

# BASQUE INDUSTRY4.0

## DIGITAL INNOVATION HUB

The strategy for digital ecosystem development  
and relationship model

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GRUPO  
**spri**  
TALDEA



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## BASQUE DIGITAL INNOVATION HUB

A Facility Network to experiment with Advanced Manufacturing and test digital innovations is being set up in the Basque Country.

This DIH will consist on a digitally linked network of Competence Centers with R&D infrastructures, pilot lines and technical expertise specialized in different areas of Advanced Manufacturing

The network is co-owned by companies, R&D Centers, Professional Training Centers and Universities and supported by regional public institutions.

The aim of this initiative is to provide industrial companies, specially SMEs, with the technological capabilities required to face the Industry 4.0 challenges.

The network will be used for developing R&D projects, for scaling up industrial projects, as a showroom of cutting edge technologies, and also as training resource and start-up accelerator.

## **BASQUE COUNTRY INDUSTRIAL FOCUS**

## Industrial focus

**€32,500**

GDP per capita  
122% (UE28=100)

**22.8%**

Industrial GDP  
(EU28=19.3%)

**128.5**

Productivity  
per employee

**31.9%**

Exports to GDP  
ratio

**2.09%**

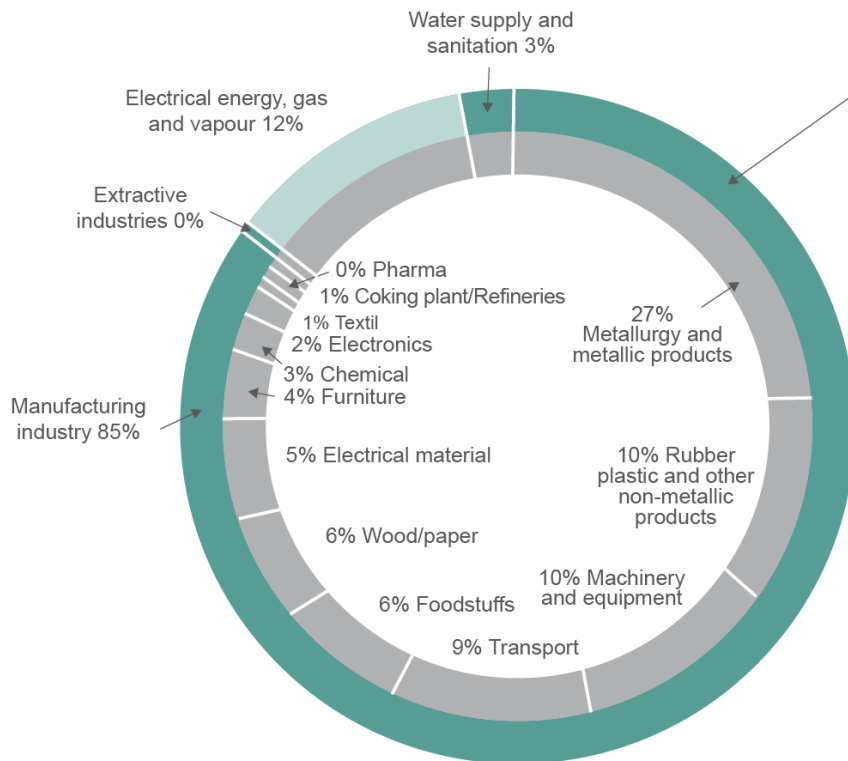
R&D expenditure on  
GDP

**30,000**

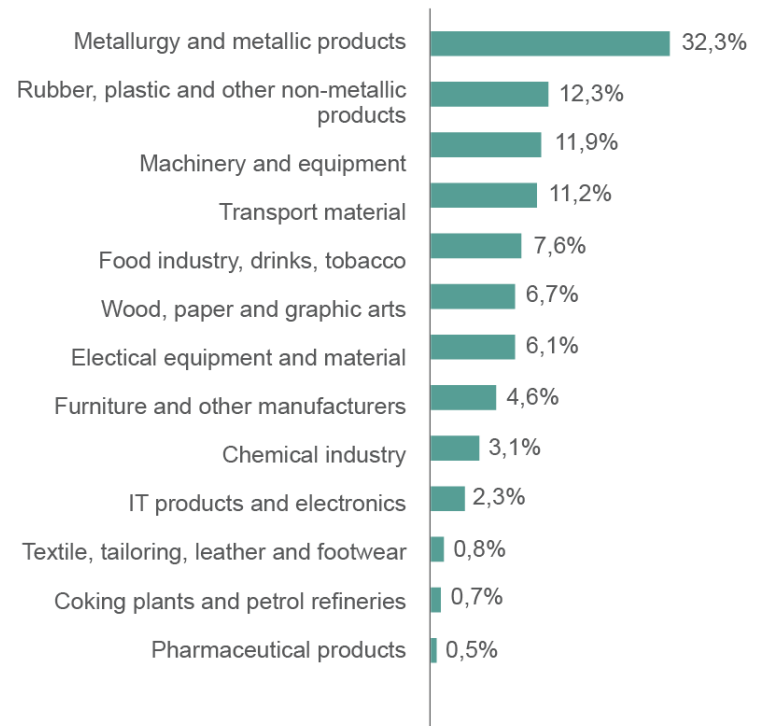
People in R&D



## AV Distribution by sector (%,2012)\*



## Distribution of the manufacturing GAV by activities (%, 2012)



(\* ) basic prices and current euros (base 2010) Source: Eustat

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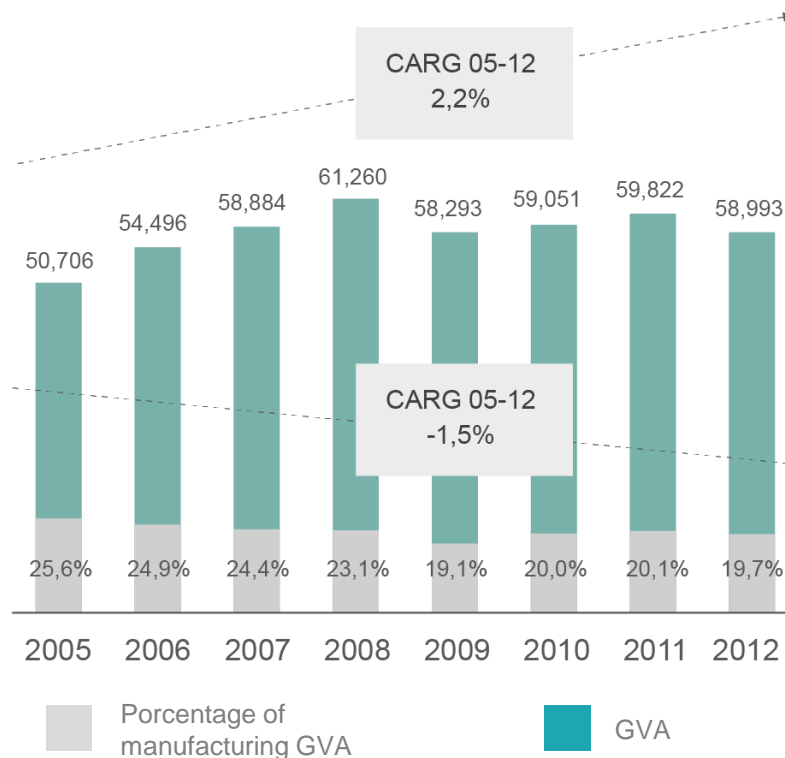
# Industrial policy

The Basque Country is usually seen as a successful industrial transformation and innovation upgrading

But...in 2014, a moment of reflection and change to align Basque industry with a strategy of re-industrialization... through the upgrading and focusing on the higher added value activities

6% less of manufacturing share in GDP

Evolution of manufacturing's share of Basque GDP (Millions of current Euros, %, 2005-2012)\*

