



INSTITUTO NACIONAL DE CIBERSEGURIDAD

# National past and future on R&I and the cybersecurity market









VICEPRESIDENCIA

DE ASUNTOS ECONÓMICOS

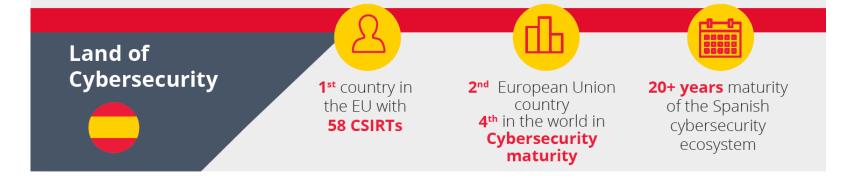
SECRETARÍA DE ESTADO DE DIGITALIZACIÓN E



# **SPAIN: STATE OF THE** CYBERSECURITY INDUSTRY







#### Cybersecurity Industry



1.900 M euros



14%+ of growth expected in 2022



**Public-private** partnership cooperation



1,800 security companies and services.



85% of companies offer cybersecurity services



150.000 security workers

#### Research ecosystem



RENIC (National Network of Excellence for Research in Cybersecurity):

> 45 cybersecurity research teams in Spain

> 452 researchers

10 technology centers 28 universities

7 research centers

RNLI (National Network of Industrial Cyber Laboratories)

25 laboratories

#### Talent in cvbersecurity



121 regulated training programs in cybersecurity:

> 84 Master's degree programs 3 university specializations 4 bachelor's degrees 30 Professional Training specializations



168 centers offering training in cybersecurity

#### National Cybersecurity Plan (2022)



€+ €1 billion + 150 actions over the **next 3 years**:



Cybersecurity infrastructures in the autonomous communities and cities and local entities

information, in real time,

between public and private

Platform for the

exchange of

institutions



Integrated system of cybersecurity indicators.



Cybersecurity Operations Centre for the General State Administration and its Public Institutions.



Promote cybersecurity in SMEs, micro-SMEs and the self-employed



Promote a culture of cybersecurity

# OUR GOAL IS SUPPORTING DIGITAL TRANSFORMATION















Strengthening cybercapacitybuilding in citizens, SME's and freelancers.



Boosting the business ecosystem in the Cybersecurity sector.



Promoting Spain as an international cybersecurity node.

# **BOOSTING CYBERSECURITY**





Strengthening Cybersecurity Culture

#### **Supporting the Cybersecurity Industry**



Aimed at enhancing cybersecurity capacities of enterprises and citizens



**Entrepreneurship** program



R&D in cybersecurity



This program offers training and fosters talent and cybersecurity skills



\*Strategic Initiative: Public Procurement of Innovation (PPI)

## RENIC





- Increase Cybersecurity R&D&i leadership and positioning at EU and international level.
- Reinforce the scientific and technological excellence to transfer innovative solutions to the market.
- Push the scientific Innovation, the technological development and the transfer to the industry.
- Identify, attract, generate and retain the research talent in cyberecurity at national level.
- Empower the cooperation with initiatives that will allow to explore the capacities of the Research ecosystem.



**National Cybersecurity Network of Excellence** 

# **RENIC: MEMBERS**



















Vicomtech

Vicomtech, miembro de la Red Vasca de Ciencia, Tecnología e Innovación



UOC

Universidad Zaragoza

Universidad de Zaragoza

Universidad de Zaragoza



Universitat Politècnica de València

#### Universidad Rey Juan Carlos

Universidad Rey Juan Carlos



Universidad de Cantabria

Universidad Carlos III de Madrid

Universidad Carlos III de Madrid

Tecnalia

Fundación Tecnalia Research & Innovation, miembro de la Red Vasca de Ciencia, Tecnología e Innovación

ikerlan

MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE



Universidad Politécnica de Madrid

Universidad Politécnica de Madrid





#### Universidad de Sevilla

Universidad de Sevilla



#### Universidad de Murcia

Universidad de Murcia



#### Mondragon Unibertsitatea

Mondragon Goi Eskola Politeknikoa S.Coop.

