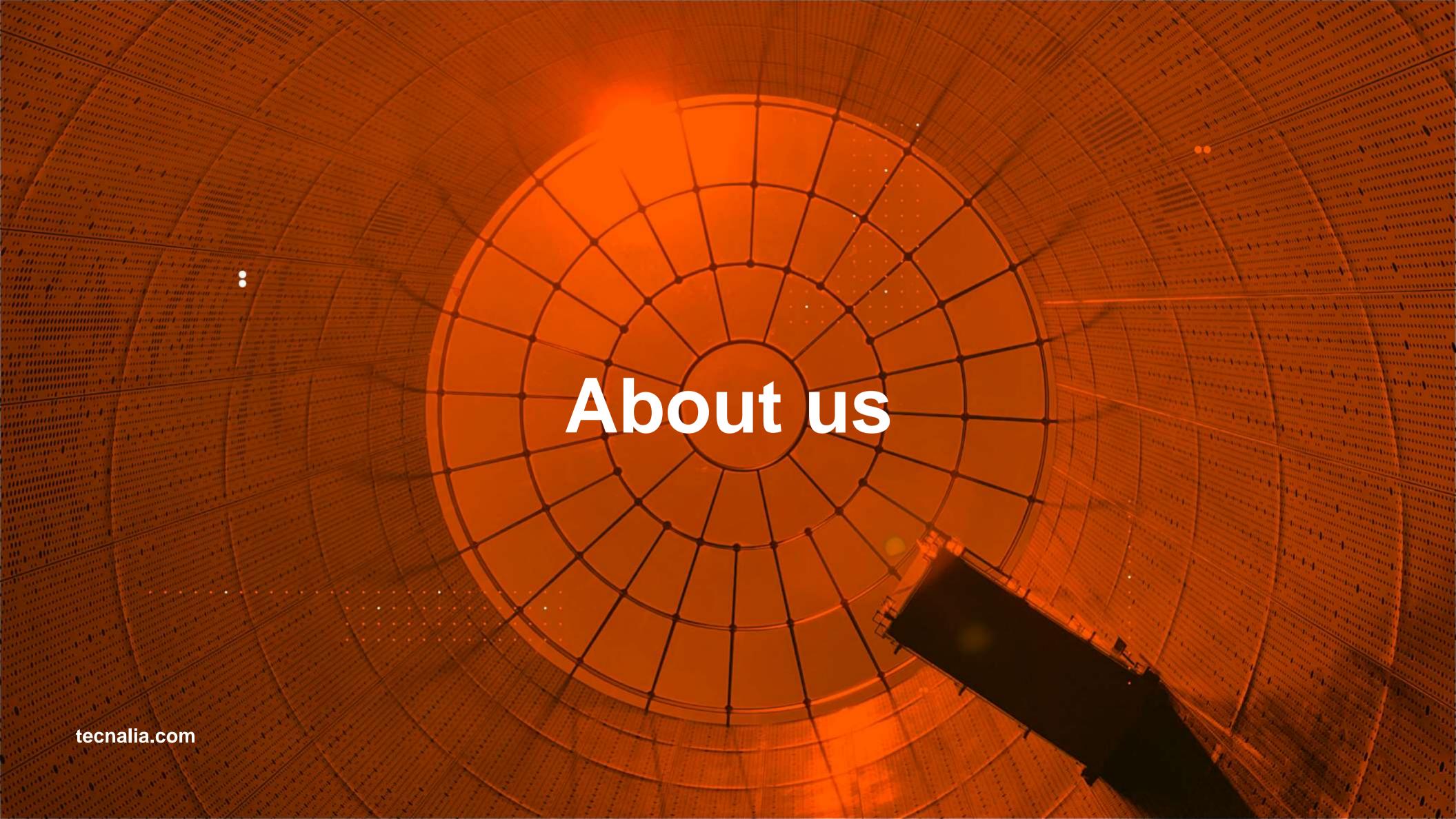


Creating Growth: Improving Society

.

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TECNALIA is the largest applied research and technological development centre in Spain, a European benchmark and member of the Basque Research and Technology Alliance.





Headquarters

Basque Country

Branches

- CádizMadridZaragoza

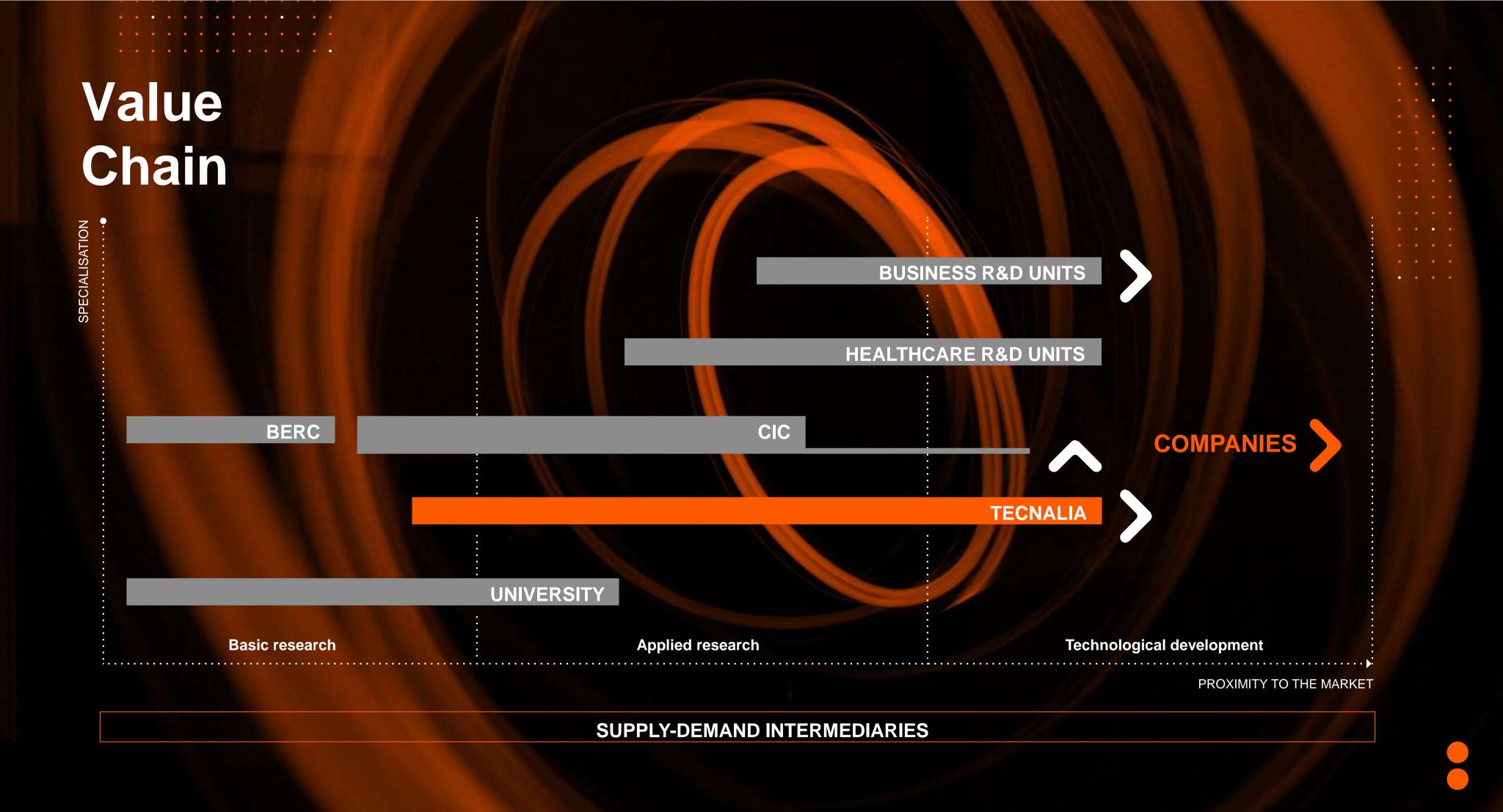
Branches Abroad

- ChinaColombia

- Ecuador
- ItalyMexicoSerbia
- France

About us

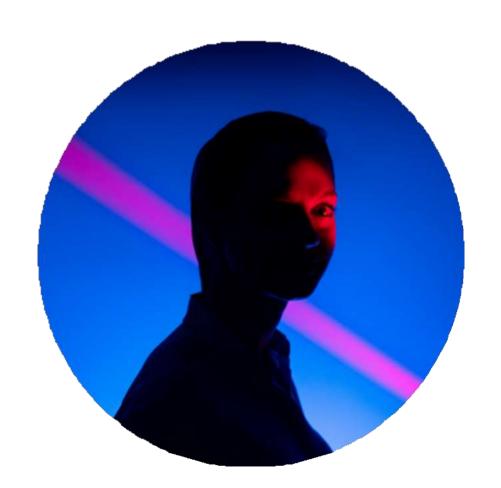
- TECNALIA in SpainCEA in FranceFRAUNHOFER in Germany
- TNO in the NetherlandsSINTEF in NorwayVTT in Finland



Mission

Transform technological research into prosperity.





