: none"> <li>– Drive execution of the initiative working closely with the pillar's Sponsor</li> <li>– Prepare progress reports</li> </ul>

# 2.

## Taking action

2.1 Implementation governance

**2.2 Action plan and KPIs**

2.3 Communication plan



# Initiatives' sequencing consider four main factors.

## Momentum

Prioritize ongoing initiatives to maintain implementation efforts and momentum

## Workload management

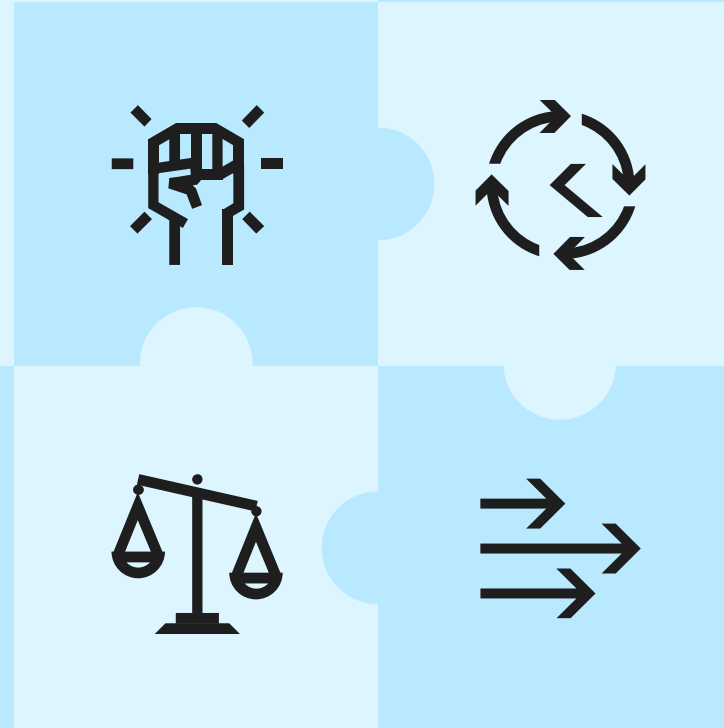
Balance workload efforts of initiative leaders over the 5-year time span

## Impact vs. effort

Prioritize initiatives based on perceived impact and implementation effort trade-off