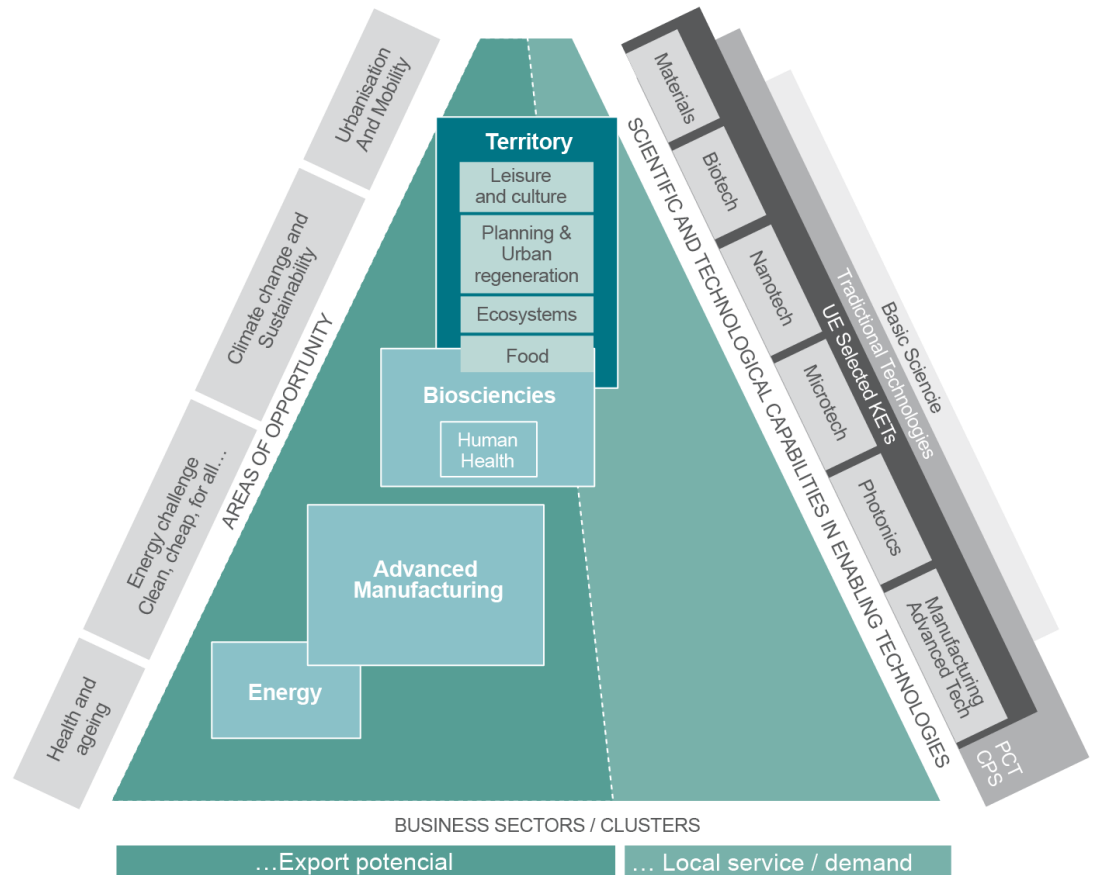


**BASQUE REGIONAL  
DEVELOPMENT STRATEGY**

Priority domains are a combination of technologies, products, processes and services from the different sectors and knowledge areas to give response to the opportunity areas.

**RIS3 strategy is a natural extension of Basque historical policies in this area.**

Basque Country has a long history defining economic development strategies over the last 35 years. Consecutive plans and strategies, responding to specific needs of each stage, have progressively sought modernization, competitiveness, specialization, diversification and sophistication of Basque economy.