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Vision

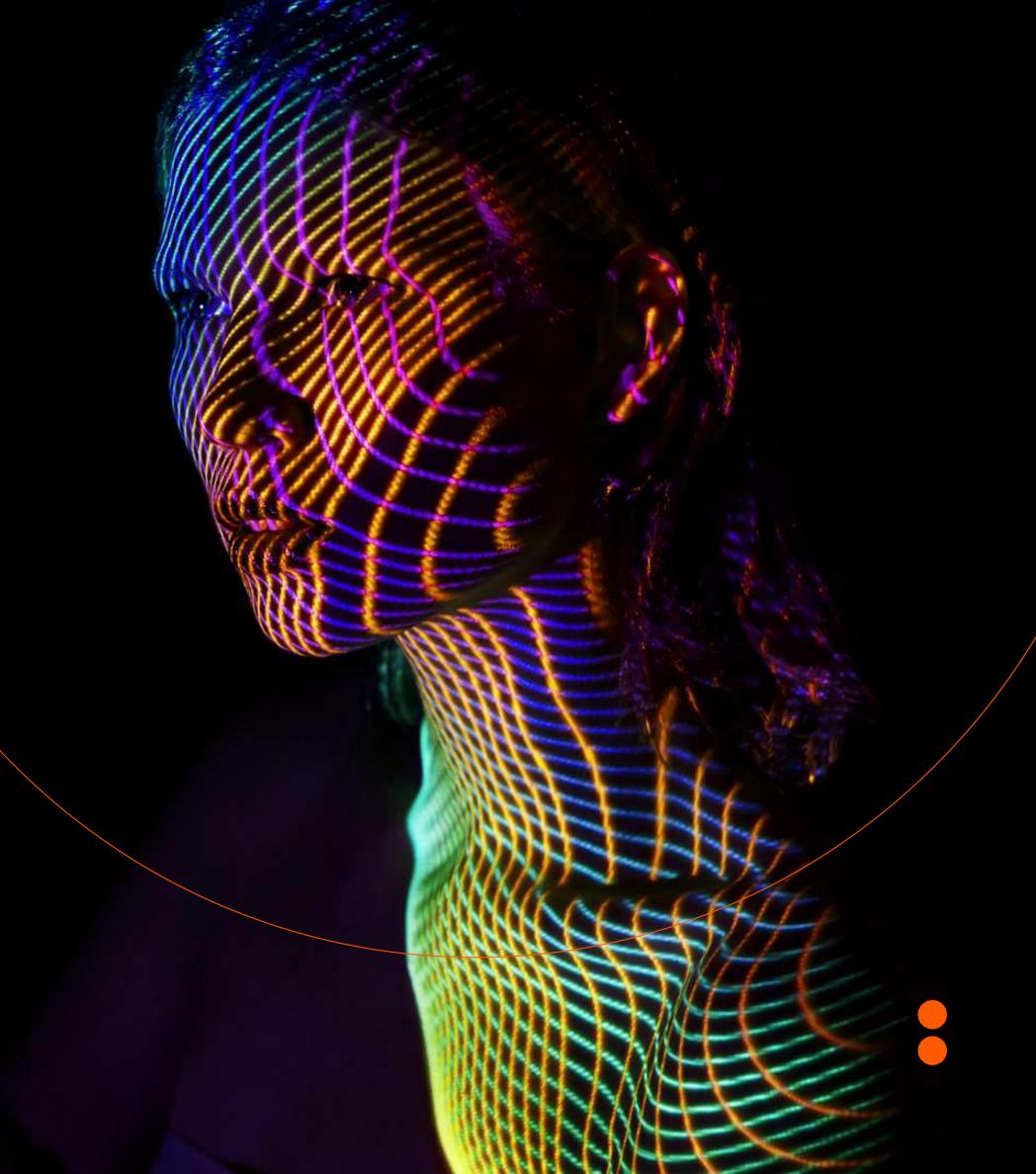
To be the agents of change in companies and society, adapting them to the challenges of a constantly evolving future.





People are behind technology. Generating impact through applied research is only possible if you attract, retain and train the best talent.

We believe in the value of people



People in **TECNALIA**



1464 People on Staff



287

PhDs



56 Men 60%



Different nationalities

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Figures on 31 December 2021

We work with companies and institutions to increase their competitiveness, quality of life of people and achieve sustainable growth.

We transform technological research into prosperity, acting as agents of change in companies and society, adapting them to the challenges of a constantly evolving future.



We are committed to results, always thinking about our clients and facilitating their activity with a close and useful service.

At TECNALIA, we are brave and proactive and we are bold enough to create something new every day.

We collaborate actively. We offer ourselves, support each other and share our ideas to be better, more agile and to create more value.

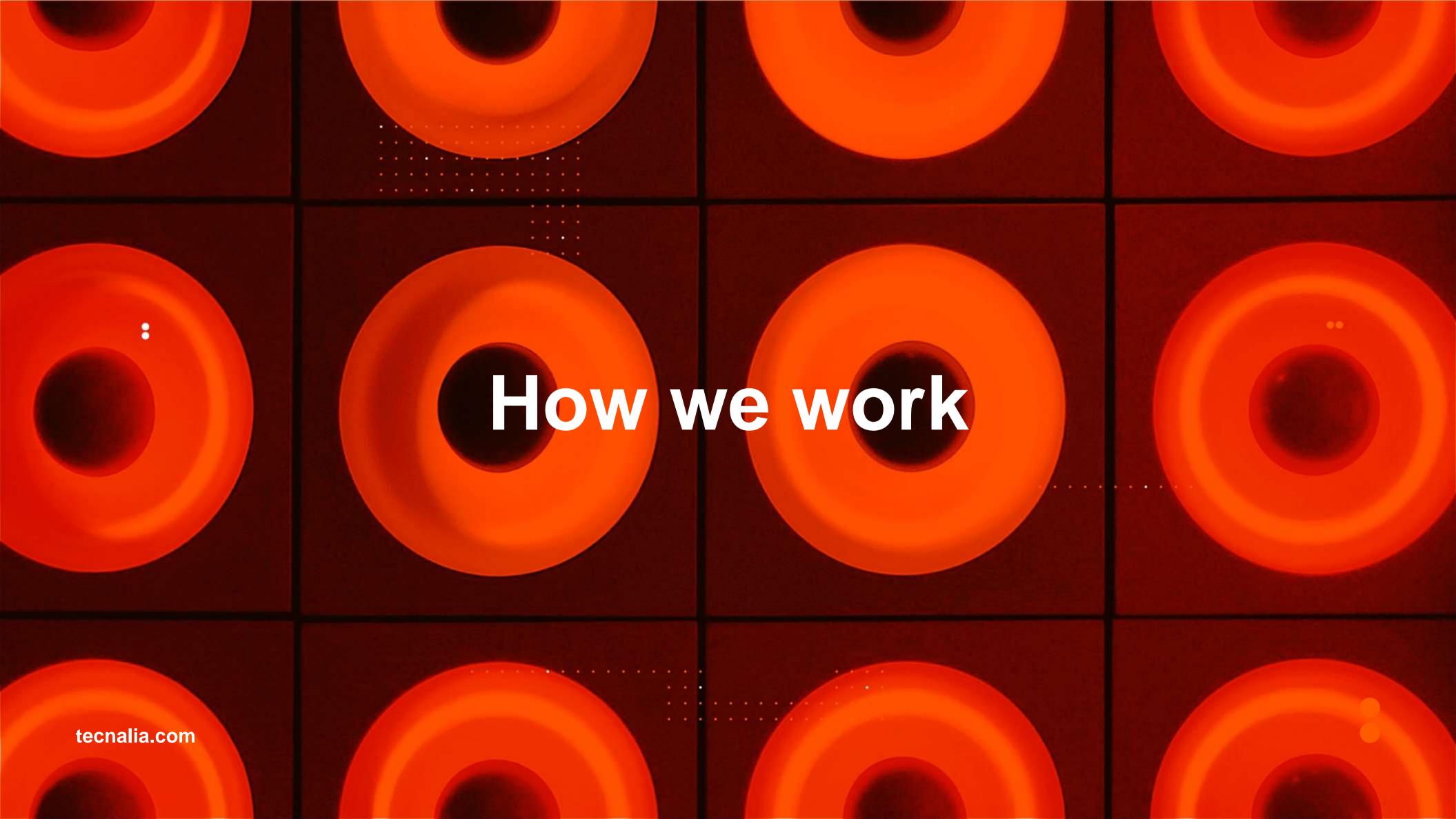


We seek to build a better world through technological research and innovation.

At TECNALIA, we are actively engaged in the generation of wealth for companies and jobs for society.

We also create new developments for unresolved situations. And we do so by combining technologies from different fields to respond to the major global challenges.







Business impact of our activity

For every Euro invested by a company in R&D with us, revenue of €11.89 is produced in its Income Statement.

Company invests in R&D €1 €11.89 Income Statement

For every job position at TECNALIA, 6.39 other jobs are kept in the Basque Country.

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Social impact of our activity

For **every Euro** invested by Basque Public Institutions in TECNALIA, **a GDP of €24.32** is generated.