Universidad de Castilla-La Mancha



IMDEA Software

#### IMDEA Networks

Fundación IMDEA Software



#### IKERLAN

IKERLAN, miembro de la Red Vasca de Ciencia, Tecnología e Innovación



#### Universidad de Málaga

Universidad de Málaga





#### Universidad de la Laguna

Universidad de la Laguna



#### Universidad de Granada

Universidad de Granada



#### i2CAT

Fundació i2CAT, Centro de Investigación de Internet



Fundación Centro Tecnolóxico de Telecomunicacións de Galicia



#### FIDESOL

Fundación IMDEA Networks

Fundación I+D del Software Libre



Consejo Superior de Investigaciones Científicas



Universidad de Vigo

Universidad de Vigo







Instituto Nacional de Ciberseguridad



# R&D&I CATALOGUE IN CYBERSECURITY







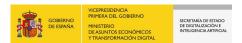








# RENIC: WHERE RESEARCH IS CONDUCTED?







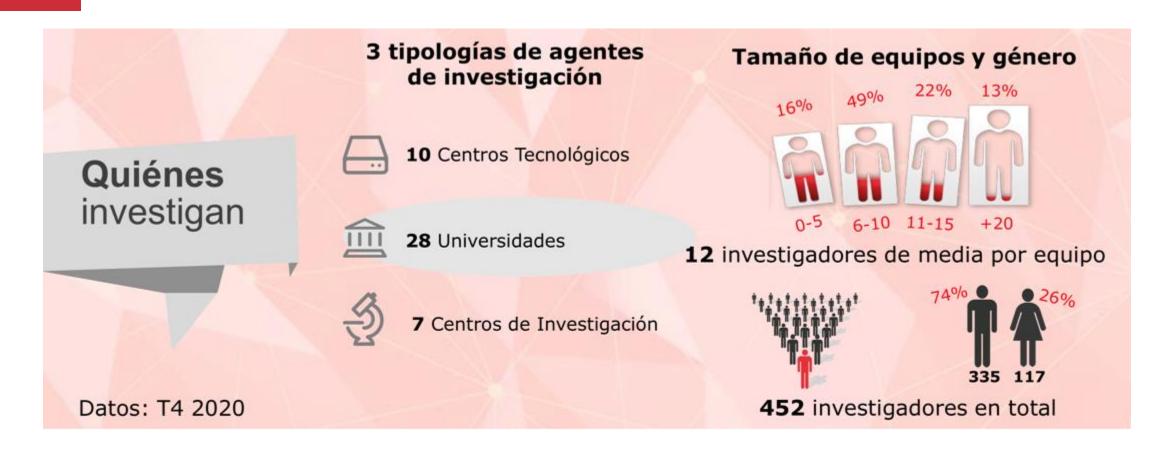


Resultados del Catálogo y Mapa de Conocimiento de la I+D+i en Ciberseguridad en España

# **RENIC: WHO IS RESEARCHING?**









Resultados del Catálogo y Mapa de Conocimiento de la I+D+i en Ciberseguridad en España

# **RENIC: RESEARCH TOPICS**









# **JNIC**





- JNIC is a scientific conference that promotes contact, exchange and discussion of ideas, knowledge and experiences between the academic and research network on the one hand, and professionals and companies on the other. The conference will focus on three areas: Research, Transfer and Training in Cybersecurity.
- Since its foundation in 2015, INCIBE has collaborated in the organisation of the conference every year.

#### **JNIC2021**

- Organizer (Remote): Univ. Castilla-La Mancha
- Participation
  - Universities (26)
  - Companies (6)
  - Other institutions (11)
- Assistants (550)
- Presnted papers (86)
  - 67 Accepted
  - 19 Rejected

#### **JNIC2022**

- Organizer: TECNALIA
- Participation
  - Universities (30)
  - Companies (12)
  - Other institutions (16)
- Assistants (157)
- Presnted papers (93)
  - 77 Accepted
  - 16 Rejected



#### **JNIC2023**

- Organizers: AtlanTTic | Universidade de Vigo y Gradiant
- Participation
  - Universties (30)
  - Companies (9)
  - Other institutions (7)
- Assistants (204)
- Presnted papers (108)
  - 90 Accepted
  - 18 Rejected

# PUBLIC PROCUREMENT OF INNOVATION (CPI): ROADMAP







- Definition of the Strategy.
- Allocation of PRTR funds.
- Recruitment of Technical Office.
- ❖ IECPI announcement at MWC 2021.
- Launch of the Preliminary Market Consultation (CPM).

