
Fraunhofer in Brazil

Research Dedicated to the Future

I Seminário Internacional de Fomentos

Pesquisa Aplicada à Indústria... fora da Indústria!

Ronald Dauscha
Head of Fraunhofer Liaison Office Brazil



Business and Non-Business R&D as a % of regional GDP



The German R&D Innovation Chain

1. Basic research



creates **basic innovations**.

2. Application-oriented research



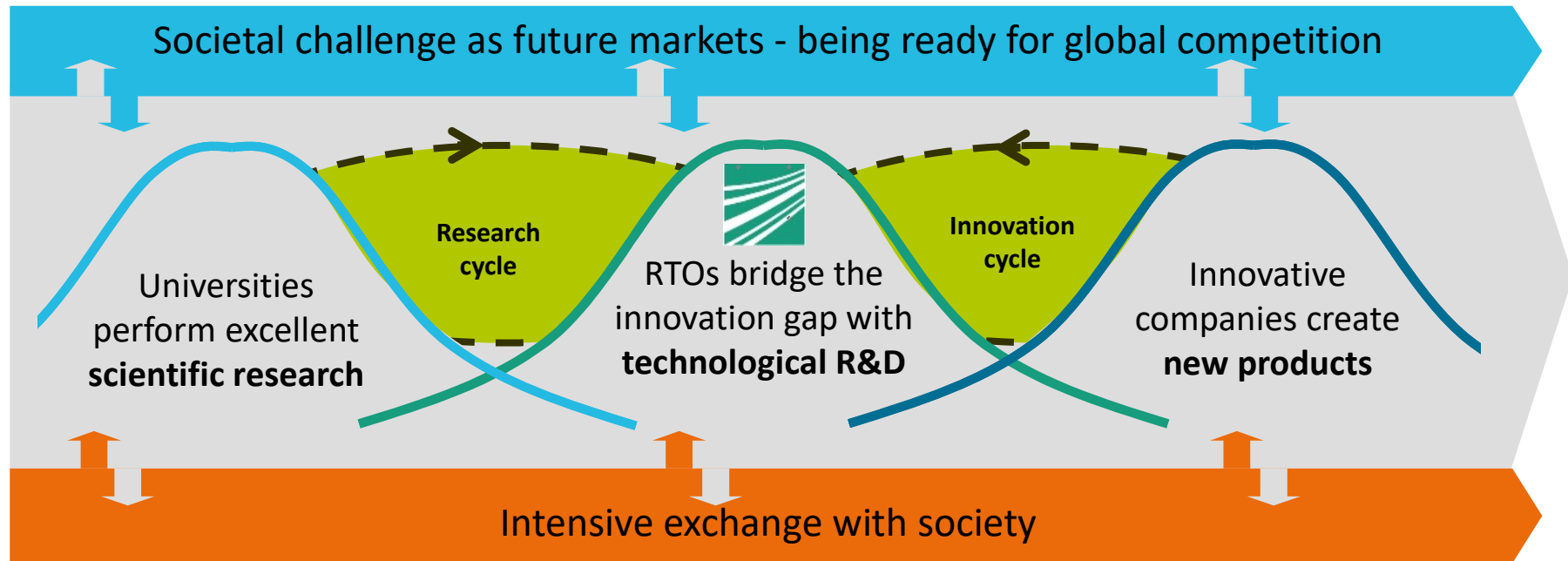
transfers basic innovations to the **application stage** and creates **prototypical solutions**.