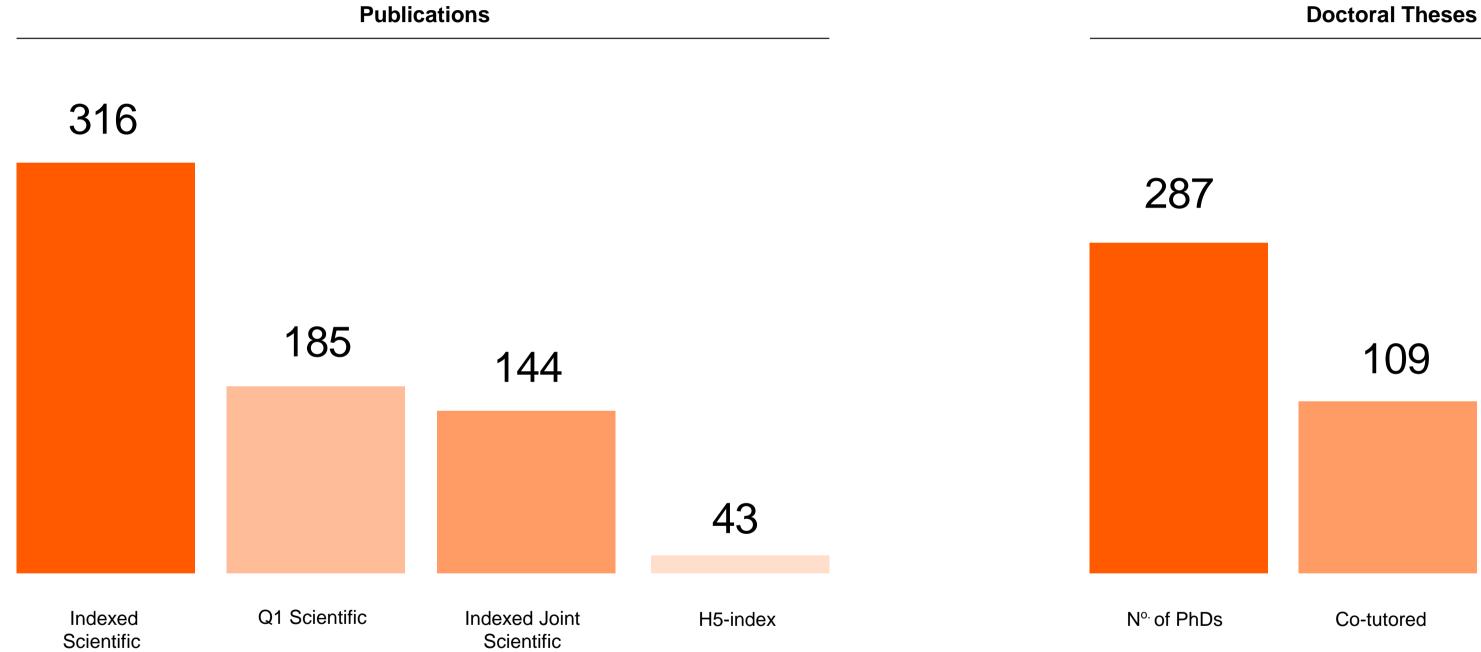
For **every Euro** invested by Basque Public Institutions in TECNALIA, **a tax return of €2.96** is generated.

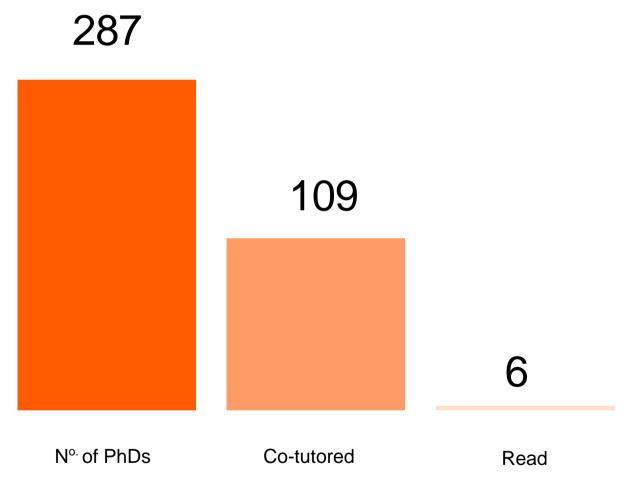


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Technological Specialisation





Figures on 31 December 2021 tecnalia.com

Technological strategy organised in technologies

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TECNALIA organises its **Technological Strategy** around those technologies identified in the Technology Plan. In order to maximise the impact of these technologies, TECNALIA structures them into **transversal technologies** (which may have an impact on more than one market) and **vertical technologies** (with an impact on a single market).

All of them are characterised by their technological relevance, scientific- technological capabilities, market demand and research critical mass to achieve the greatest impact on the market.

.



Specialised technologies

- Adaptation to climate change
- Molecular biology
- Biosynthesis and fermentation
- Structural calculation and fluid-structure interaction
- Air quality and acoustics
- Life cycle and eco-design
- In-service performance
- Reliability
- Galenic development
- Dynamics of offshore systems
- Urban design
- Design and simulation
- Biological assessment

.

- Extraction and encapsulation
- Physics of the building
- Hydrogen
- Fire engineering
- Cementitious materials
- Meteorology and climate
- Energy models
- Semantic models
- Neural interfaces
- Power systems
- Manufacturing processes
- Sustainable chemistry

- Membrane technology and process intensification
- Waste valorisation technologies
- Photovoltaic technologies
- Thermodynamics

.

Transversal technologies

- Automation, robotics and mechatronic control
- Cybersecurity and blockchain
- Computer vision and visual interaction
- Surface engineering
- Artificial intelligence and big data
- METALS: Sustainable metal materials, processes and products
- Nanotechnology
- Polymers, composites and biobased materials
- Embedded electronic systems, power and control electronics
- Software Technologies



Our essence

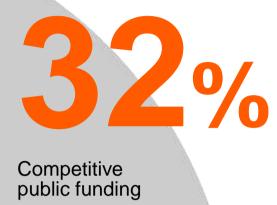
At TECNALIA, we transform knowledge into profit for companies and value for society.

Through R&D and Innovation, we create solutions that generate economic impact on companies, prosperity for the country and value for society, in terms of quality of life and progress.

To do so, we have adopted our claim, which sums up this essence:

Creating Growth: Improving Society

Balance of activities and their funding



Income

120 Million Euros

47%

Private financing

and others

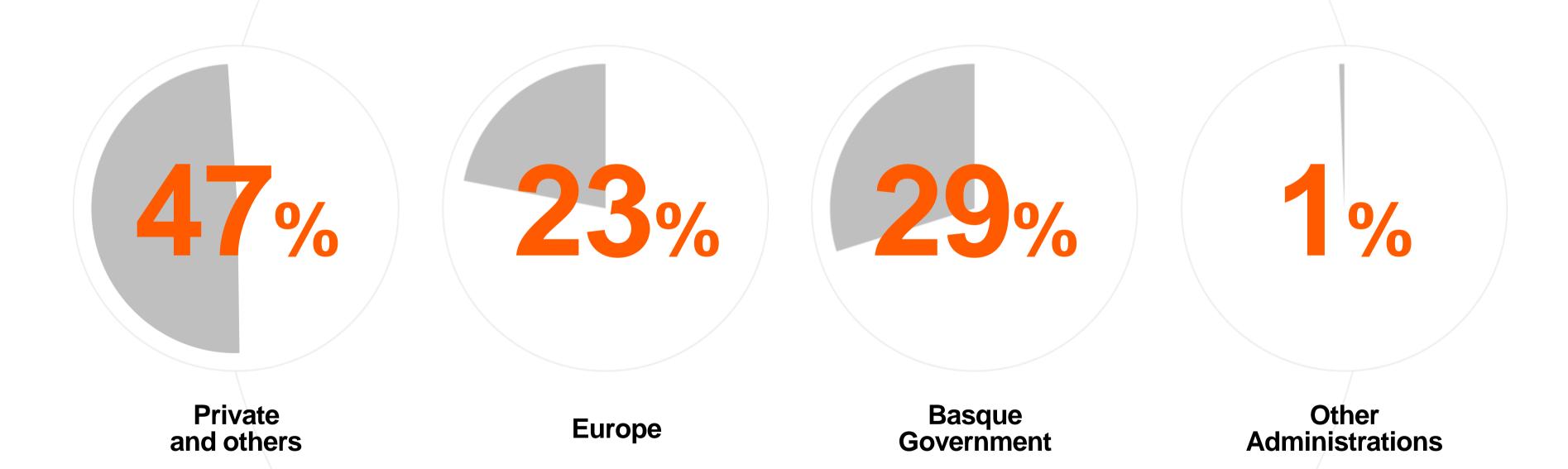
21%

Non-competitive public funding

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Figures on 31 December 2021

Sources of Funding







Our scopes of action are aligned with the sustainable development goals (SDG)

With a multi-sectoral and multitechnological perspective, we listen and work with companies to respond to the major global challenges.

In this way, we are able to generate profit for companies and create value for society.



Smart Manufacturing:

In a changing global scenario, we pursue an aim shared with manufacturing companies from all sectors, making a positive impact on their productivity while increasing the competitiveness of their businesses. To do so, we are committed to smart, flexible and sustainable manufacturing through digitalisation, automation and ecoefficiency as drivers of the change that transforms materials and manufacturing processes.



- Industry 4.0
- Advanced machines, automation and robotics
- Decarbonisation of industry and the circular economy

- New materials and manufacturing processes
- Additive manufacturing



Digital Transformation:

We love designing and deploying the digital processes, products and services of the future in an ever more interconnected and interactive world. Thus, our digital strategy focuses on three drivers: intelligence, security and new value generation models. Thanks to them, we develop a unique proposal in data economy for product manufacturers and integrators based on cybersecurity, blockchain and artificial intelligence.

What can we do for you?

- Artificial Intelligence
- Robotics and cognitive systems
- Advanced systems for interaction and worker 4.0
- High-performance computing for Big Data
- System lifecycle and DevOps

- Cybersecurity and confidence
- Internet of Things (IoT)
- Sensors and actuators
- Computer vision
- Smart maintenance





Energy transition:

We contribute to in-depth energy decarbonisation by developing technological solutions that make renewable energies more competitive, foster smart electrification of energy systems and unleash the potential of hydrogen as a high-value energy vector to be climate neutral by 2050.

What can we do for you?

- Renewable energy
- Smart grids and storage
- Positive energy buildings and districts
- Industry decarbonisation
- Decarbonised mobility

- Digitalisation of energy
- Energy transition materials
- Climate-energy strategy and environmental sustainability



Sustainable Mobility:

00



We design and develop technologies and new business models that contribute to the shift towards a future scenario in which mobility has a low environmental impact and is connected, efficient, safe and inclusive. This includes improving transport vehicles, communication systems and energy infrastructures, as well as their interaction and integration into urban and interurban ecosystems.

What can we do for you?

- Urban air mobility
- Smart mobility management

.