**Design and CPM** 

2021



#### **Procurement**

 Publication of the regulatory document CPP3.

#### **Implementation**

- Formalisation of contracts.
- ❖ Start of R&D projects.



2023





2020

#### **Validation**

- ❖ Benchmark.
- Initial work to define the strategy.
- Validation with the FNCS.



2022

#### **Procurement**

- Presentation of the TDM.
- . Conclusions of the CPM.
- Publication of the regulatory document for A1 - CPP1.
- Publication of the regulatory document for A2,3,4,5 and 7 - CPP2.
- Governance Model.





- Project closure.
- Administrative closure.
- PRTR justification.
- Completion of IECPI.



# **CPI: INITIATIVE**





## SOLUTIONS

Generation of competitive cybersecurity solutions for end users, both public, private and citizens in general.

## **VALUE CHAIN**

To dynamise and drive the entire innovation value chain.

Involvement of all actors in the ecosystem.

## **STRENGTHENING**

Innovation policy aimed at strengthening the industry's cybersecurity capabilities.

## **IMPACT**

224M€ public investment and mobilisation of private capital.
Outcomes that generate economic and social effects and impacts.

### R&D&I

Promote innovation and competitiveness from the public authorities with a multi-project approach to mobilise the greatest number of actors.

### **ENTREPRENEURSHIP**

Promote the participation of entrepreneurs, start-ups, SMEs and research organisations.

### **TALENT**

Leverage for job creation and talent development in cybersecurity.

INCIBE's IECPI is the largest Public Procurement of Innovation initiative in cybersecurity with a public investment of €224 million.

**IECPI** 

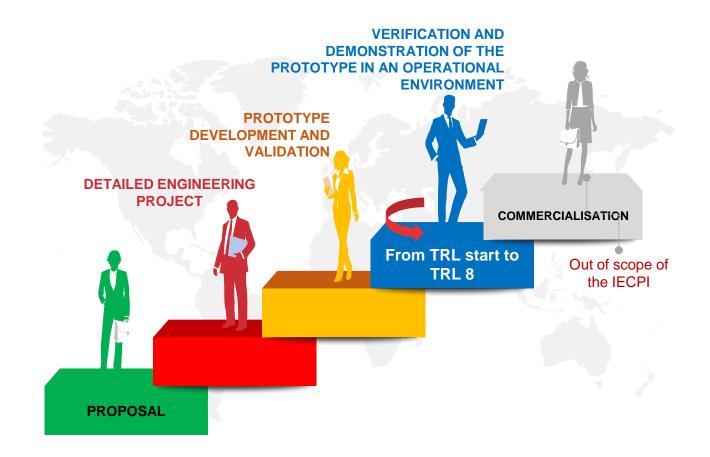
# **CPI: CALLS**





- INCIBE's IECPI is broken down into 3 calls:
  - □ <u>CPP001/22</u>. 8 contracted programmes
    - ☐ Total committed: 26.451.789,36€
  - □ <u>CPP002/22.</u> 83 contracted projects
    - ☐ Total committed: 89.354.625,56€
  - □ <u>CPP001/23.</u> 46 contracted projects
    - ☐ Total committed: 59.531.704,23€

