CISSA
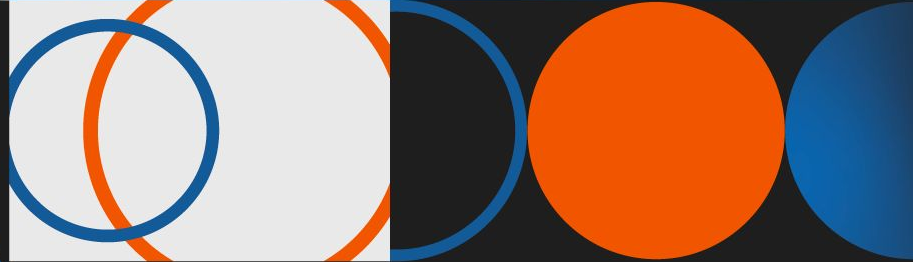
CENTRO INTEGRADO DE SEGURANÇA EM SISTEMAS AVANÇADOS

CeSAR

EMBRAPII

MINISTRY OF
SCIENCE, TECHNOLOGY
AND INNOVATION

BRAZILIAN GOVERNMENT
BRASIL
UNITING AND REBUILDING

Main **activities** of the Center:

- **Cutting–edge scientific research** in Cybersecurity
- **Qualification of human capital** in Cybersecurity
- Attraction and creation of **startups**
- Business **association**

Research   Education   Startups   Association

Cutting-edge scientific research in Cybersecurity

To become an international reference in cybersecurity, the CESAR Embrapii Competence Center will conduct scientific research projects on state-of-the-art topics in four research areas, involving researchers from within and outside the center, as well as partnerships with national and international institutions interested in these themes.

The intellectual property of the research and technologies developed at the competence center will be exclusive to the center, with the possibility of licensing to companies.

RESEARCH AREAS

IAM – Identity and Access Management

DPP – Data Protection and Privacy

CTI – Cyber Threat Intelligence

Legal, Ethical, and Behavioral Aspects (ALEC)

1. Identity and Access Management (IAM)

IAM research studies techniques that protect data and computing systems from unauthorized access, including authentication, authorization, and auditing mechanisms.

These techniques can be applied to emerging technologies such as cloud computing, IoT, decentralized networks, and immersive environments.

SOME RESEARCH TOPICS

- Authentication mechanisms
- Identity federation and Single Sign-On
- Authorization policy federation
- Self-Sovereign Identities and Verifiable Credentials

2. Data Protection and Privacy (DPP)

Research in this area involves data security at rest, in transit, and processing, aiming to ensure the confidentiality, integrity, and availability of information in systems.

It also applies to various systems like IoT, immersive, decentralized, AI-based, networked, and cloud environments.

SOME RESEARCH TOPICS

- Data encryption and anonymization, including post-quantum encryption
- Secure development
- Vulnerability analysis

3. Cyber Threat Intelligence (CTI)

Research in this field aims to provide detailed information about attacks, enabling organizations to respond more effectively to unknown threats.

SOME RESEARCH TOPICS

- Attack detection and prevention analysis
- Threat mining
- Forensic analysis
- Incident response
- Correlation of anomalous behaviors in networks and systems

4. Legal, Ethical, and Behavioral Aspects (ALEC)

This field is focused on the human aspects of cybersecurity.

SOME RESEARCH TOPICS

- Governance, Risk, and Compliance (GRC)
- Psychology and Sociology in fraud and attack prevention
- Usability of security solutions

Research Education Startups Association

Qualification of human capital in Cybersecurity

The center aims to train and qualify individuals in R&D through programs that offer differentiated and complementary training to researchers and professionals in the Competence Center and ecosystem.

Through **CESAR School**, our competence center is already strongly integrated with the market and academia, combining research on cutting-edge technologies with applied research for industry, as developed by CESAR as an innovation center.

TRAINING PROGRAMS

- **Researcher Training**
- **Postdoctoral Researcher Exchange**
- **Scholarships for Scientific Initiation, Master's, and PhD in Cybersecurity**
- **Integration with Secondary and Technical Education**
- **Professional Training in Cybersecurity**

Current Initiatives

- **Researcher Training:**
  - Participation in relevant cybersecurity events
- **Scholarships**
  - Ongoing call for applications
    - Master's and PhD students engaged in IAM and CTI projects
  - Goal-based monitoring
- **Launch of the Bachelor's Degree in Information Security at CESAR School**
  - First cohort planned for February 2025
- **Executive Training**
  - Cybersecurity for Executives
- **High School and Technical Education Outreach**
  - Rec 'n' Play initiative
- **Program Development:**
  - CISSA's expertise incorporated into CESAR School offerings
  - New courses in partnership with other Competence Centers and ICTs

Research　　Education　　Startups　　Association

Attracting and Creating Deep Tech Startups

Another area of focus for our competence center is attracting and creating startups through an integrated strategy aligned with our research areas.

By providing **entrepreneurship training focused on the cybersecurity landscape**, we aim to stimulate innovation opportunities that can be explored by deep tech startups and foster their growth through **R&D projects**.

CESAR's two decades of experience in venture building, having accelerated and supported multiple startups strengthens our ability to integrate this expertise into our competence center.r de **projetos de PD&I**.
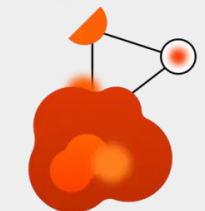
Tech Venture Building

Technology

Investment

Networking

13

Research Education Startups Association

Company
Membership

CISSA also aims to **develop an ecosystem of associated companies**, fostering knowledge exchange and cybersecurity development aligned with current and future market demands.

Through financial contributions from members, the ecosystem also enhances the long-term sustainability of its projects.

c.e.s.a.r

Benefits for
Members

Depending on the chosen membership type, member companies receive various other benefits annually, including continuous access to research results and priority in licensing.

🏅 Diamond

🏅 Gold

🏅 Silver

🏅 Bronze

⭐ Startup

🎗️ Basic
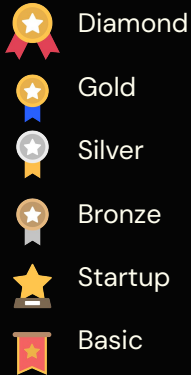
❯ Full scholarships for executive training, specialization programs, Master's in Software Engineering or Design, PhD in Software Engineering at CESAR SCHOOL, and customized training within our research lines.

❯ Dedicated undergraduate squads through the Summer Job program.

❯ Researcher recommendation for participation in research groups.

❯ Consultancy hours on real-world challenges aligned with our research areas.

❯ Exclusive lectures on research topics, participation in ecosystem partner events, and business networking opportunities.

❯ Access to the Dat.es platform (for startup-company relationships) and the ability to launch challenges for startups.

❯ Access to the center's laboratory infrastructure.

❯ Brand exposure in the center's marketing communications and facilities, with acknowledgments in published works.

❯ Opportunity to participate in the Center's Advisory Board.

Our Research
Network

Researchers from National and International Collaborations

Researchers recommended by associated companies

CESAR Researchers

Postdoctoral, PhD, Master's, and Scientific Initiation Scholars

c.e.s.a.r

Thank you!

cissa@cesar.org.br