Energy for sustainable mobility

- Transport infrastructures
- Automated driving
- Electric and hybrid vehicles



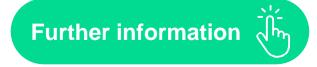
Personalised "Health :

We foster the development of customised products and services in prevention, diagnosis, prognosis, treatment and rehabilitation phases, through an integrated approach that includes genetics, nutrition and physical and social environments, as the main variables that affect people's health.



- Food ingredients and functional compounds
- Healthy foods
- In vitro diagnosis
- Regenerative medicine
- Neuroengineering
- Biomedical product

- Medical robotics
- Digital health and medical imaging
- Pharmaceutical development
- Health and safety wearable devices
- Healthy urban solutions





Urban ecosystem:

We contribute to the positive transformation and development of cities and regions by implementing a set of people-oriented technology innovation solutions to develop smart, low- carbon urban environments.



- Smart eco-materials
- Smart buildings
- Energy in buildings and cities
- Resilience and climate change
- Urban and territorial transformation

- Healthy city
- Urban mobility
- Smart infrastructures
- Circular economy





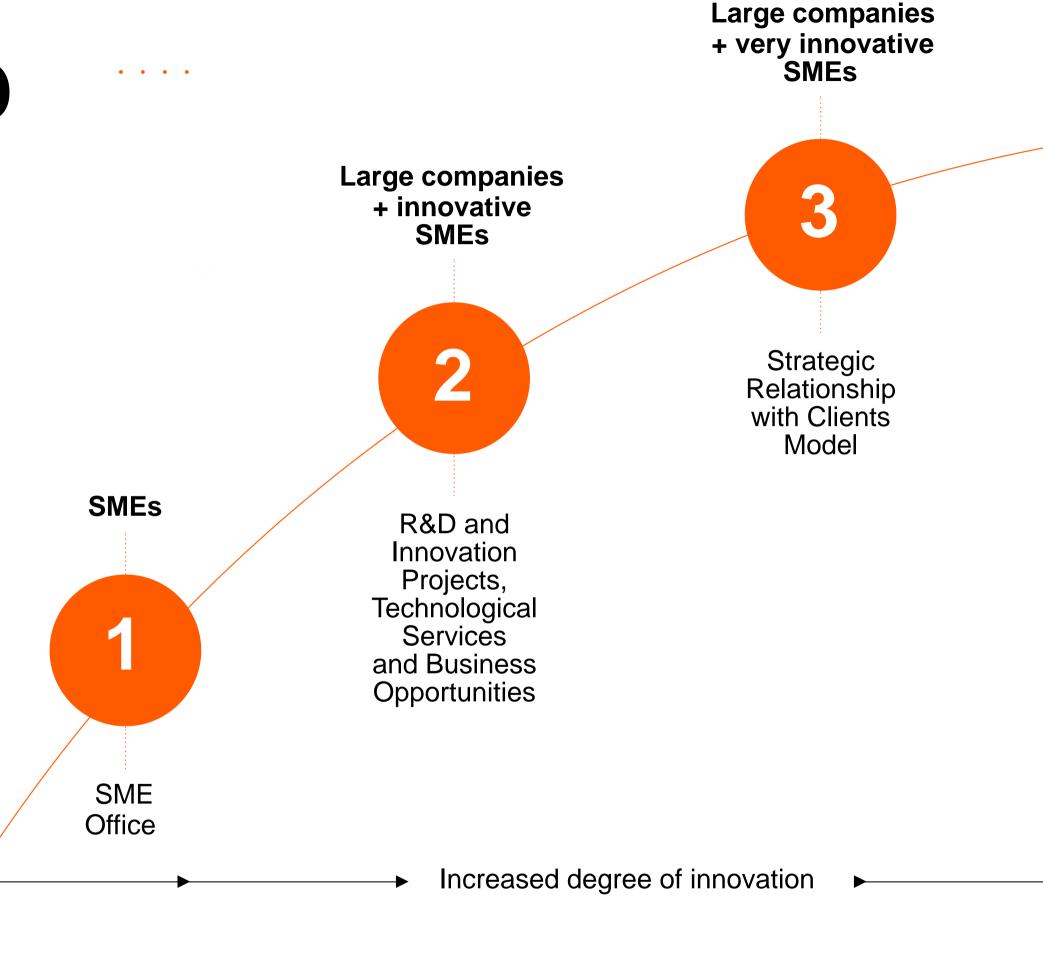




Together, we can provide specific responses to the needs of the future.

Relationship models with companies

TECNALIA's Relationship Models with Companies vary according to their degree of Technological Innovation, adapting to the needs of each Company.



Technological innovation in

companies

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Laboratory services

A team of experts and a set of laboratories which develop, certify and validate processes, systems and products that you need to launch on the market promptly.



Security



Trust



Proximity



R&D and innovation projects

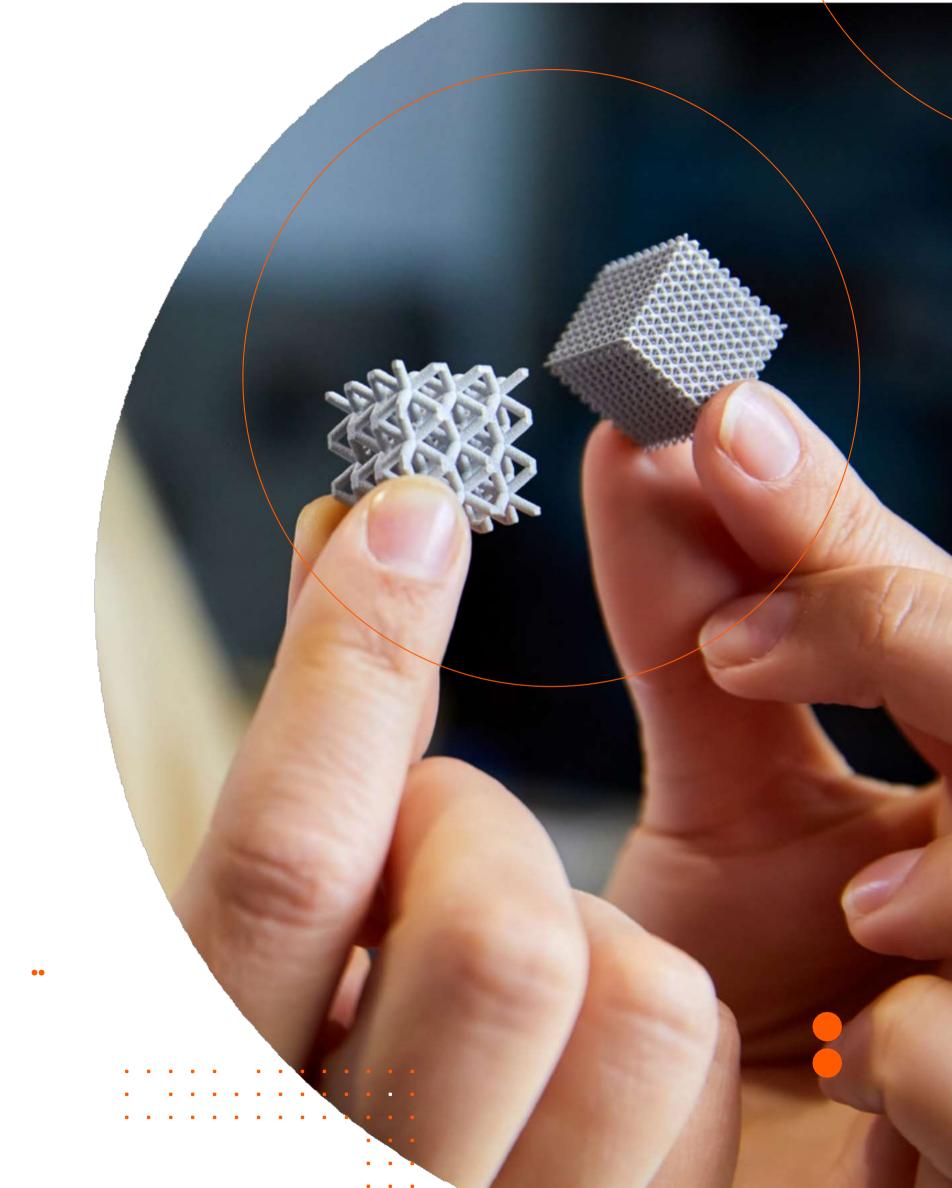
As strategic partners for your company, we develop customised R&D and innovation projects with a sole purpose: to generate impact on your business through technology.







Engagement



Development of investment opportunities

Through **TECNALIA Ventures**, we help you to address your R&D appraisal problems and make your business grow. To do so, we connect you with the three pillars of the technology transfer to market process:



Technological capabilities aimed at improving your income statement.



People with a business profile who are able to turn these capabilities into business.



Investors committed to business development.