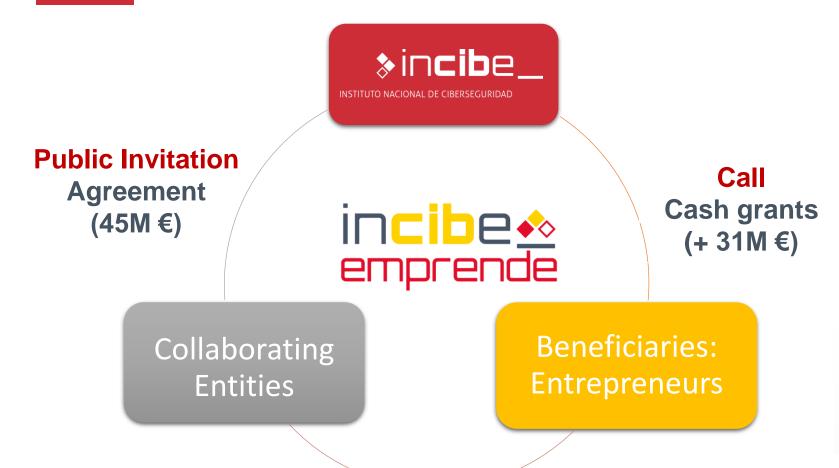
Once contracted, the life cycle of the projects will be as follows:



# **INCIBE EMPRENDE**









Registration of participants Implementation of actions

# **INCIBE EMPRENDE:** ACTIONS 2023-2026





## **Overall minimum annual targets**



250 talks per year \*

75 Workshops in the regions\*

75 Annual events



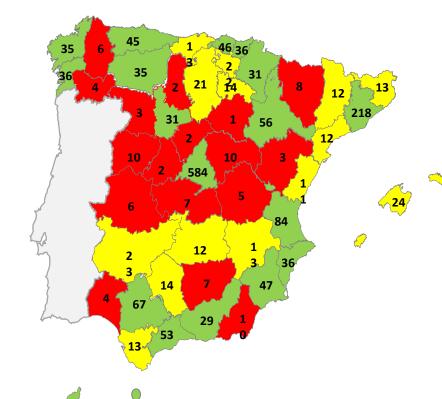
8 editions of the incubator



6 editions of the accelerator

90 Express accelerations

Regional distribution of companies registered in INCIBE that offer cybersecurity services and solutions in Spain.



<sup>\* 50%</sup> of the actions will be carried out in provinces with less than 10 companies linked to the cybersecurity industry, 30% of the actions in provinces with between 11 and 25 companies and 20% of the recruitment actions will be carried out in provinces with more than 25 companies.

<sup>\* 2</sup> in each of the provinces with less than 17 cybersecurity companies and 1 in the rest.

# CÁTEDRAS (CYBERSECURITY CHAIRS)





# Public Invitation for collaboration in the promotion of Cybersecurity Chairs in Spain





**Objective**: support the organization of events, the development of academic programs and capacity building in cybersecurity by public universities or consortia led by a public university.



Publication date: December 1, 2022.

Deadline for submission: December 31, 2023 at

23:59 pm

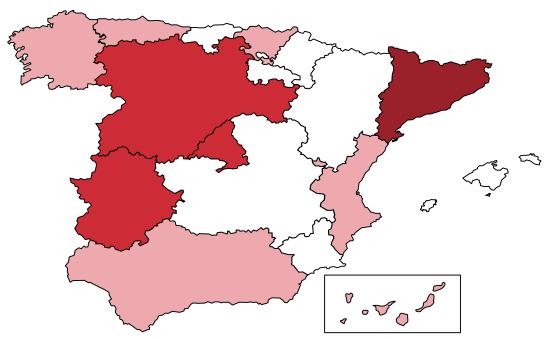


**Budget**: 16,8 M€ (Max: €900,000 for national Chairs

and €1.2 M for international Chairs)



16 applications received





# STRATEGIC PROJECTS





# Public invitation for collaboration in the promotion of Strategic Cybersecurity Projects in Spain





**Objective**: support the development of research, development and innovation programs and capacity building in cybersecurity by public universities or consortia led by a public university.



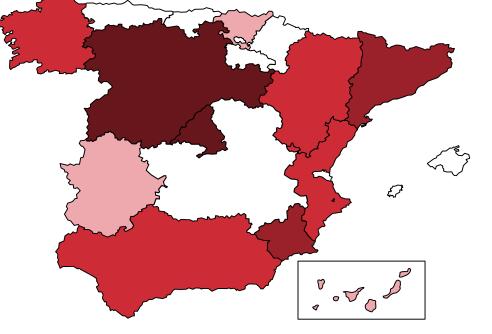
Publication date: December 5, 2022.