ADVANCED MANUFACTURING is a multisector priority with plenty of economic agents to be taken into account

Materials	Processes	Means	Systems
Materials and their transformation processes	Manufacturing processes	Products and production tools	ITC support equipment to optimize the manufacturing resources
Transformation of raw materials into materials suitable for use in manufacturing processes	Set of phases necessary for the transformation of raw materials	The means utilized for carrying out the various manufacturing processes	Intelligent support tools for design, development, production and integrated manufacturing management

**“A main bet in the Basque Country’s Industrial strategy”**

Joining visions, steps and strategies requires a really intensive-cooperation driven process

## Advanced Manufacturing Strategy Mision

To strengthen the position of the Basque Country as an economy with an industrial base through the promotion of knowledge intensive manufacturing

## Strategic Objectives

SO1. To help and guide Basque companies towards more knowledge intensive manufacturing activities which have greater added value

### Integration of KETs

SO2. To promote multi-disciplinary and technological convergence in a structured fashion so as to develop best-in-class manufacturing capacities and solutions while optimizing existing resources

### Global value chains– Cluster 2.0

SO3. To integrate local and international value chains to meet the challenges of Advanced Manufacturing using the sum of the particular capacities of each sector and its companies

### Scaling Up

SO4. To foster collaboration and support as a catalyst for the industrialization of the results of R+D+i in Advanced Manufacturing

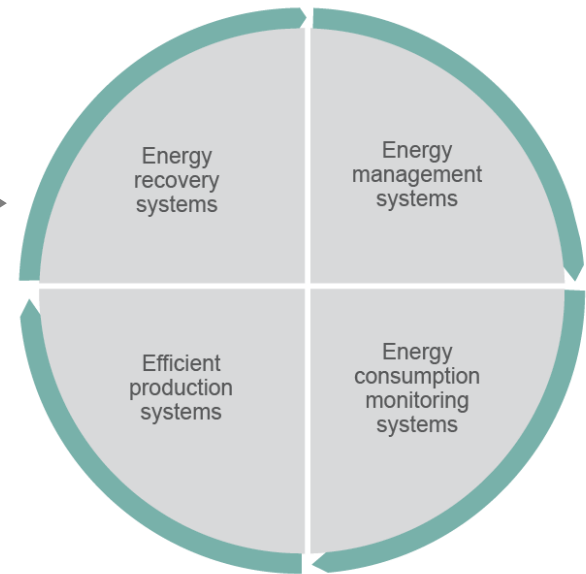
SO5. To support education and job training in technologies and management systems related to Advanced Manufacturing

**REGIONAL ECOSYSTEM DEVELOPMENT  
AND RELATIONSHIP MODEL**

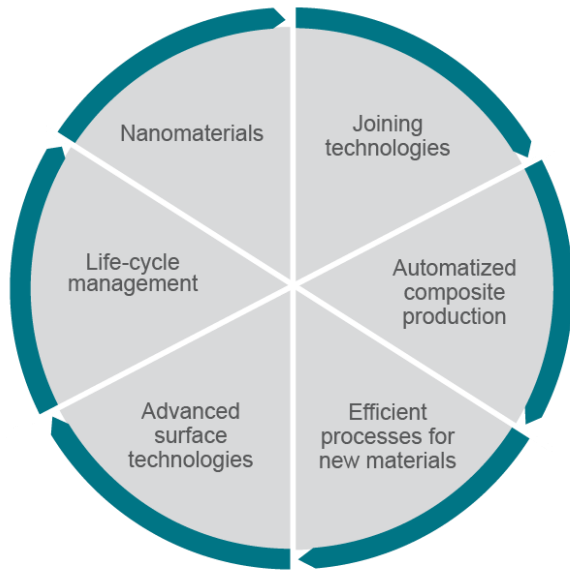
# Industrial policy

A commitment to technological development in Advanced Manufacturing is crucial to maintain competitiveness in industry and to secure positioning in market niches with greater added value.