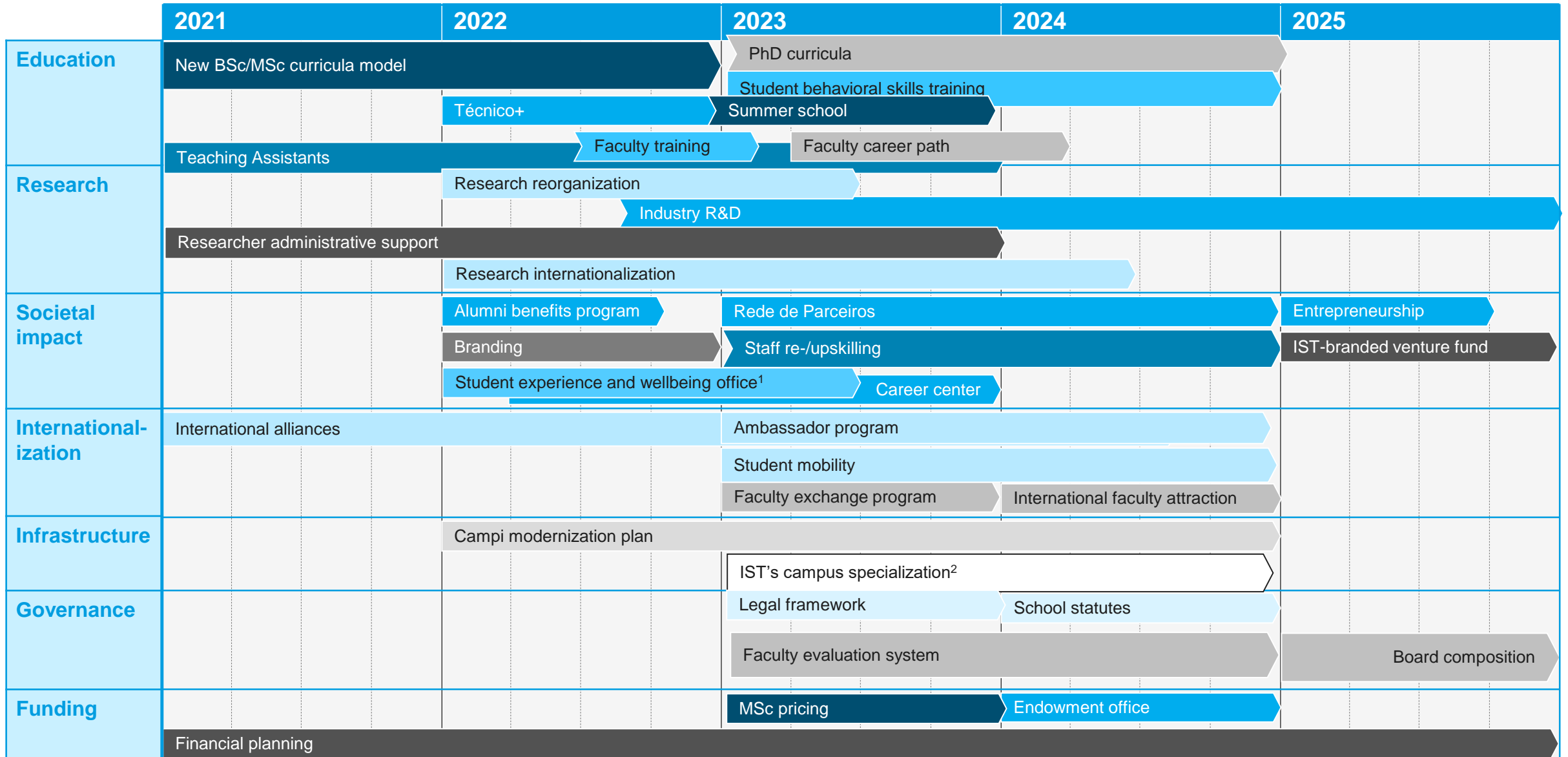
## Interdependencies

Sort initiative implementation order considering interdependencies









# New Strategic Plan comprises 34 initiatives with distinct leaders.



1. Includes V.P. for Information and Communications Technologies and V.P. for Administrative affairs as co-leaders; 2. Includes V.P. Loures Campus as a co-leader  
Source: Kearney analysis

V.P. Acad.  
 V.P. Admin.  
 V.P. Partn. & Ops.  
 Pres. Ped. Council  
 V.P. Res. & Int.  
 Admin.  
 V.P. Finan.  
 Dir. Img. & Comm.  
 Pres. Scient. Council  
 V.P. Infra.  
 V.P. Tagus-park C.

# Education: Main change in learning curricula has already been implemented, remaining initiatives will be launched by 2024 (1/2).

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Learning curricula and methods	<b>1.1. Implement a new curricula model and pedagogical practices (unbundle MSc and promote project-based learning)</b> Identify process changes required to unbundle integrated MSc programs Design fast-track admission process for IST's students in defined BSc and MSc program pairs to retain talent Define the flexibility model allowed throughout <i>Universidade de Lisboa</i> Design projects to be integrated in courses' curricula, leveraging industry partners when applicable Launch communication plan to promote and inform students about the new learning methodology Formalize, communicate and launch new model						V.P. Academic affairs
	<b>1.2. Promote student behavioral skills training through new mandatory minor curricula</b> Identify and select key topics to be offered in new minors (e.g. public-speaking skills) Select Professors/ speakers to develop curricula content and dynamics Define when these minors could be offered within the academic calendar and launch						President Pedag. Council
	<b>1.3. Restructure PhD curricula and programs to promote flexibility</b> Interview students and Professors to identify pain-points of existing programs Assess national and international PhD best practices and evaluate the IST's gap Identify, detail and develop initiatives that can promote PhD flexibility in line with international trends						President Scient. Council President Pedag. Council
Lifelong curricula	<b>1.4. Promote executive education offering (Técnico+)</b> Review existing course contents and formats and design course bundles Design flexible course modules to offer tailored trainings to large corporates Review and redefine the pricing strategy Develop a marketing plan and launch a communication campaign to promote offering to alumni/ Rede de Parceiros						V.P. Partn. and Ops.

# Education: Main change in learning curricula has already been implemented, remaining initiatives should be launched by 2024 (2/2).