Collaboration with companies

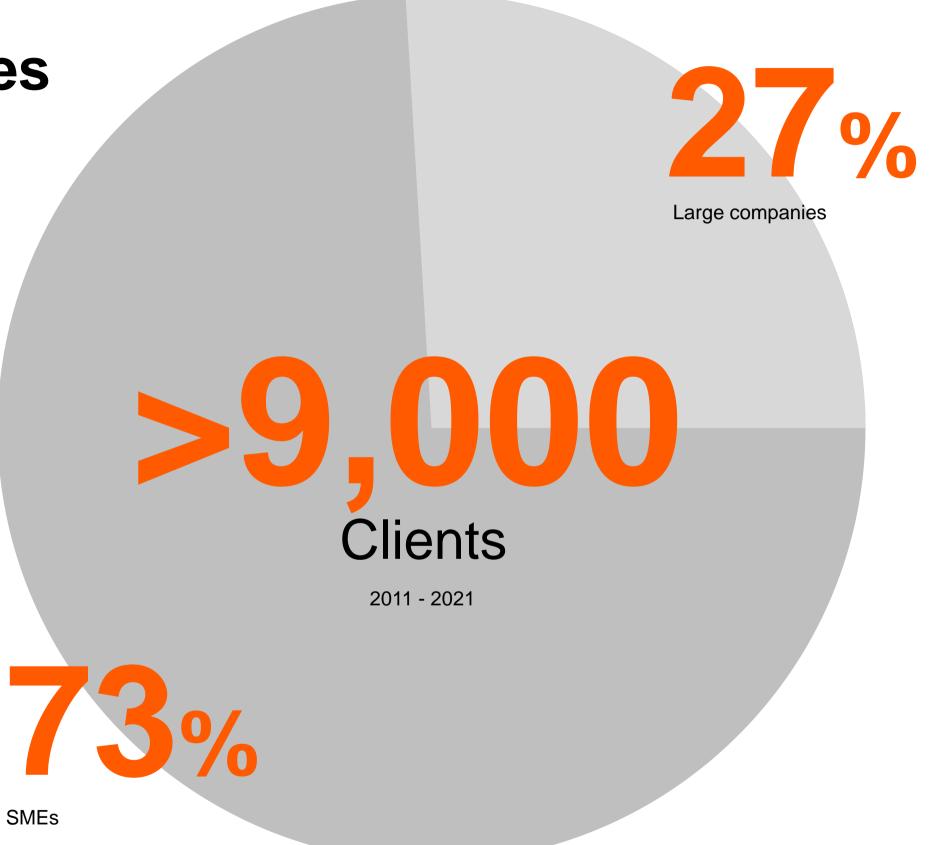
We are committed to the closest collaboration to obtain the highest level of satisfaction for you.

Satisfied clients*

8.7

10

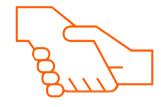
* Client satisfaction index for 2021.



Business engagement

Deeply rooted in the business community with strong institutional backing, TECNALIA has a solid foundation to become your business driver.

Over 100 companies participate in our Governing Bodies.









24

11

8

6

Patron Trustees

Companies

Institutional Trustees

Basque Government, General State Administration, Provincial Councils, UPV/EHU

Appointed Trustees

Persons of recognised standing

Numerary Trustees

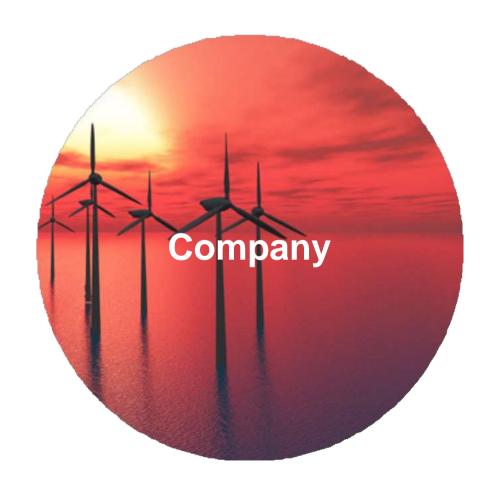
Town and City Councils and Trade Associations





We offer responses to global challenges





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BIZKARRA Tradition and innovation, with its own character



Eduardo Bizkarra Managing Director of BIZKARRA

"TECNALIA has helped BIZKARRA to create new products and to understand the new ingredients required to improve people's health".



TECNALIA has participated with BIZKARRA in the creation of innovative processes and ingredients for the bakery of the future.



We are also contributing to improving people's diet by introducing healthy ingredients with a high nutritional value.

DITRELOffshore Connectivity



Ibon Larrea
Technology and Production
Director at DITREL

"What we value most about TECNALIA is that they have accompanied us throughout the internal metamorphosis of our company, leading the way when we did not know and letting us lead when we had the upper hand".

The collaboration between TECNALIA and DITREL uses technology to promote offshore renewable energy, a sector of the future with growth potential.



As a result of this alliance, we have developed new solutions for energy decarbonisation and the generation of sustainable growth.

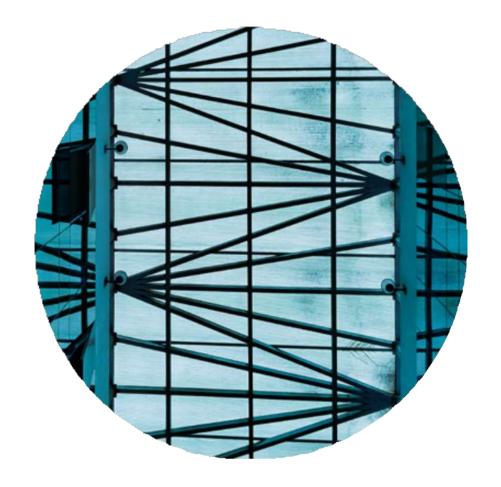
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LANIK Innovation Infrastructures



Susana Lasa CEO of LANIK

"An increasingly demanding world in terms of technology will require constant innovation from us, thus our collaboration with TECNALIA is an integral part of our business model".



TECNALIA has helped LANIK to overcome all of the architectural challenges it has faced and hence increase the company's competitiveness.



Working together, we have developed a functional architecture and responded to the needs of society today.

ZAYER Machine tool and innovative chip removal



Mikel Arriola
Production Manager of ZAYER

"TECNALIA assists us in the digitalisation of our products in order to become Industry 4.0".



TECNALIA has boosted ZAYER's innovative and entrepreneurial spirit, offering new technologies to address the needs of the market.



In this way, we have turned ZAYER machines into key production means to build a more energy sustainable society.

IKUSISmart Experience



Marco Domínguez
Technology Strategy Director
of IKUSI

"Thanks to our collaboration with TECNALIA we have been able to quickly overcome hurdles and at IKUSI we appreciate very much that their experts have been ready to approach the real problems of our clients".



TECNALIA has enabled IKUSI to accelerate innovation and make a vision in which the future is redesigned each day come true.



Innovation applied by IKUSI enables a safer, more connected and collaborative world to be built.

ZIV Innovation for the electrical grid of the future



Norberto Santiago
CEO & Chairman of ZIV

"Since the launch of ZIV we have relied on TECNALIA as our technology partner".



Collaboration between TECNALIA and ZIV has enabled solutions to be offered to promote a decarbonised, reliable and safe energy system.



In this way, we have succeeded in offering efficient energy solutions in which the end user is increasingly engaged.

AERNNOVA Design and manufacture of aerostructures



Miguel Ángel Castillo
Technology Development
Director of AERNNOVA

"TECNALIA helps us to develop technologies which are not sufficiently mature to be offered to our clients and acts as a bridge with fundamental research carried out at universities".



TECNALIA collaborates with AERNNOVA in developing and evolving technologies aimed at reducing emissions in the aeronautical sector.



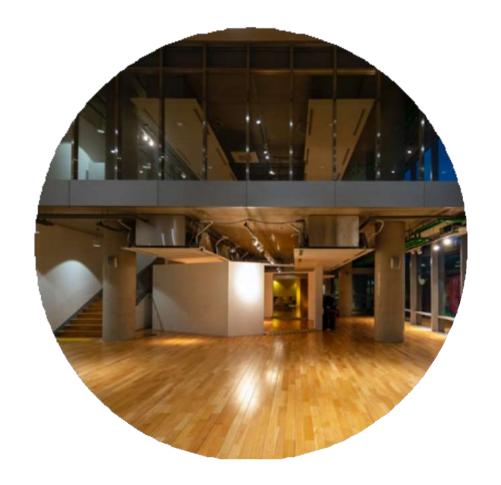
By increasing the efficiency of structures during their useful life cycle, we have contributed to improving the environment.

QUIDE/DEVA An innovative project on solid ground



Manager of QUIDE

"Our key to success is to work hard, with great enthusiasm and passion, and to build on the innovation and technology hand-in-hand with TECNALIA".



TECNALIA has enriched QUIDE/ DEVA by offering new solutions to increase its productive capacity and increase its knowhow in innovation.



Thanks to our collaboration, environmentally friendly, low carbon emission products have also been developed.

IBERMÁTICA Technology at the service of people



Iñaki del Río

Director of Digital Labs at Ibermática Director of the Ibermática Institute of Innovation (i3B)

"TECNALIA is one of our main technological partners in the field of Innovation development".



As a technological partner of IBERMÁTICA, TECNALIA encourages the conversion of its technological expertise into innovative products and services.



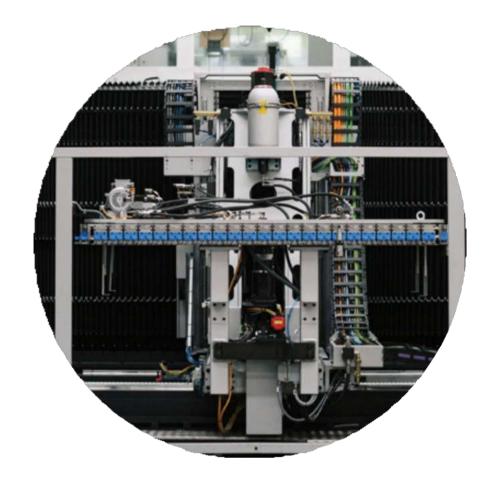
Together, we are able to create useful services and products for people in their daily life.

IBARMIA Your machine-tool point



Arrate OlaizInnovation Director of IBARMIA

"TECNALIA helps us identify both the market trends that will mark the future and technological developments that we could not carry out alone, shortening the time to launch new products".



TECNALIA has helped IBARMIA to introduce technological equipment for the generation of renewable energy on the market as well as the manufacture of electric means of transport.