3. Industrial application



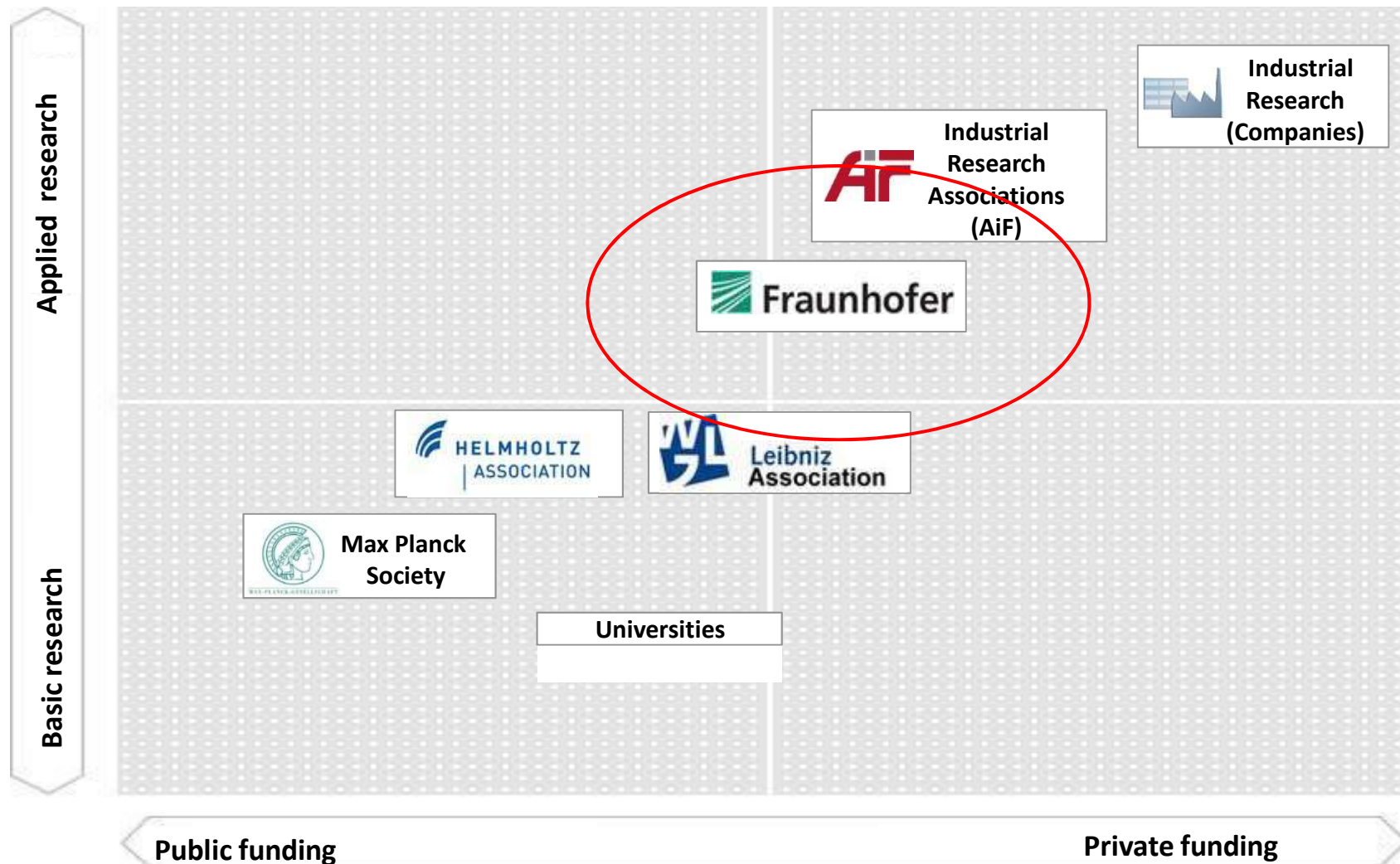
implements application-ready solutions in the **economy**.

Fraunhofer's position in the German Innovation System



- | | | | | |
|---|--|---|--|---|
| <ul style="list-style-type: none"> ■ close cooperation with universities, every Institutes Director is also Professor at this University ■ close cooperation with Max-Planck-Institutes ■ collaboration with international centers of excellence | | <ul style="list-style-type: none"> ■ professional R&D services to industry ■ demand driven research combined with scientific excellence ■ autonomy of institutes combined with simple corporate rules ■ working in networks | | <ul style="list-style-type: none"> ■ research services for SME as well as industry (~50/50) ■ research services for high-tech companies (>3,5% R&D) as well as non R&D-intensive companies (0-3,5%)* ■ close affiliation with industry through Fraunhofer advisory boards |
|---|--|---|--|---|

German Research Landscape



Source: According to BMBF Germany (simplified)

The Fraunhofer-Gesellschaft at a Glance

The Fraunhofer-Gesellschaft undertakes applied research of direct utility to private and public enterprise and of wide benefit to society.