Continuous efforts

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Lifelong curricula	<b>1.5. Create summer school program</b>						V.P. Academic affairs
	Conduct market assessment to identify relevant (demanded) themes to be offered in summer schools						
	Select Professors/ speakers to develop course content and dynamics						
	Define course calendar(s) and pricing						
Faculty	Launch communication campaign to promote offering(s) in high schools and non-engineering universities						V.P. Admin. affairs
	<b>1.6. Expand the number of Teaching Assistants, staffed by PhD and MSc students</b>						
	Define scope of Teaching Assistants' support and detail the function's objectives						
	Define Teaching Assistants' compensation and career progression prospects						
	Launch recruitment process for Teaching Assistants targeting top MSc and PhD students						President Pedag. Council
	<b>1.7. Offer short-courses of complementary skills to Professors (e.g. Digital tools, communication, entrepreneurship, ...)</b>						
	Assess best practices and interview Professors to identify skill needs						
	Select Professors/ speakers to develop course content and dynamics						
	Define when these trainings could be offered and launch them						President Scient. Council
	<b>1.8. Review faculty career path and incentives to increase meritocracy</b>						
	Review system criteria to increase and further differentiate faculty's compensation based on yearly evaluation						
	Define a fast-track career roadmap for top performers (as per specific criteria defined)						
	Promote the differentiation of progression based on career path						
	Launch communication campaign to promote offering(s)						

**Education:**  
Strategic KPIs  
and targets  
aligned with IST's  
objectives will  
track  
implementation  
execution.



KPI	IST today	Targets	
	2020	2024	2028
Share of courses including project-based grading <sup>1</sup>	38%	42%	50%
Ratio of Teaching Assistants per Professor	0,3	0,5	1,0
Number of Executive Course students	300	1.050	1.575
Number of summer course students	0	240	480
Drop-out rate per year <sup>1</sup>	12%	10%	5%
Average years until BSc program conclusion	4,2	3,9	3,5
Teaching staff quality score on QUC	76%	78%	80%

1. Weighted average for first and second cycle students

Source: IST ("IST\_docents e investigadores\_carreira e convidados\_2021", "Base de dados cursos + alunos", "Facts and Figures 2020", "QUC Global Results of 2nd Semester of 2020/2021", "r3a\_licenciatura\_bolonha\_2019\_20", "r3a\_mestrado\_bolonha\_2019\_20", "r3a\_mestrado\_integrado\_2019\_20"); Kearney analysis



# Research: Efforts to review the organization of Research will be concentrated in 2022 and 2023.

Continuous efforts

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Research organization	<b>2.1. Define new scientific research organization model</b> Identify IST's research units where greater industry collaboration may apply For selected research units, create an interface structure that links the research teams to the industry on middle tier TRL projects Select and incorporate top tier faculty members with industry experience in the interface center Review the overall organization of research units and identify actions and changes required to improve units' evaluation Promote "excellent" and "very good" FCT evaluations on all research units, fostering repositioning and/ or mergers of smaller units, if needed						V.P. Research and Internat.
	<b>2.2. Create/ manage administrative support for researchers (e.g. application and post-awarding contracts)</b> Analyze and map the end-to-end research workflow process and identify low-value added and time-consuming tasks Select/ recruit potential members to create an administrative research support team for selected low-value added sub-processes Detail required procedures, train selected team members to incorporate this new area and launch this new team						V.P. Finance
Research impact	<b>2.3. Promote joint R&amp;D projects driven by corporate partners</b> Create an industry R&D development role that actively screens for collaboration opportunities with industry partners Launch communication campaign to promote the new interface Conduct meetings with alumni and Rede de Parceiros to identify potential R&D collaboration opportunities Leverage corporate events and conferences with industry partners to promote IST's research results and findings						V.P. Partn. and Ops.

# Research: Internationalization of research will be one of the priorities for 2022.

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Research impact	<b>2.4. Improve participation in internationally-funded projects that solve relevant world problems</b>						V.P. Research and Internat.
	Reinforce project manager role to coordinate and identify opportunities in different scientific areas						
	Analyze thoroughly research funding opportunities in Europe (and other regions) and assess which opportunities are applicable to IST's context						
	Define a strategy for IST to target selected opportunities (i.e. which departments should leverage the opportunities identified and how)						
	Address international partner universities to launch joint research project applications (where applicable)						

**Research:**  
**Research**  
**initiatives’**  
**implementation**  
**can be tracked**  
**by measuring the**  
**number of**  
**(international)**  
**projects, the**  
**funds generated**  
**and the quality of**  
**research.**



KPI	IST today	Targets	
	2020	2024	2028
Share of new internationally funded projects per year	~1/3	1/2	2/3
Average research funds raised per faculty member	63 K€	85 K€	100 K€
Share of Professors with active research projects	< 15%	45%	75%
H-index over the last 3-year period	72	73	75