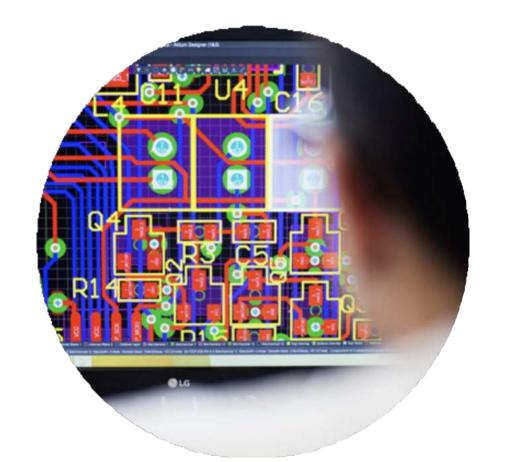
The incorporation of these digital systems in its machines has contributed to creating new advanced services to make life better for employees.

ENKOAIdentification and Control Systems



Juan Cruz Iriondo Managing Director of ENKOA

"The collaboration with TECNALIA has allowed us to increase our competitiveness and technological skills".



At TECNALIA, we have provided ENKOA with solutions to increase its technological skills and hence foster the digital transformation of the Hospitality sector.



This entire transformation is aimed at offering maximum innovation in security systems to create a safer world.

KEREON Creating an innovative business network



Jose Tesán
Partner & Investment Director of
KEREON

"Collaboration with TECNALIA has been very rewarding for KEREON and has enabled us to identify new technology-based business opportunities".



KEREON-TECNALIA collaboration turns entrepreneurial initiatives into profitable businesses to create a complete and balanced ecosystem that facilitates the development of an innovation-based business fabric.



This collaboration method enables new forms of employment to be created that is accessible to all citizens.

ARTECHE Moving Together



Roberto Ortiz de Zarate
ARTECHE GROUP R&D Director

"TECNALIA is a key technological partner for ARTECHE to put our products on the international market".



TECNALIA has contributed to enabling ARTECHE to continue responding to energy challenges with agility and responsibility. Adding value and wealth for its clients.



Over more than 40 years of collaboration, we have developed new equipment to foster more responsible energy consumption.



Some clients:







































































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Alliances:





























































































We are a benchmark centre in Europe

Our purpose is to build a better world through technological research and innovation.

To transform knowledge into profit for companies and value for society.

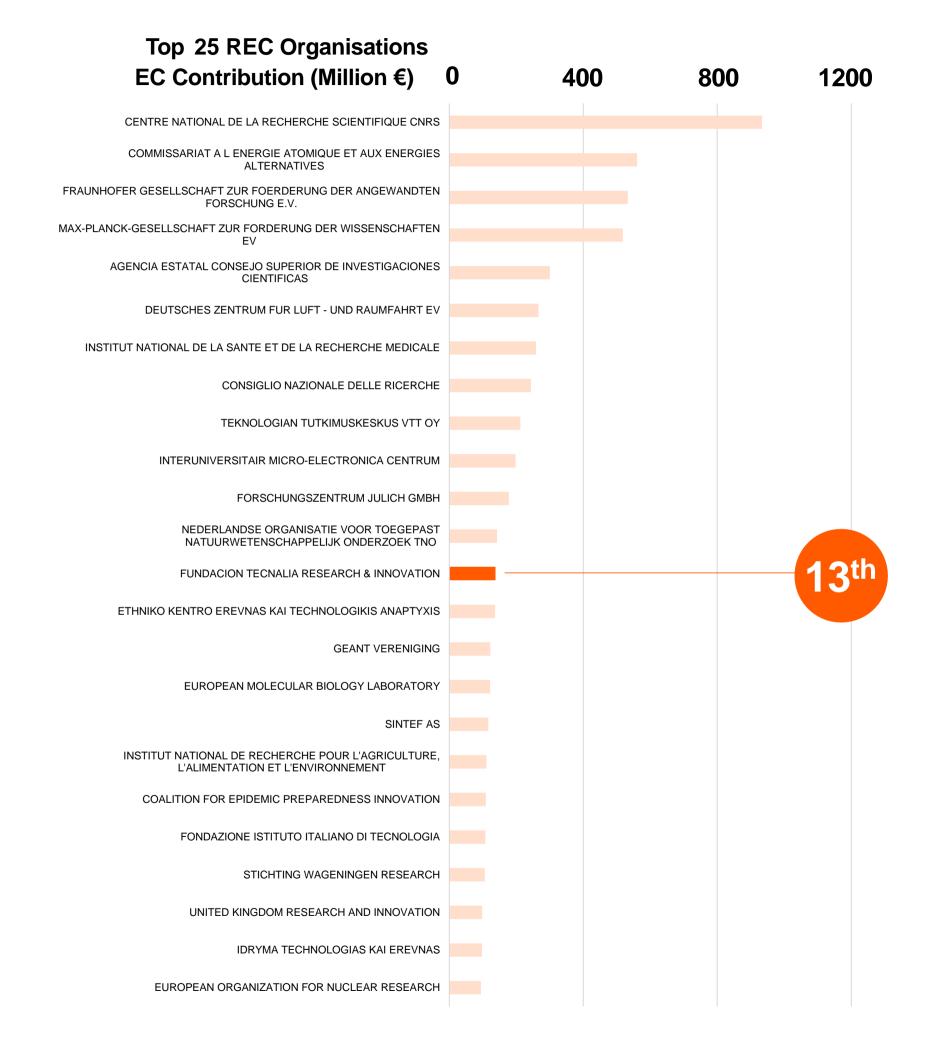


1 St

Private organisation in Spain in project contracting, participation and leadership in the EU Horizon 2020 Programme.

Ranked No. 13 out of 3,600 European Research Organisations

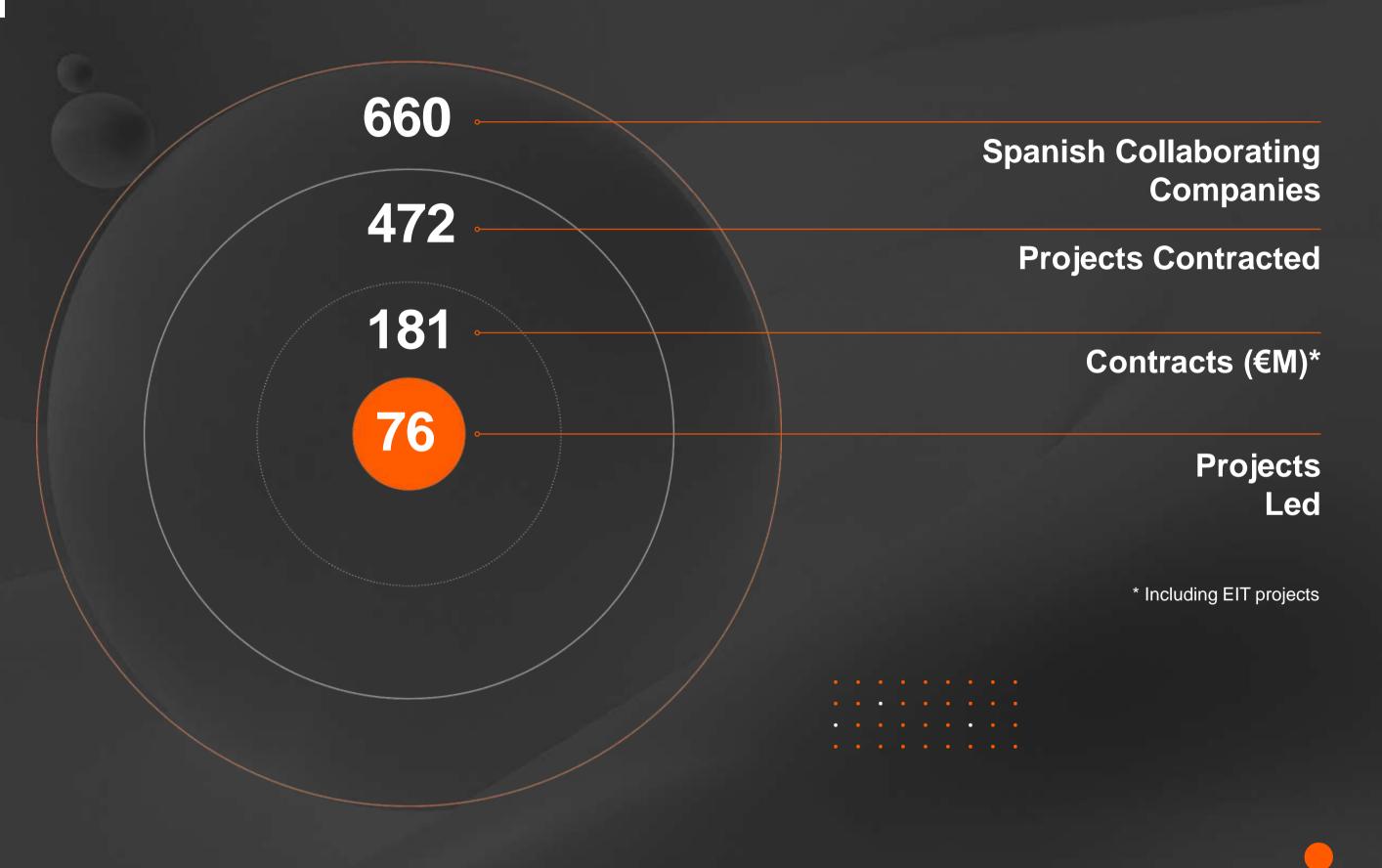
SOURCE: CORDIS Figures in May 2022



Participation in Horizon 2020.

Figures on 31 December 2021





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Participation in Partnerships in Horizon Europe

The EU is increasingly outsourcing management to Public-Private Organisations with greater independence to influence R&D and innovation.

One of TECNALIA's key success factors is its strategic positioning in over 20 major European partnerships.