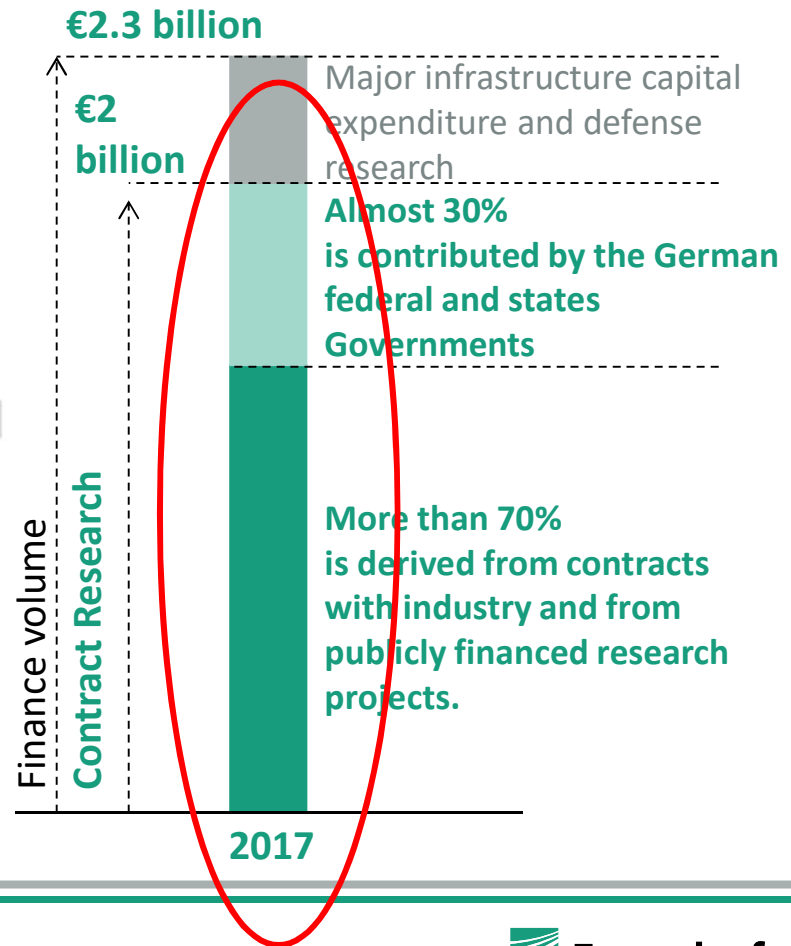


25,327 staff



72 institutes and research units

Main locations ●
Other locations ○



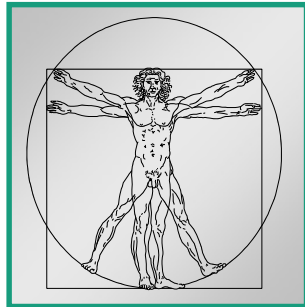
Independence and responsibility of the Fraunhofer Institute



- Project result
- Standing in the scientific community
- Financing
 - Approx. 35% basic financing
 - Approx. 65% from the market

- Area of research emphasis
- Allocation of resources
- Project acquisition
- Project management

Demands on a Fraunhofer Institute



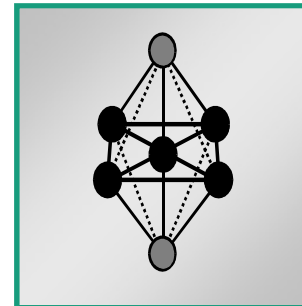
Scientific competence
proved by the recognition of
the scientific community