# Societal impact: Strategic initiatives to improve societal impact will require continuous efforts after launch (1/3).

Continuous efforts

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Sense of belonging	<b>3.1. Develop an IST alumni benefits program (e.g. workshops, events, career support, school support)</b>						V.P. Partn. and Ops.
	Analyze potential portfolio of value-added services that can be provided to IST alumni, based on best practices						
	Define product bundles and potential pricing for alumni (e.g. career services, events, perks, course discounts,...)						
	Launch communication campaign to promote the Alumni benefit program						
Industry ties	<b>3.2. Expand portfolio of value-added services offered to the Rede de Parceiros</b>						V.P. Partn. and Ops.
	Conduct interviews with alumni and Rede Parceiros to explore possible collaboration opportunities						
	Define scope of action, pricing and/or conditions of additional service offerings						
	Launch communication campaign to promote the new service offering						
Entrepreneurship	<b>3.3. Promote (and monetize) entrepreneurship within IST's students</b>						V.P. Partn. and Ops.
	Analyze the need to add entrepreneurship courses/ electives to IST's curricula as a way to foster this mindset						
	Develop a networking platform with mentors and stakeholders (e.g. finance, legal, investors) to support IST's founders and communicate it to the community						
	Select and invite target stakeholders from the alumni network, Rede de Parceiros and entrepreneurship space to integrate the IST's mentors network						



# Societal impact: Strategic initiatives to improve societal impact will require continuous efforts after launch (2/3).

Continuous efforts

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Entrepreneurship (Cont.)	<b>3.4. Establish a privately-funded venture fund with IST branding<sup>1</sup></b>						V.P. Finances
	Organize meetings with alumni-related investment funds to assess the opportunity to create an IST branded private fund for start ups						
	Align the role of IST with the private fund, agree on the terms and on a communication plan						
	Leverage IST's contacts and brand to support the investment raising, as well as the start-up scouting process						
	Launch communication campaign to promote reestablished investment fund						
Branding	<b>3.5. Strengthen IST's marketing and external communications department (branding)</b>						Director Image and Comm.
	Review IST's value proposition and distinguishing factors to be communicated externally (e.g. unicorns launched by alumni, renown alumni and faculty, papers, etc)						
	Engage with communication agencies to position IST as a thought-leader in the national and international media (traditional and social media)						
	Identify opportunities for IST to host/ participate in large-scale events (e.g. WebSummit)						

1. Exact timings of this initiative may be conditioned by the timings of the fund(s) selected for the partnership  
Source: Kearney analysis

# Societal impact: Strategic initiatives to improve societal impact will require continuous efforts after launch (3/3).

Continuous efforts

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Experience and wellbeing	<b>3.6. Create a “Student experience and wellbeing office”</b> Create a taskforce to analyze and map the end-to-end IST student journey and identify pain-points (both in experience and wellbeing) Define an action plan for this taskforce to solve pain-points identified, review IST administrative processes and streamline internal workflows (e.g. digital tools, secretariat service, etc.) Define and allocate a budget to student-led clubs and associations and to sports activities as a way to further promote wellbeing Collaborate with class student representatives to schedule academic exams and project due dates’ calendar to ease the workload						President Pedag. Council V.P. Admin. affairs V.P. Inform. and Comm. Tech.
	<b>3.7. Develop a program to re/upskill IST staff</b> Interview Professors and staff members to identify pain points and skill needs Select Professors/ speakers to develop course content and dynamics for IST staff Define when these trainings could be offered and launch them						V.P. Admin. affairs
Students’ societal valorization	<b>3.8. Develop new career center to foster student’s societal monetization</b> Review existing career service department objectives and assess the need to reinforce the team Review IST's role in supporting job applications - namely, establish office hours to clarify doubts and support students (e.g. Resume review) Identify pitfalls within IST's career center and train/ “professionalize” career center staff to properly guide students in their transition to a professional career Establish career mentorship program leveraging IST's alumni network, Rede de Parceiros and network of mentors Design information sessions and events to introduce students to different career paths leveraging Alumni and Rede de Parceiros (e.g. Host full-day career discovery)						V.P. Partn. and Ops.

**Societal impact:**  
Societal impact initiatives can be monitored by tracking entrepreneurship outcomes (spin-offs/ patents), the number of engaged partners and alumni and student satisfaction.



KPI	IST today	Targets	
	2020	2024	2028
Average number of IST born spin-offs per year, over the last 3-year period	5,4	7	10
Number of patents filed per year	7	20	40
Number of Silver and Gold members in Rede de Parceiros	5	10	15
Number of engaged alumni per year	-	5.000	10.000
Number of alumni who contribute financially to IST per year	~500	2.000	6.000
Average student IST promoter score	6,7	7	8

Source: IST ("IST\_docents e investigadores\_carreira e convidados\_2021", "Base de dados cursos + alunos", "Facts and Figures 2020", "Plano de Atividades 2020", "QUC Global Results of 2nd Semester of 2020/2021", "Relatório e Contas da AAAIST", "Mecenato", "Documento de trabalho draft v7", "rede\_de\_parceiros\_2020", IST student survey); Kearney analysis

# Internationalization: Strategic initiatives to internationalize require continuous efforts, despite initial kick-off efforts (1/2).