3

A187 INSTITUTIONALIZED PARTNERSHIPS

High performance computing
CHIPS JU - ex-Key Digital Technologies
Transforming EU's rail system
Clean Aviation
Clean Hydrogen Europe
Circular Bio-based Europe

2

CO-PROGRAMMED

ADRA - AI, data and robotics Clean Steel - Low Carbon Steelmaking

Made in Europe

Processes4Planet - Transforming the European Process Industry for a Sustainable Society

Global Competitive Space System

People-centric sustainable built environment (Built4People)

Towards zero-emission road transport (2ZERO)

Connected, Cooperative and Automated Mobility (CCAM)

The Batteries European Partnership Association

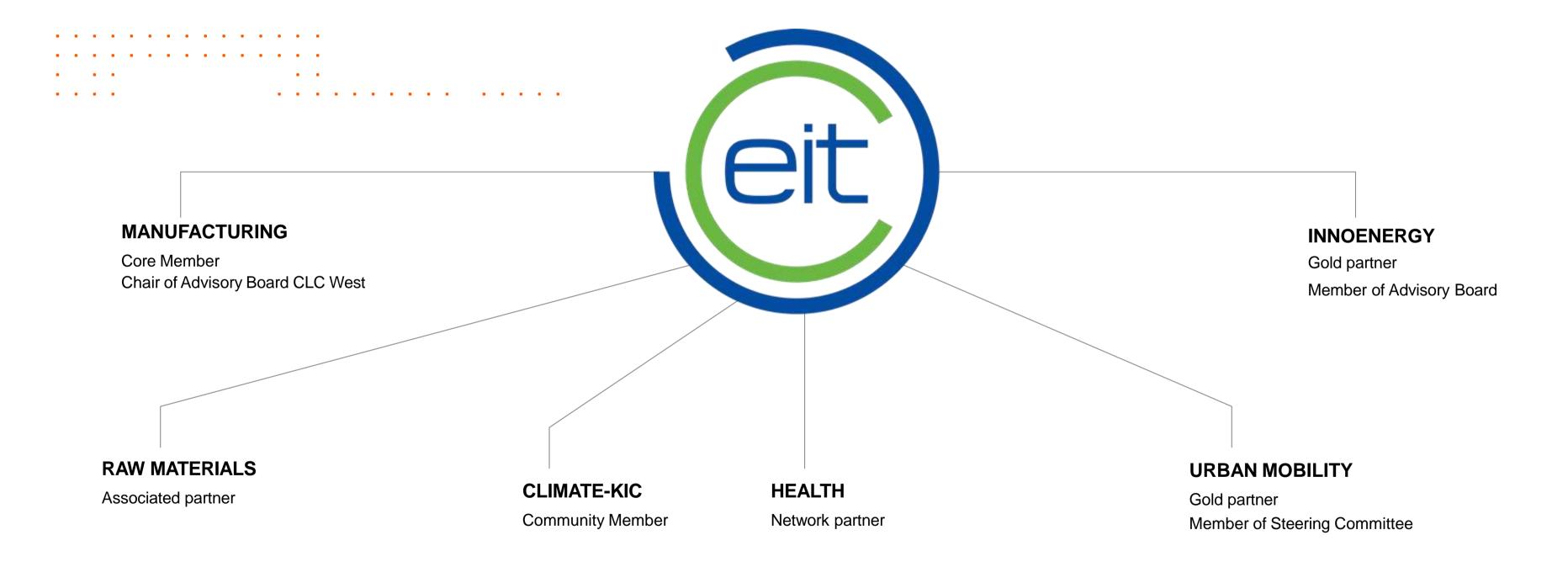
1

EIT

Health
Manufacturing
Climate-Kic
InnoEnergy
Urban Mobility
Raw Materials

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Presence in EIT Innovation Communities



TECNALIA Ventures

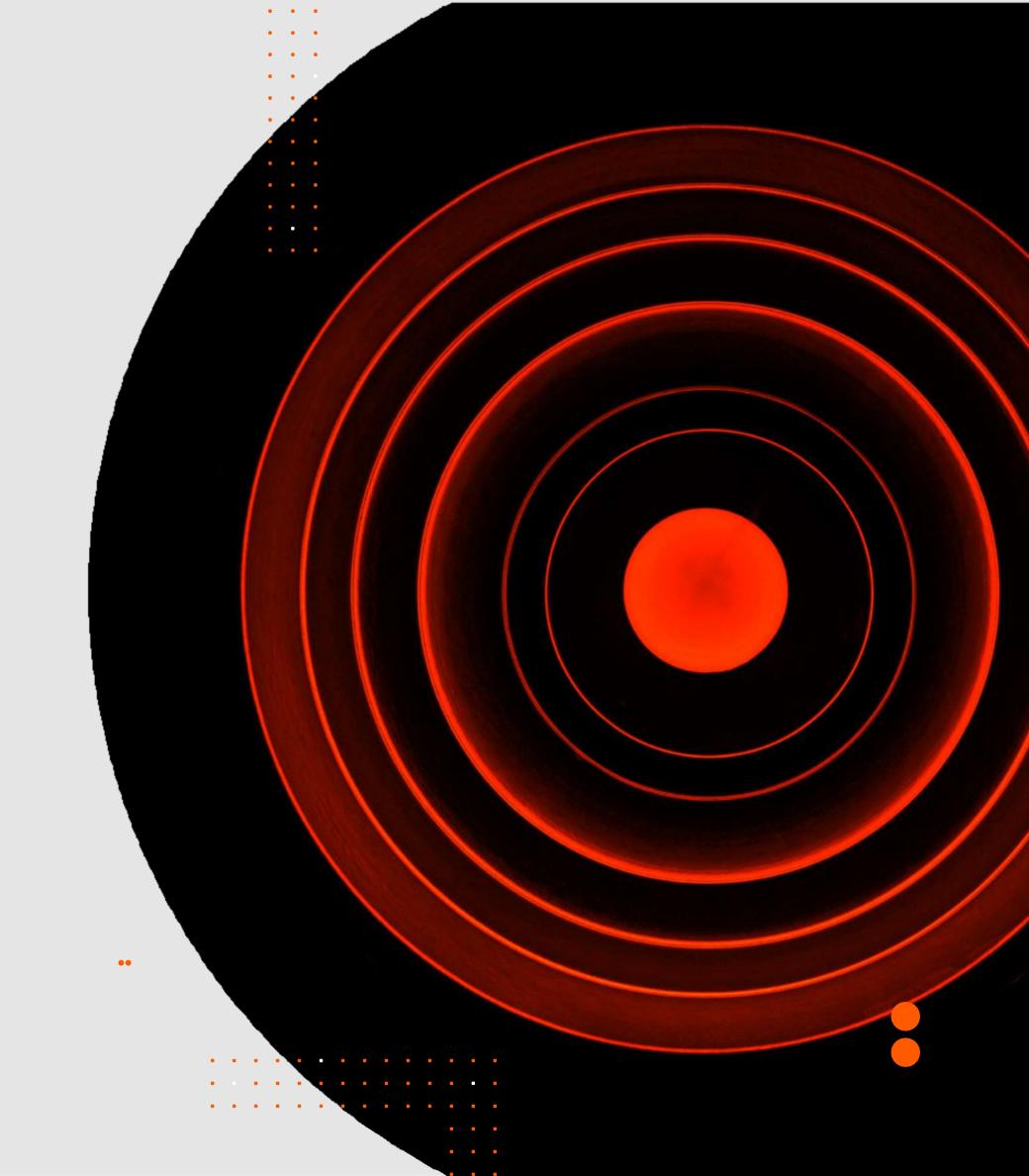
tecnal:a ventures

Technology Value for Growth

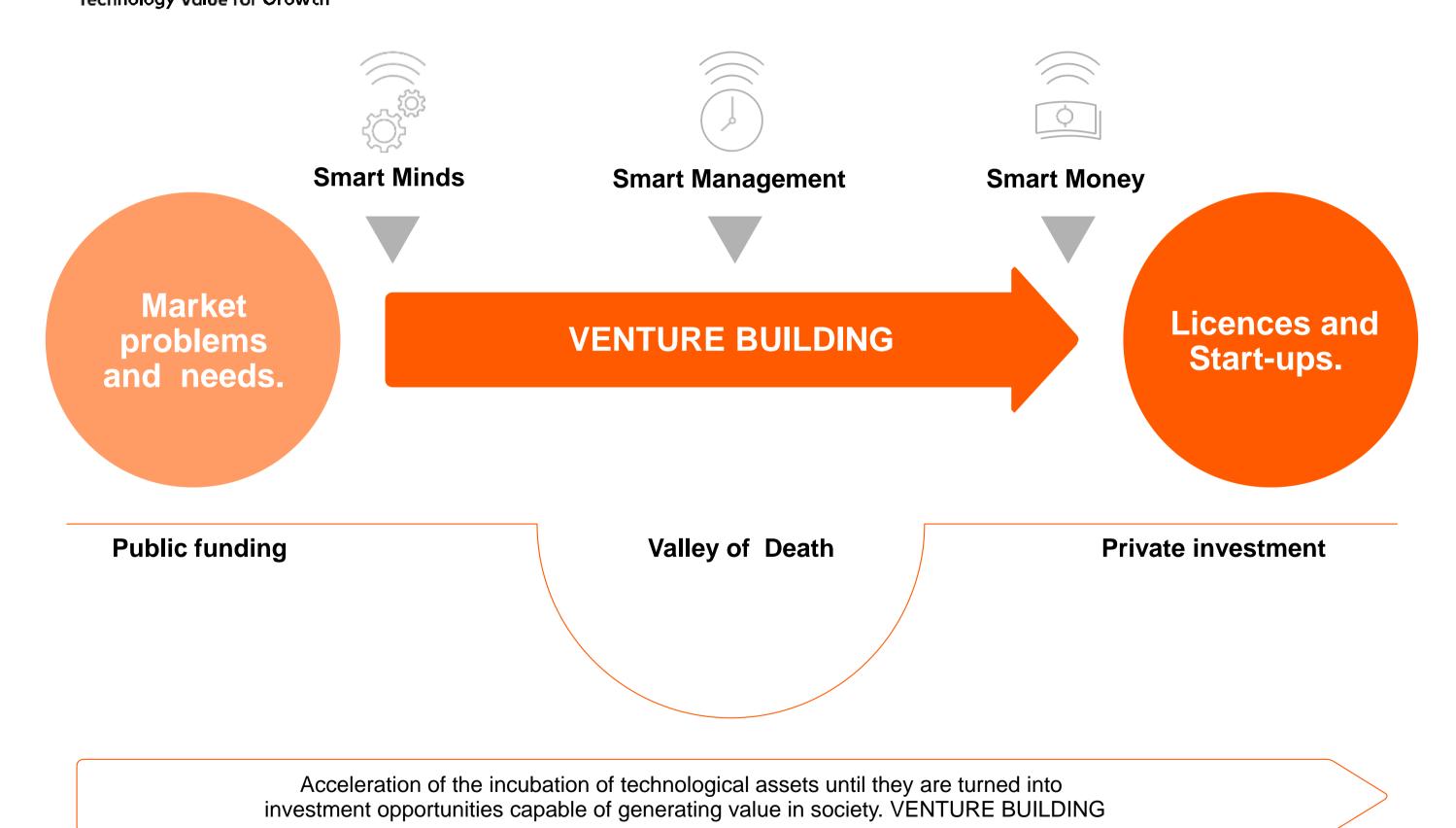
It is a 100% TECNALIA owned company, set up with the objective of appraising its investment in R&D and innovation, identifying and managing deep tech business opportunities, through a venture buildingprocess.