Well-balanced financial mix
of different independent
sources



**Market success and
entrepreneurial
competence**
proved by contracts with
industry and government



Professional networking
with other Fraunhofer
Institutes and externals

Fraunhofer Groups



Innovation Research

IAO, IMW, INT, IRB, ISI



Microelectronics

EMFT, ENAS, FHR, HHI, IAF, IIS, IISB, IMS, IPMS, ISIT, IZM

Guests: AISEC, ESK, FOKUS, IDMT, IKTS, IMWS, IZFP



Information and Communication Technology

AISEC, ESK, FIT, FKIE, FOKUS, IAIS, IDMT, IESE, IGD, IOSB, ISST, ITWM, IVI, MEVIS, SCAI, SIT

Guests: HHI, IIS, IAO



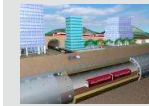
Production

IAPT, IEM, IFF, IGCV, IGP, IML, IPA, IPK, IPT, IWU, UMSICHT



Life Sciences

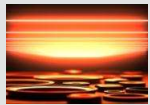
EMB, IBMT, IGB, IME, ITEM, IVV, IZI



Defense and Security

EMI, FHR, FKIE, IAF, ICT, INT, IOSB

Guests : HHI, IIS, ISI



Light & Surfaces

FEP, ILT, IOF, IPM, IST, IWS



Materials and Components – MATERIALS

EMI, IAP, IBP, ICT, IEE, IFAM, IKTS, IMM, IMWS, ISC, ISE, IWES, IWM, IZFP, LBF, WKI

Guests: IGB, IIS, ISI, ITWM

Fraunhofer Alliances

Pooling expertise

The Fraunhofer Alliances facilitate customer access to the services and research results of the Fraunhofer-Gesellschaft. Common points of contact for groups of institutes active in related fields provide expert advice on complex issues and coordinate the development of appropriate solutions.



Adaptronics



Additive Manufacturing



AdvanCer



Ambient Assisted Living



AutoMOBILE Production



Battery



Big Data



Building Innovation



Cleaning Technology



Cloud Computing



Digital Media



Embedded Systems



Energy



Food Chain Management



Lightweight Structures



Nanotechnology



Photocatalysis



Polymer Surfaces



Simulation



Space



Technical Textiles



Traffic and Transportation



Vision



Water Systems (SysWasser)

Fraunhofer-Gesellschaft Worldwide



Fraunhofer in Brazil

Representatives



Manaus (Suframa) - Hernan Valenzuela

Senior Representative at South America Fraunhofer ENAS

Salvador (UFBA) – Manuel Mendonça

Executive Director of Fraunhofer Project Center for Software and Systems Engineering at UFBA

Brasília - Markus Will

Head of Fraunhofer IPK Project Office Brazil

Campinas - Alexandre Martins Moreira

Business Development and Project Management of Fraunhofer Project Center for Innovations in Food and Bioresources at ITAL

São José dos Campos - David Domingos / Anderson Borille

Fraunhofer Project Center for Innovations in Advanced Manufacturing at ITA

São Paulo – Ronald Dauscha / Raquel Nascimento

Fraunhofer Liaison Office Brazil

About Fraunhofer Liaison Office Brazil in São Paulo

- Promotes the Fraunhofer brand and Fraunhofer R&D Portfolio;
- Serves as a interface between Fraunhofer and Academia/ Industry;
- Builds networks to Research Communities/ political stakeholders / Business and Trade Associations / Industry;
- Serves as a match-maker, facilitates joined initiatives and bilateral projects;
- Supports Fraunhofer Institutes in their activities in Brazil by making initial discussions, organizing delegations and workshops;
- Provides Brazilian market information & trends;
- Serves as a platform for dialog with AA, European policy makers, with the additional functions of issuing public/official statements of Fraunhofer contract research services and innovation support.