Continuous efforts

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Brand awareness	<b>4.1. Further expand alliances/ partnerships with leading engineering schools</b> Expand offering of “double degree” programs with leading schools (e.g. engineering, business schools) Assess the development of joint-degrees with leading universities and make the necessary arrangements Leverage faculty and PhD members on mobility programs to screen and build relationships with leading engineering schools Approach top tier engineering schools to explore possible academic and research collaboration opportunities						V.P. Research and Internat.
	<b>4.2. Design an IST international ambassador program, leveraging students and faculty in outgoing mobility programs</b> Design an “IST international ambassadors” program and identify a value proposition for students (e.g. merchandizing) and faculty in exchange for their promotion of IST Officially launch the "IST international ambassadors" program, clarify and promote its benefits and implications to mobility students and faculty Actively foster their participation in career and academic fairs, presentations and activities in their hosting universities Assess yearly calendar of student fairs in target markets and partner universities and plan for IST's attendance Monitor the success of this program by analyzing the delta of in-coming members from those universities and review program value proposition, if needed						V.P. Research and Internat.
Diverse student base	<b>4.3. Promote international mobility for all students (including PhD)</b> Review and standardize grade equivalence system for returning mobility students Create an information repository of mobility scholarships and support students in their applications Expand international mobility locations leveraging partner universities Organize mobility experience presentations and events of previous mobility students (e.g. international mobility day) targeting future outgoing students						V.P. Research and Internat.



# Internationalization: Strategic initiatives to internationalize require continuous efforts, despite initial kick-off efforts (2/2).

Continuous efforts

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Global faculty	<b>4.4. Promote exchanges for faculty members (sabbatical, invited Professors, ...)</b> Develop and approve a formal mobility package for outgoing faculty members with a clear value proposition (e.g. cost support, impact on the faculty's evaluation) Assess the need for partnerships to support sabbatical costs and approach potential partners Promote previous sabbatical experiences (and scholarships) by connecting past and future outgoing Professors for experience sharing Expand sabbatical mobility offerings with partner universities						President Scient. Council
	<b>4.5. Attract international faculty as invited assistant Professors</b> Identify potential courses where invited Professors could be useful (e.g. to replace absences, to offer a new course, etc.) Identify potential pool of international invited Professors and approach/ invite them Approach international partner universities about mutual exchange of invited Professors						President Scient. Council

## Internationaliz.:

The success of IST's initiatives can be tracked by measuring the share of international students and faculty, as well as the adoption of mobility programs.



KPI	IST today	Targets	
	2020	2024	2028
Share of IST students in international mobility programs per year	13%	20%	30%
Share of enrolled international students per cycle	8%	15%	25%
Share of international faculty members	5%	10%	20%
Share of female students	29%	32%	35%

Note: International students/ faculty are all non-Portuguese people

Source: IST ("IST\_docents e investigadores\_carreira e convidados\_2021", "Base de dados cursos + alunos", "Facts and Figures 2020", "balance\_raides\_2020\_21"); Kearney analysis

# Infrastructure: Strategic initiatives will devote some time to finding the right partners and may take up to 2-3 years.

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Infrastructure modernization	<b>6.1. Develop a modernization plan contemplating all three campi</b>						V.P. Infrastructure
	Identify (nearly) obsolete research infrastructures and equipment (e.g. laboratories, equipment,...)						
	Based on the student journey pain point assessment, select key facilities in need of modernization (study areas, dorms, ...) and assess how social areas could be improved initiated targeting both students and external community usage						
	Estimate the individual costs of modernizing each facility, replacing each obsolete equipment and expanding each social area						
	Prioritize modernization based on the obsolescence level, estimated cost and expected level of impact in the community						
	Elaborate a thorough modernization plan comprising the prioritization done and the solutions for the pain points identified in all 3 campi						
	Identify potential industry partners/ donors who can support the modernization						
Specialized multipolar campi	Evaluate the potential integration of additional businesses within the campi (i.e. gyms, stores, ...) and develop partnerships (if applicable)						V.P. Taguspark Campus V.P. Loures Campus
	<b>6.2. Reassess the level of specialization of each campus considering IST's multipolar context</b>						
	Define a strategy for each campus, aiming to increase their individual level of attractiveness and optimize capacity						
	Identify specific course and research programs to be allocated to each campus, based on space and other constraints						
	Identify and make the necessary arrangements for the campi specialization (e.g. move course-related equipment, adjust classrooms, etc.)						