To do so, it connects the three fundamental pillars of any innovation ecosystem:

- People who generate technology-based ideas (minds).
- Managers capable of transforming technological ideas into business opportunities (management).
- Investors who bet on deep tech entrepreneurial initiatives (money).



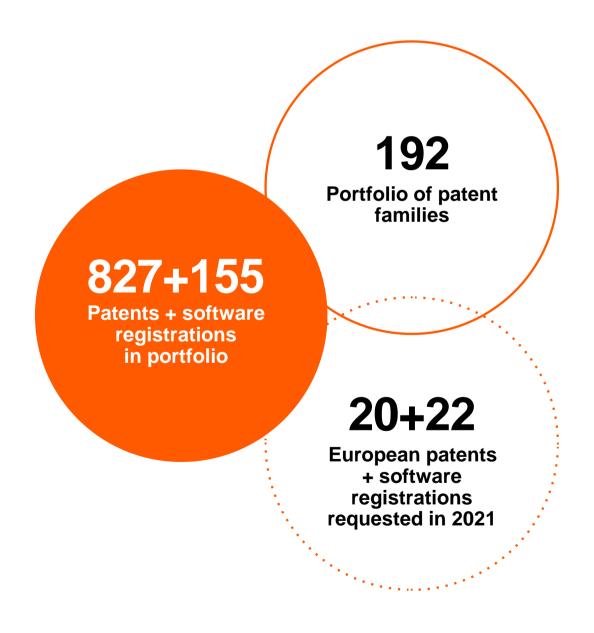
tecnal:a ventures Technology Value for Growth





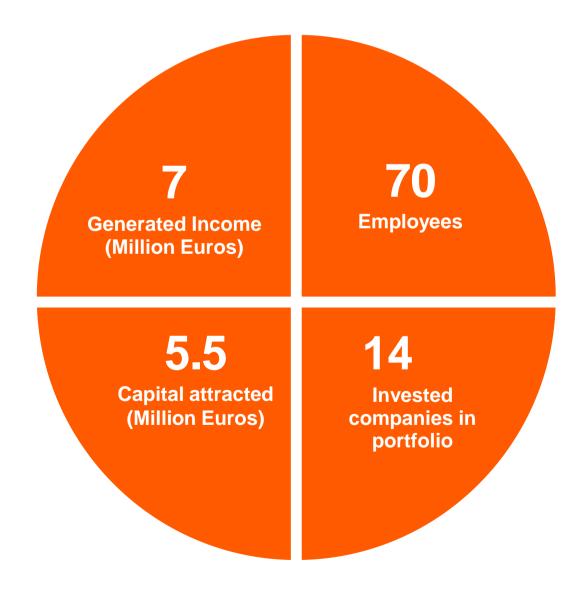
TECNALIA is currently the fourth private Spanish organisation in European patent applications, with an outstanding success ratio of 92% regarding EPO/PCT applications granted since 2012.

Patents



Invested companies

The survival rate of TECNALIA'S invested companies after 5 years of their establishment is 85%.



2021 aggregated figures

tecnalia.com Figures on 31 December 2021

TECNALIA's invested companies:



AUREA www.myaurea.es



DIGIMETwww.digimet.es



ACUSTRAIN www.acustrain.com



ELCODE



ADDILAN www.addilan.com



GO4IT SOLUTIONS www.go4it.solutions



FESIA www.fesiatechnology.com



INGREDALIA www.ingredalia.com



VIXION www.vixion360.com





NEOS SURGERY www.neosurgery.com



BIOKEMIK www.biokemik.eu

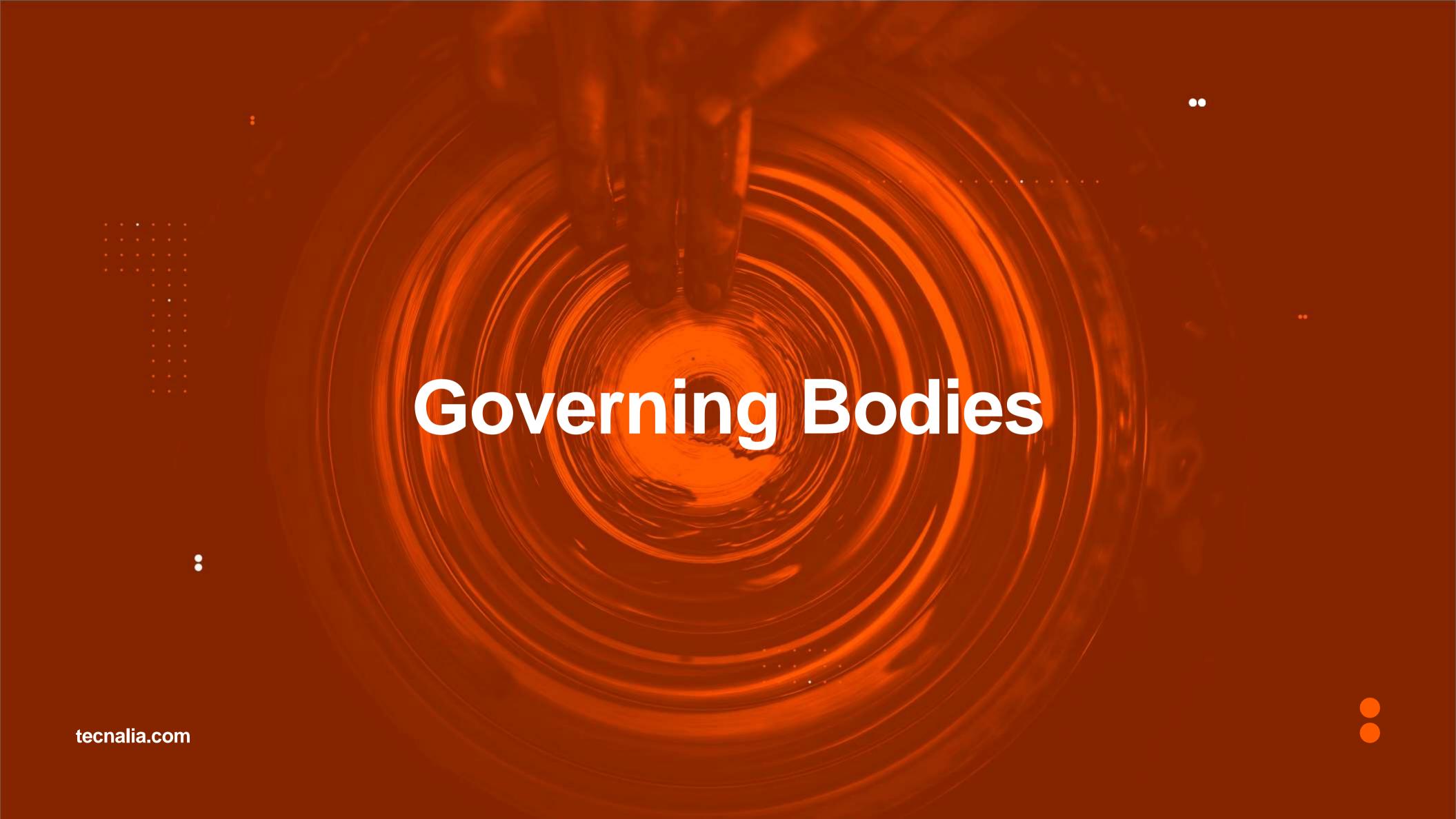


NAUTILUS www.nautilusfs.com



H2SITE www.h2site.eu





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Alejandro Ormazabal

VICINAY MARINE

Jesús Navas

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ZIV APLICAÇIONES Y

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Marian Ibarrondo

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Javier Hernando

BIZKAIA PROVINCIAL

COUNCIL

Joseba Mariezkurrena

GIPUZKOA PROVINCIAL

COUNCIL

Jon Gurrutxaga

UNIVERSITY OF THE BASQUE COUNTRY

(UPV/EHU)

Inmaculada Arostegui

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CITY COUNCIL

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Jon Azua

Carlos de Palacio

Marieta del Rivero

Ivan Martén

Josep Maria Martorell

José Maria Mato (Knowledge

Community Trustee)

Miguel Ángel

Morell Manuel

Salaverria

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Collaborating Partners:

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