Deadline for submission: December 31, 2023 at 23:59

pm



Budget: 18 M€ (Max. 900.000€ per project)





40 applications received

10-9 applications received4 applications received3-2 applications received

1 applications received

# **ECCC: AN OPPORTUNITY FOR R&D&I IN CYBERSECURITY**





# **Financial Boost**

Direct mechanisms and cascade funding



Real Decreto 204/2023, de 28 de marzo, por el que se modifica el Real Decreto 403/2020, de 25 de febrero, por el que se desarrolla la estructura orgánica básica del Ministerio de Asuntos Económicos y Transformación



1.650 м€

(Cybersecurity funding 2021-2027)



1.600 м€

(Cluster III – includes cybersecurity – 2021-2027)



8.000 m€\*

(2021-2027)

# **Support and Dynamization**

- R&D+i emerging technologies
- SMEs and Cyber Industry
- Multisectoral impact (energy, health, telco, manufacturing, public, financial, space...)
- **Solutions for civil and military use**
- **Employment Promotion and Talent Development**
- Synergies with Community and **European bodies**

\*Potential synergies

# NATIONAL COORDINATION CENTRE (NCC-ES)





INCIBE designated as National Coordination Centre (NCC-ES) by the National Cybersecurity Council (Consejo de Nacional de Ciberseguridad)



### Functions (art. 7)

- ◆ Act as a **point of contact and coordination** at the national level to support the Competence Center in its mission and objectives, cooperate with other relevant stakeholders, industry, the public sector, the academic and research community and the public, taking into account the challenges in cybersecurity
- ◆ Implementation of cross-border projects and joint actions financed through the EU
- Provide specialized knowledge taking into account the specific challenges in cybersecurity, at the national and regional level
- ◆ Establish synergies with relevant activities at the national, regional and local levels, in particular the policies set forth in national cybersecurity strategies
- Provide technical assistance for projects managed by the ECCC in relation to its mission and objectives
- ◆ Promote cybersecurity education programs
- ◆ Evaluate National applications to form part of the Community
- ◆ Create a public-private **Community of Competence** at national level

# NATIONAL CYBERSECURITY COMPETENCE COMMUNITY





The Community will involve a broad, interdisciplinary, open and diverse group of European stakeholders in the field of cybersecurity technology, including in particular research entities, supply and demand side industry, including SMEs, and the public sector.

It will involve the participation of National Coordination Centres, European Digital Innovation Hubs, where appropriate, as well as institutions, bodies and agencies with Union expertise, such as ENISA.

Functions of the members of the Community

- Support the Competence Centre in fulfilling its mission and achieving its objectives.
- They will **work in close collaboration** with the Competence Centre and the National Coordination Centres.
- Participate, when appropriate, in working groups to carry out specific activities foreseen in the annual work program.
- They will support the Competence Centre and the NCCs in the promotion of specific projects.



# **SMEs WORKSHOP**





On the occasion of the Spanish Presidency of the Council of the European Union, a workshop was held with the participation of the National Coordination Centres (NCCs) of the European Centre of Competence in Cybersecurity (ECCC), and representatives of the parties involved in the European innovation ecosystem.

- The workshop is aligned with the objective of increasing the participation of SMEs in European R&D&I actions in the field of cybersecurity through ECCC funding opportunities.
- The workshop brought together representatives of the NCCs, and European representatives of SMEs, research, economic development organisations and associations, among others, who were able to share lines of work for an increased SME presence in European cybersecurity R&D&I.
- This workshop, under the Spanish presidency of the EU, is the starting point for the development of actions to boost the weight of SMEs in the European innovation ecosystem.



SMEs play a critical role in the European economy, representing more than 99% of all enterprises and contributing more than half of European GDP. As the backbone of the European economy, they employ around 100 million people, serving not only as enablers of the digital transformation, but also as a central element of the EU's social fabric. Their importance is amplified by their dynamic and flexible nature, which allows them to adapt quickly to technological changes and market trends.





#### **NCC-ES INCIBE**

Edificio INCIBE. Av. José Aguado 41.

24005 León. España

Tel: +34 987 877 189

nccspain@incibe.es