Energy efficiency

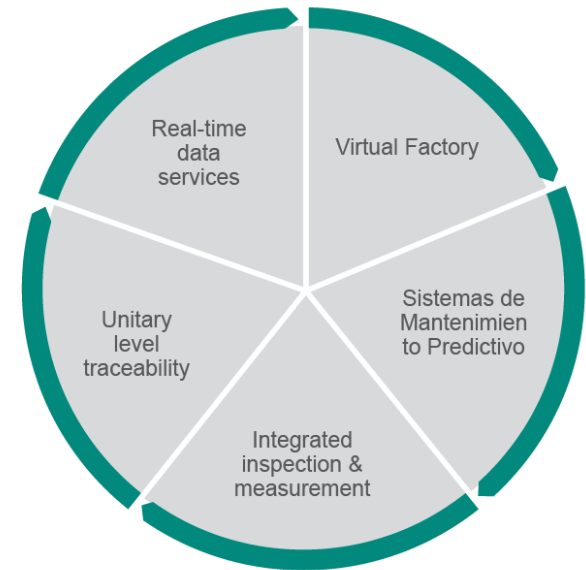
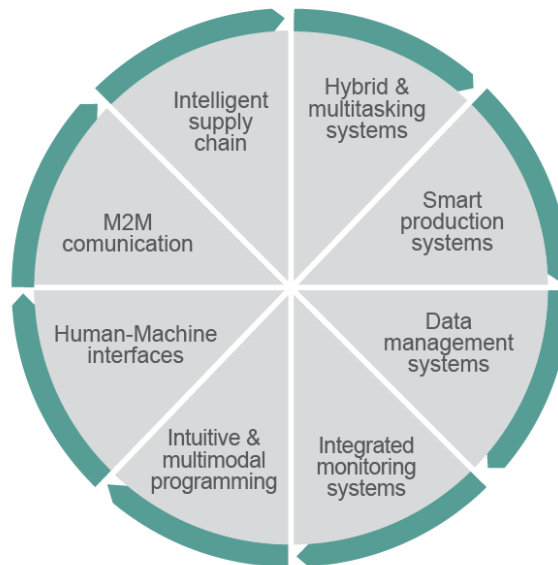