**Infrastructure:**  
**IST campi**  
**specialization can**  
**be monitored by**  
**assessing the**  
**number of**  
**students and**  
**research**  
**publications at**  
**Taguspark and by**  
**measuring the**  
**investment in**  
**facility**  
**modernization.**



KPI	IST today	Targets	
	2020	2024	2028
Share of students who attend programs taught exclusively at Taguspark	9%	12%	15%
Share of IST's scientific publications and articles developed by Taguspark's research centers	6%	9%	12%
Cumulative investment on facility modernization <sup>1</sup>	-	40 M€	80 M€

1. Excludes corrective maintenance

Source: IST ("IST\_docents e investigadores\_carreira e convidados\_2021", "Base de dados cursos + alunos", "Facts and Figures 2020"); Kearney analysis

# Governance: Initiatives will be developed over the next two years.

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Autonomy	<b>6.1. Assess legal frameworks to gain financial and administrative autonomy</b> Evaluate the trade-offs and implications of adopting different legal frameworks for IST Communicate clearly the results of this legal framework evaluation and discuss them with IST's governing bodies to obtain approval Once a decision is made, obtain legal and business support to make the required changes to the framework						Administrator
Agility and accountability	<b>6.2. Review IST's statutes to foster increased decision-making agility and accountability</b> Assess IST's statutes to identify overlapping responsibilities and inefficient processes Develop a simplified governance model and statutes' proposal and submit to IST's governing bodies for approval If approved, communicate the new model to IST's faculty and launch the new structure						Administrator
	<b>6.3. Align evaluation system's weights with IST's strategic priorities</b> Reflect the Strategic Plan objectives in the faculty evaluation system through the addition of new KPIs and reviewed criteria weights Segment criteria weights according to faculty's tenure and function Include the level of implementation of strategic initiatives on the "university management" evaluation pillar to drive execution						President Scient. Council
	<b>6.4. Attract co-opted members to IST's councils with previous experience in reference universities and/or from relevant industries</b> Define which governing bodies could include additional co-opted members Define co-opted members' compensation package Identify and select target individuals with previous experience in reference universities and/or in relevant industries (e.g. main recruiters and industry R&D partners) Invite selected individuals and formalize their roles						President Scient. Council



# Funding: Strategic initiatives should be implemented between 2022 and 2024; financial planning will be an ongoing need.

Continuous efforts

Theme	Initiative	2021	2022	2023	2024	2025	Leader
Revenue	<b>7.1. Differentiate MSc tuitions, in line with local peers</b>  Review and define a new MSc tuition pricing (also considering distinct pricing structures for high-demand programs), in line with local peers Communicate new tuition scheme to internal IST bodies to obtain approval Launch communication plan to inform other IST stakeholders regarding MSc tuition fee adjustments (e.g. students)						V.P. Academic affairs
	<b>7.2. Create an “endowment office”</b>  Create a taskforce to conduct a market assessment to identify best practices in institutional donation programs and campaigns Define the objectives and functions of the new “endowment office” Select/ recruit members to join this new office and train/ “professionalize staff based On best practices Launch communication campaign to promote institutional donation campaign						V.P. Finances
Financial planning	<b>7.3. Develop a financial plan in line with the Strategic Plan</b>  Develop a financial and budgeting plan that sets long-term financial viability matching resources with the Strategic Plan objectives (adjust if needed) Assess the implications and consequences of strategic decisions, evaluating risks which threaten delivery of the strategy Manage and pursue strategic opportunities for business development						V.P. Finances

**Funding:**  
**IST's revenue diversification strategy can be tracked by measuring non-governmental operational revenue per student, donations and industry-funded R&D.**



KPI	IST today	Targets	
	2020	2024	2028
<b>Operational revenue per student</b> (i.e. Tuition fees, Student Services <sup>1</sup> , Lifelong learning, Space rental and others <sup>2</sup> )	2.000 €	<b>2.350 €</b>	<b>3.000 €</b>
<b>Total donations per year<sup>2</sup></b>	1,0 M€	<b>1,6 M€</b>	<b>2,2 M€</b>
<b>Direct funds raised from the industry to R&amp;D projects</b>	1,8 M€	<b>3,0 M€</b>	<b>4,0 M€</b>