Fraunhofer in Brazil

Official website: <http://www.brazil.fraunhofer.com/>





FRAUNHOFER



The German Centre for Research and Innovation São Paulo (DWIH São Paulo) and the São Paulo Research Foundation (FAPESP) announce the



**Working
and learning
in a digital
world**

October 30–31, 2018 – FAPESP

Fraunhofer Project Center for Innovation in Advanced Manufacturing at ITA (Technological Institute of Aeronautics) FPC@ITA

Strategic Objectives

- Support the **scientific, technological and economic development** in Brazil
- **Support the Brazilian** industry with applied research and innovation projects
- Acquiring and execute joint RD&I projects with industry in Brazil, in cooperation **with ITA and the SENAI Innovation Institutes in Santa Catarina**
- Focus on **Advanced Manufacturing** or **Industrie 4.0** solutions

Partners /Contact Persons

- ITA : Prof. Dr. Anderson Borille
- Fraunhofer IPK: Dr. -Ing. David Carlos Domingos

Project framework

- Duration of the Fraunhofer Project Center: 3 years
- Financing in Germany: Fraunhofer Headquarters and Fraunhofer IPK (**€ 1 million**) - Staff costs, travel costs and marketing costs
- Financing in Brazil: ITA (**approx. € 1 million**) - Staff costs, infrastructure and equipment



Fraunhofer Project Center for Innovation in Advanced Manufacturing at ITA (Technological Institute of Aeronautics)

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Partners

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- Fraunhofer IPK

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Fraunhofer Project Center for Innovations in Food and Bioresources at ITAL - FPC@ITAL

Strategic Objectives

- Support the **scientific, technological and economic development** in Brazil
- **Support the Brazilian** industry with applied research and innovation projects
- Acquiring and execute joint RD&I projects with industry in Brazil, in cooperation **with ITAL**
- Focus on **Innovations in Food and Bioresources**

Partners / Contact Persons

- ITAL: Roseli Ferrari
- Fraunhofer IVV: Eng. Alexandre Martins Moreira

Projects

- **Sunflower** - Integrated process for sunflower oil and protein in collaboration with Brazilian industry
- **SeaFeed** - Bioeconomics Project to study applications for marine macroalgae
- **Acrowards** - Development of sustainable cultivation systems for Macaw palms and identification of suitable processing techniques to supply high-value fractions from Macaw fruits for food and non-food applications



Example: Fraunhofer Project Center for Innovations in Food and Bioresources at ITAL - FPC ITAL

SUNFLOWER-Integrated process for sunflower oil and protein in collaboration with Brazilian industry

- **BMBF / CNPq**
- 2 years (2015-2017)
- **Project partners:** ITAL, IFMT, UFMT, EMBRAPA and
- FAPEMAT
- **Partners from food industry (in Brazil and Germany):**



Fraunhofer Project Center for Software Systems and Engineering at UFBA – FPC@UFBA

Strategic Objectives

- Support the **scientific, technological and economic development** in Brazil
- **Support the Brazilian** industry with applied research and innovation projects
- Acquiring and execute joint RD&I projects with industry in Brazil, in cooperation **with UFBA**
- Focus on **Critical Systems, Data Analytics and Information Visualization,** or **eGovernment**

Partners / Contact Persons

- Federal university of Bahia– UFBA: Ph.D. Mendonça
- Fraunhofer IESE: Dr. Karina Barreto Villela

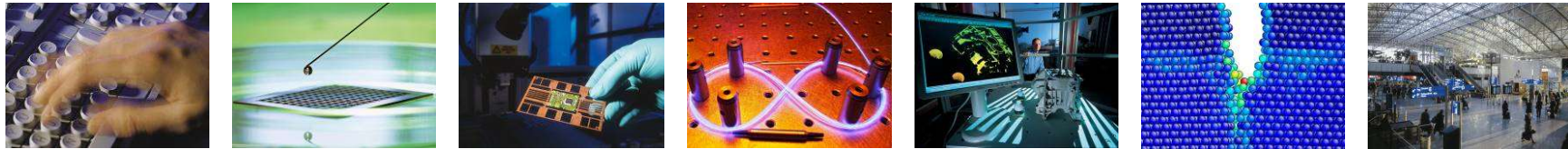
Projects

- **Rescure** - new communication platform to save lives
- **Automind** - Simulator for Subsalt platforms Performance Studies
- **Software Reuse Methodology for oil and gas production and exploration control**