Digital Connected Factories



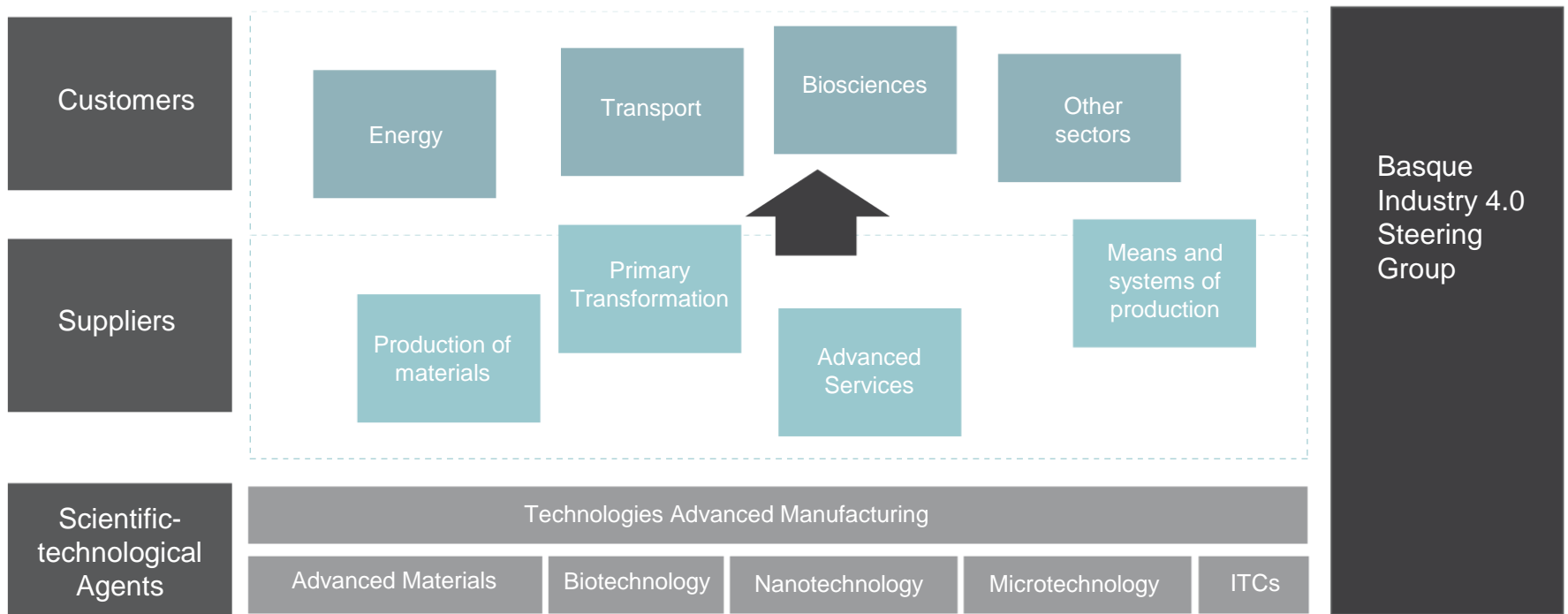
Advanced Materials and Processes

Flexible, smart and efficient manufacturing systems



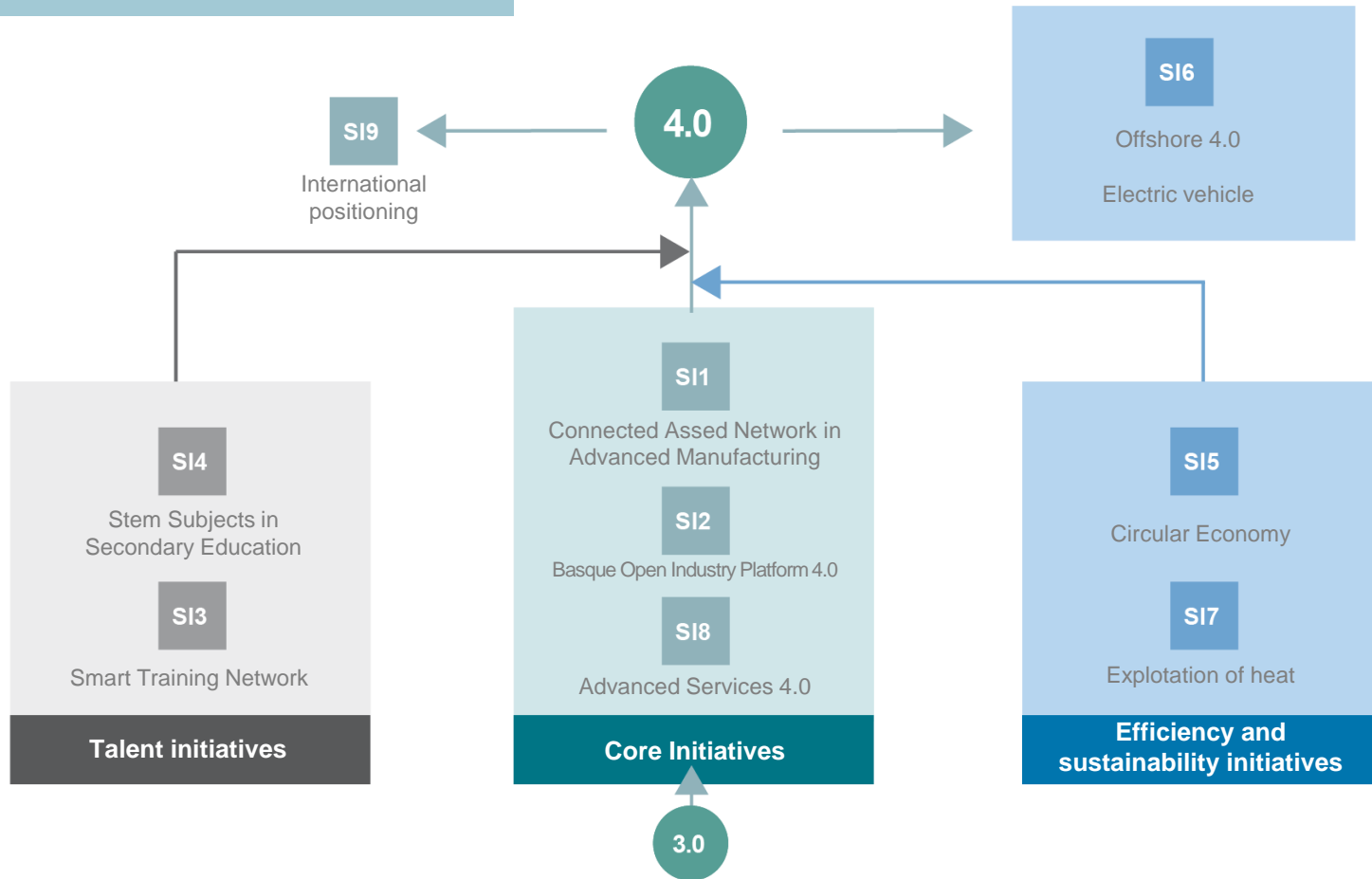
# Relationship model

Coordination of a Manufacturing Community made up of clusters, scientific-technological agents and institutions around a public-private collaboration scheme: **BASQUE INDUSTRY 4.0 STEERING GROUP**



# Strategic initiatives

8 Strategic Initiatives capable of transforming Basque industry to “Basque Industry 4.0”

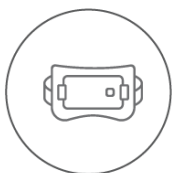


**BASQUE DIGITAL INNOVATION HUB**

# Connected network of assets in advanced manufacturing

The aim of the hub is to provide easy and cost-efficient access to Basque industrial fabric, especially SMEs, to innovative and excellent scientific-technological capabilities in the Advanced Manufacturing environment, enabling it to evolve and become more competitive

## Innovative industrial company



Need to know/test/develop in Industry 4.0

## Advanced Manufacturing Asset Catalogue



Visibility of the physical and logical assets of the Science, Technology and Innovation System

## Connected Asset Network



Access to managed services to develop projects (R&D, scaling, testing), training or demonstrators (showroom)

Currently, a virtual space is being built ([www.basqueindustry.eus](http://www.basqueindustry.eus)) as a showcase for the contents and resources offered on the HUB



64 assets

Basque Digital Innovation Hub

~ 300 relevant equipment and facilities