1. Includes budget items "Alimentação e Alojamento", "Atividades de Saúde", "Livros e documentação", "Material de Escritório", "Matérias de Consumo" and "Public e impressos"; 2. Includes budget items "Aluguer de espaços e equipamentos", "Juros", "Outras", "Outros", "Passivos Fiananc – Empr MLP-AC", "Prémios, taxas", "Privadas", "Reposições Não Abatidas", "Vistorias"; 2. Includes institutional and alumni donations and contributions made by Rede de Parceiros' members above established membership fees  
Source: IST ("IST\_docents e investigadores\_carreira e convidados\_2021", "Base de dados cursos + alunos", "Facts and Figures 2020", "Plano de Atividades 2020", "Mecenato"); Kearney analysis

# 2.

## Taking action

2.1 Implementation governance

2.2 Action plan and KPIs

**2.3 Communication plan**



**The communication of the strategic plan is a unique opportunity to mobilize the IST community towards a new shared vision.**

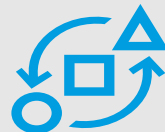
## **Set the direction**

Set and clarify the direction that IST is adopting for the 2020-2030 period



## **Promote change**

Promote change by articulating unified objectives, with a clear and consistent messaging



Source: Kearney analysis

## **Unify the actions**

Unify the actions and behaviors among faculty, staff and other stakeholders with consistent principles and messaging

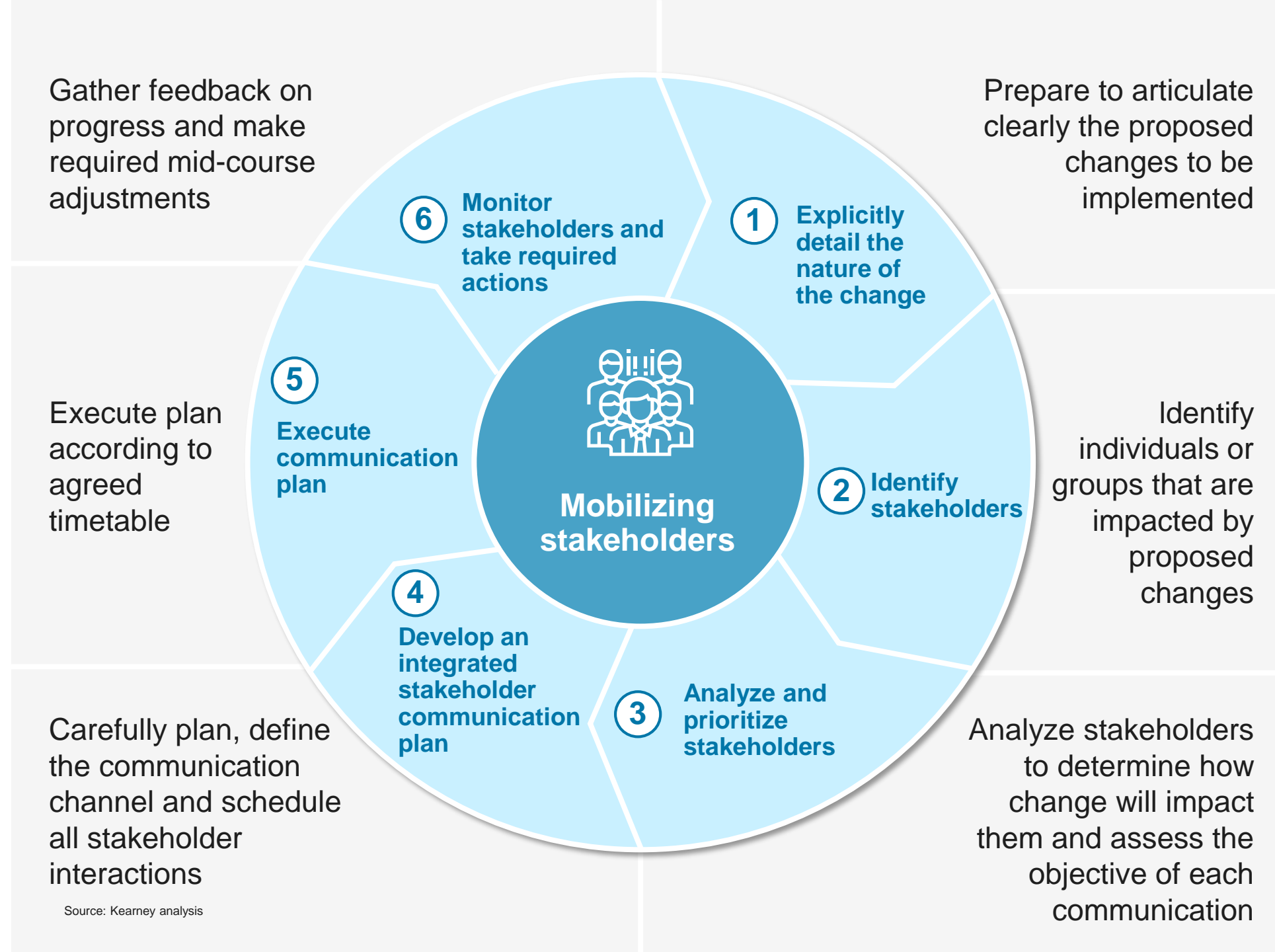


## **Guide engagements**

Provide guidance to school leaders for their internal and external engagement initiatives