Fraunhofer Liaison Office Brazil

Strategic Cooperation



■ EMBRAPPII - The Brazilian Agency for Industrial Research and Innovation

- Scientific and Technological Cooperation

■ SENAI-CNI-Innovation Laboratories

- Establishment and structuring of Innovation Laboratories
- Elaboration of business and management plans
- Consulting

■ FAPESP – São Paulo Research Foundation

- Scientific and Technological Cooperation

■ MCTIC-CNPq

- Matchmaking for:
 - “Ciências sem fronteiras” Program
 - PhD students and PhD

Fraunhofer in Brazil

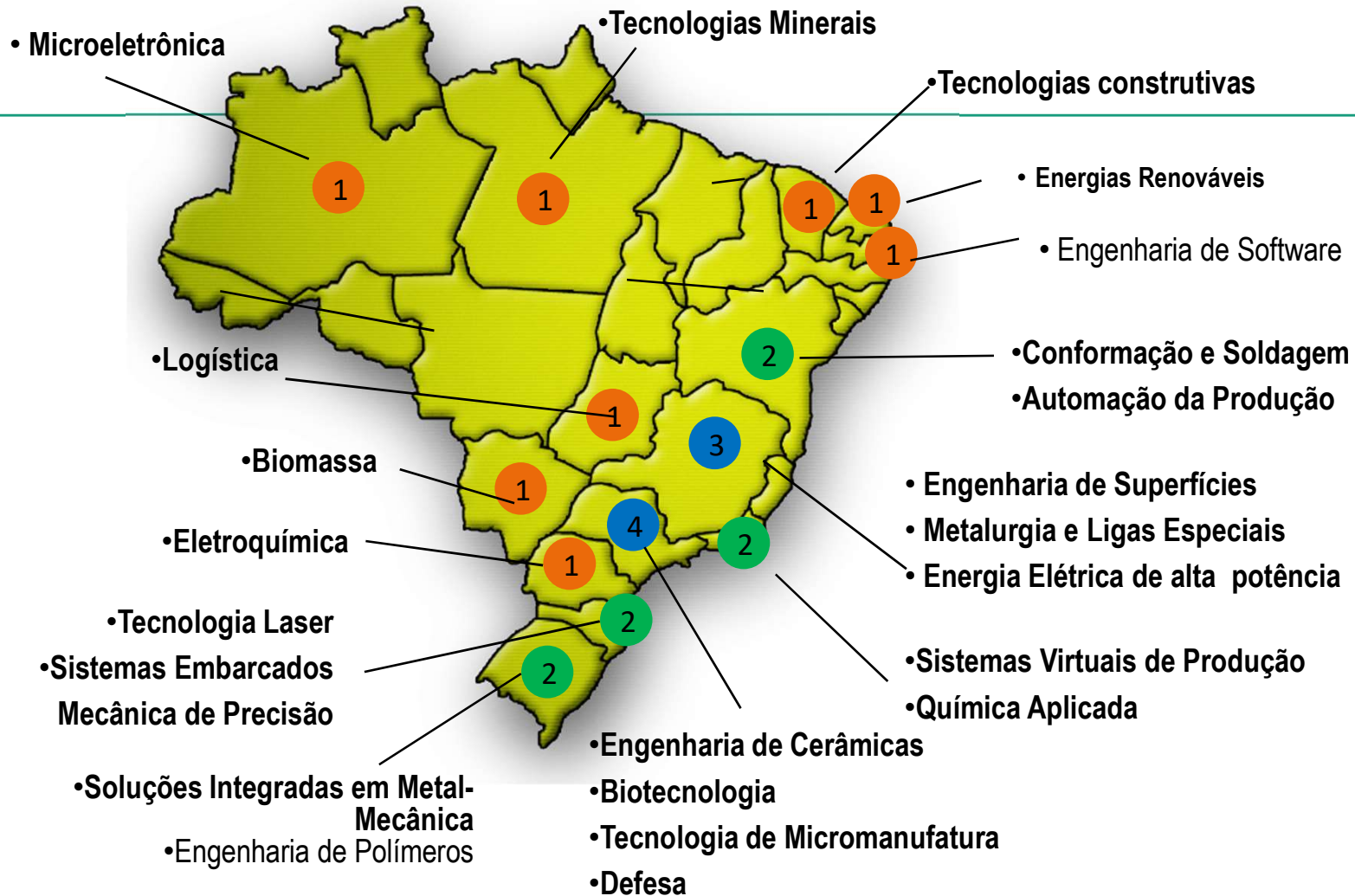
Projects and Cooperation



Fraunhofer IPK

- Implementation of new manufacturing technologies in the water turbine sector, Planning and Implementation of 26 Innovation Institutes (SENAI)
- Intellectual Capital Statement project in cooperation with the university PUC, SEBRAE (Agency to support SMEs) und 10 medium-sized companies