6 stable nodes

10 research agent



To date, an initial "Asset Catalog" has been built with System agents: technology centers, Advanced Manufacturing Centres, universities, Education centers

- Capitalization: taking advantage of investments already made.
- Excellence: provision of state-of-the-art technologies.
- Connectivity: means to connect to a digital network platform.
- Multisectoriality: ability to operate for several sectors.
- Testing: possibility to test a process / service.
- Integration: accessible to various types of agents (applicants, manufacturers, R&D centers, universities, FP centers, etc.).
- Internationalization: connectable with other European hubs by reference.
- Sustainable: with energy efficiency, less environmental impact.

**Comprehensive response to the foreseeable demands of Basque companies, particularly SMEs through:**

State-of-the-art physical assets spanning the value chain from the raw material to the part.

Logical assets, based on software and ICT libraries, supporting the design, process simulation and process monitoring system, artificial vision; 3D scan...



R&D pilot projects

Product/process/service Pilots

Industrial Scaling

Showroom

# Outward looking: Interregional cooperation



## VANGUARD INITIATIVE

NEW GROWTH THROUGH SMART SPECIALISATION

Efficient and sustainable  
manufacturing

Advanced manufacturing for  
energy applications in harsh  
environments



Catalonia



Lombardy



Basque Country



Scotland



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