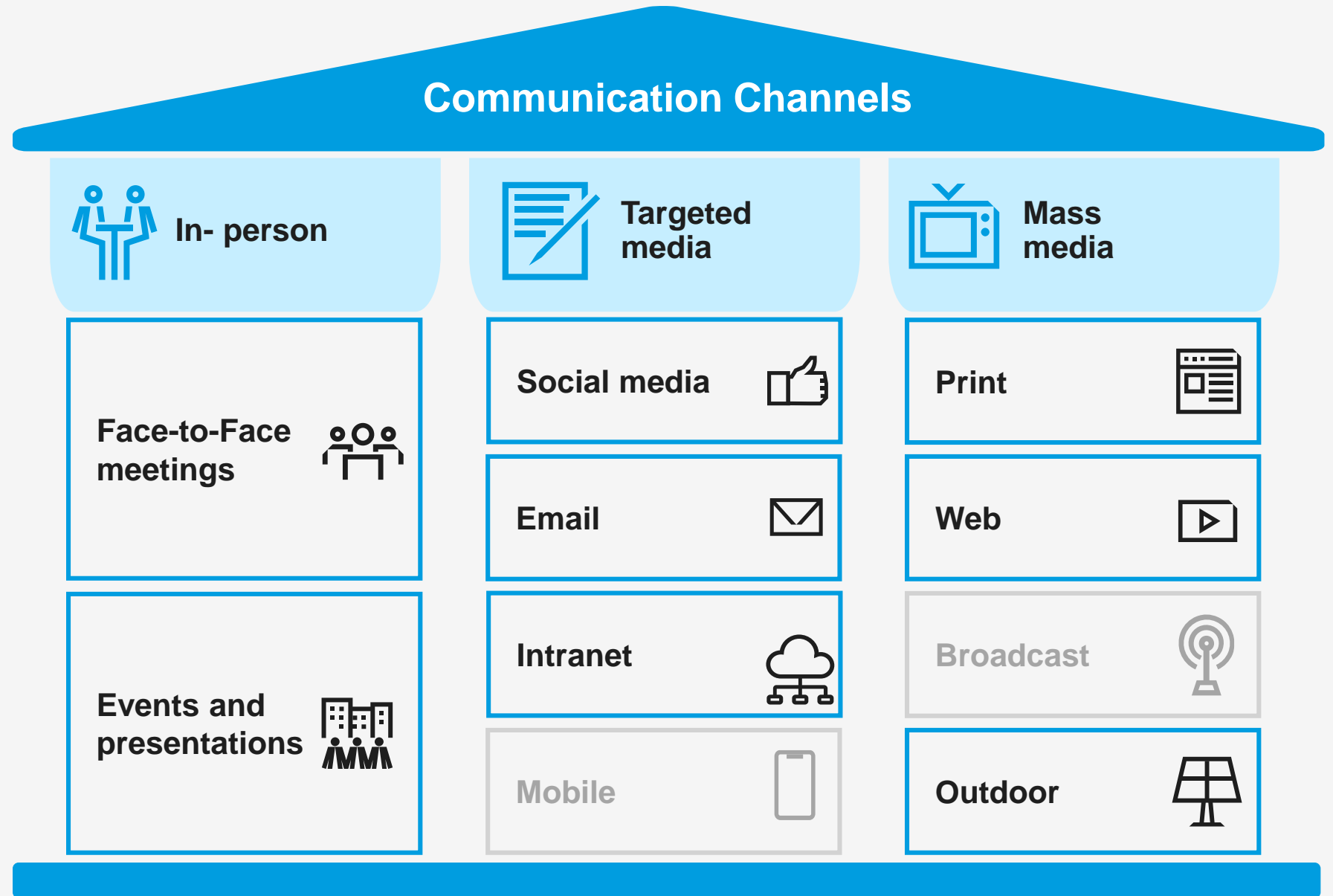


**Community buy-in will be the product of a thoughtful and well-executed stakeholder engagement approach.**





Engaging the community will require a variety of communication channels.



 Relevant for IST – detail in the following pages