- CEBRABIC - CENTRE FOR EUROPE-BRAZIL BUSINESS AND INNOVATION COOPERATION. (Consortium is coordinated by Fraunhofer IPK)

Institutos Senai de Inovação



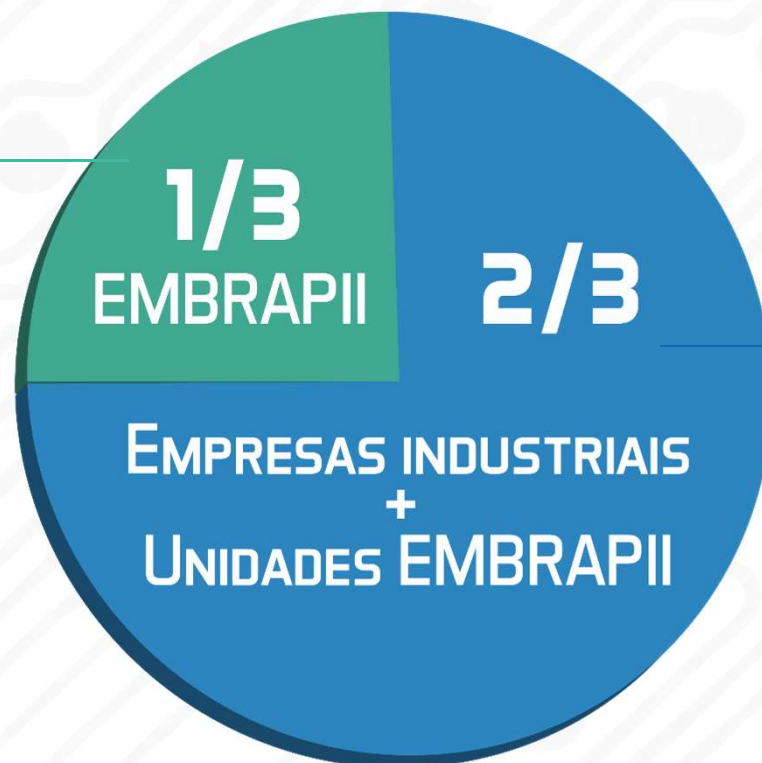
Composição de recursos

-----Unidade EMBRAPPI-----

Valor dos projetos

Recursos não reembolsáveis

Fluxo contínuo



Empresas industriais:

Recursos Financeiros

- FINEP, BNDES
- obrigatoriedade: ANP, ANEEL, Lei de informática e outros

Unidade EMBRAPPI/Polo:

Contrapartida Econômica e/ou Contrapartida financeira



EMBRAPPI
Empresa Brasileira de Pesquisa e Inovação Industrial



Singularity University / Summit 2017

“O Vale do Silício tem uma palavra para descrever fracasso:

Se chama experiência!”



A Sociedade Fraunhofer

Seu parceiro em Inovação...

**Agradece Muito pelo Convite!
Agradece Muito pela Audiência!**

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