EMBRAPII
UE – DCC/UFMG
SOFTWARE FOR CYBER-PHYSICAL SYSTEMS

A NEW MODEL TO SUPPORT **INNOVATION**

Research, development and innovation funding

Shared risks and costs

Greater agility and flexibility in operations

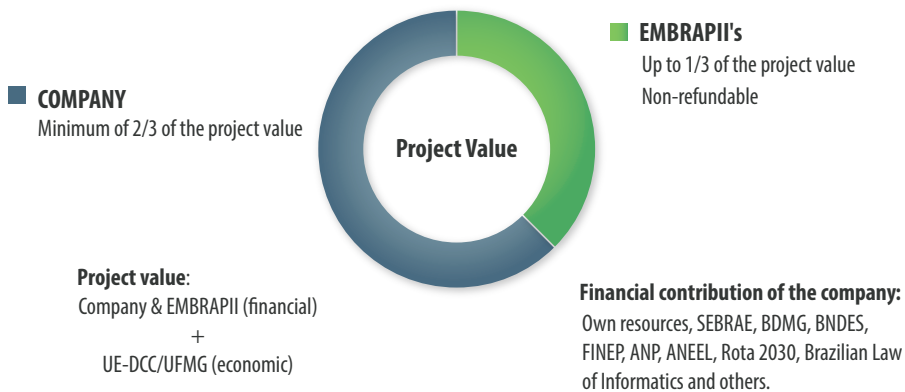Strong technological competence and business competitiveness

DCC
COMPUTER SCIENCE DEPARTMENT

U F *m* G

EMBRAPII - Brazilian Company of Research and Industrial Innovation

The EMBRAPII Organization leverages on the competence of established research, science and technology institutions to fund research and development (R&D) projects, to substantially reduce costs, risk and time demanded by innovation processes, improving the success rate. The total project cost is shared by EMBRAPII and the EMBRAPII Unit, whose leading technological and scientific expertise may significantly shorten the path connecting ideas to successful realizations of novel processes and products.

Project Value

■ **EMBRAPII's**
Up to 1/3 of the project value
Non-refundable

■ **COMPANY**
Minimum of 2/3 of the project value

Project value:
Company & EMBRAPII (financial)
+
UE-DCC/UFMG (economic)

Financial contribution of the company:
Own resources, SEBRAE, BDMG, BNDES, FINEP, ANP, ANEEL, Rota 2030, Brazilian Law of Informatics and others.
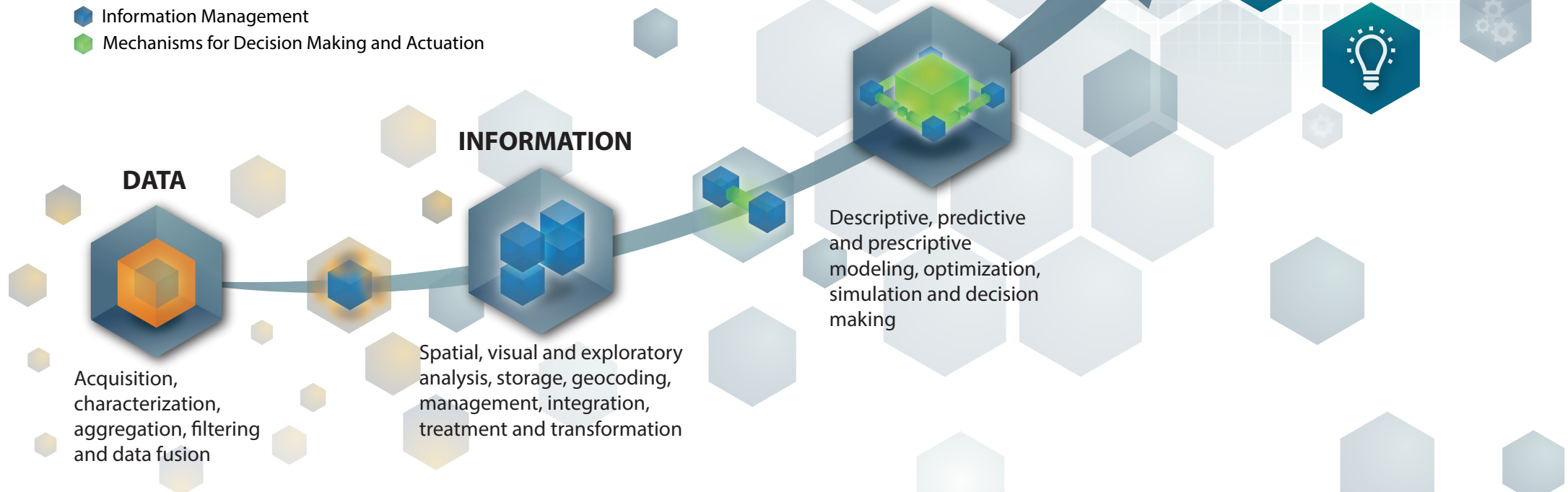
BENEFITS FOR COMPANIES

- ✔ Reduced cost and risk
- ✔ Agile contracting and fast project roll out
- ✔ Custom development of innovative products and/or processes
- ✔ Financial disbursement direct by the EMBRAPII Unit
- ✔ Intellectual Property negotiated directly with the EMBRAPII Unit
- ✔ Sound technological competence
- ✔ Professional project management practices
- ✔ Confidentiality assured
- ✔ Flexibility in supporting innovation

EMBRAPII UNIT DCC / UFMG

Cyber-Physical Systems is the main area of competence of the EMBRAPII Unit (UE) of the Computer Science Department at Federal University of Minas Gerais. We have a long term, solid experience in developing computing platforms to tackle physical, virtual and social components at different scales and supported by diverse state-of-the-art technologies in all human activities. For over 40 years, we have successfully developed systems for several sectors / segments such as ICT and electronics, telecom, steel and metallurgy, mining, automotive and transportation, logistics, health, agribusiness, energy, oil and gas.

LINES OF ACTIVITY

- Prospecting and Monitoring of Data
- Information Management
- Mechanisms for Decision Making and Actuation

INNOVATIVE PRODUCTS, PROCESSES AND SOLUTIONS

KNOWLEDGE

INFORMATION

DATA

Descriptive, predictive and prescriptive modeling, optimization, simulation and decision making

Acquisition, characterization, aggregation, filtering and data fusion

Spatial, visual and exploratory analysis, storage, geocoding, management, integration, treatment and transformation

DIFFERENTIALS OF THE COMPUTER SCIENCE DEPARTMENT – UFMG

- Reference in research and projects related to Cyber-Physical Systems
- Top ranked graduate program – Level 7 (highest) in CAPES
- Team of renowned researchers with high level of scientific and technological productivity
- Well trained technical and administrative staff
- Agile process for software development based on the best practices in the market

- Laboratories equipped with state-of-the-art and advanced technology
- Professionals certified by PMI (Project Management Institute)
- Consolidated track record in university-industry collaboration by the delivery of outstanding results
- Aggregation of technological value to existing solutions and products
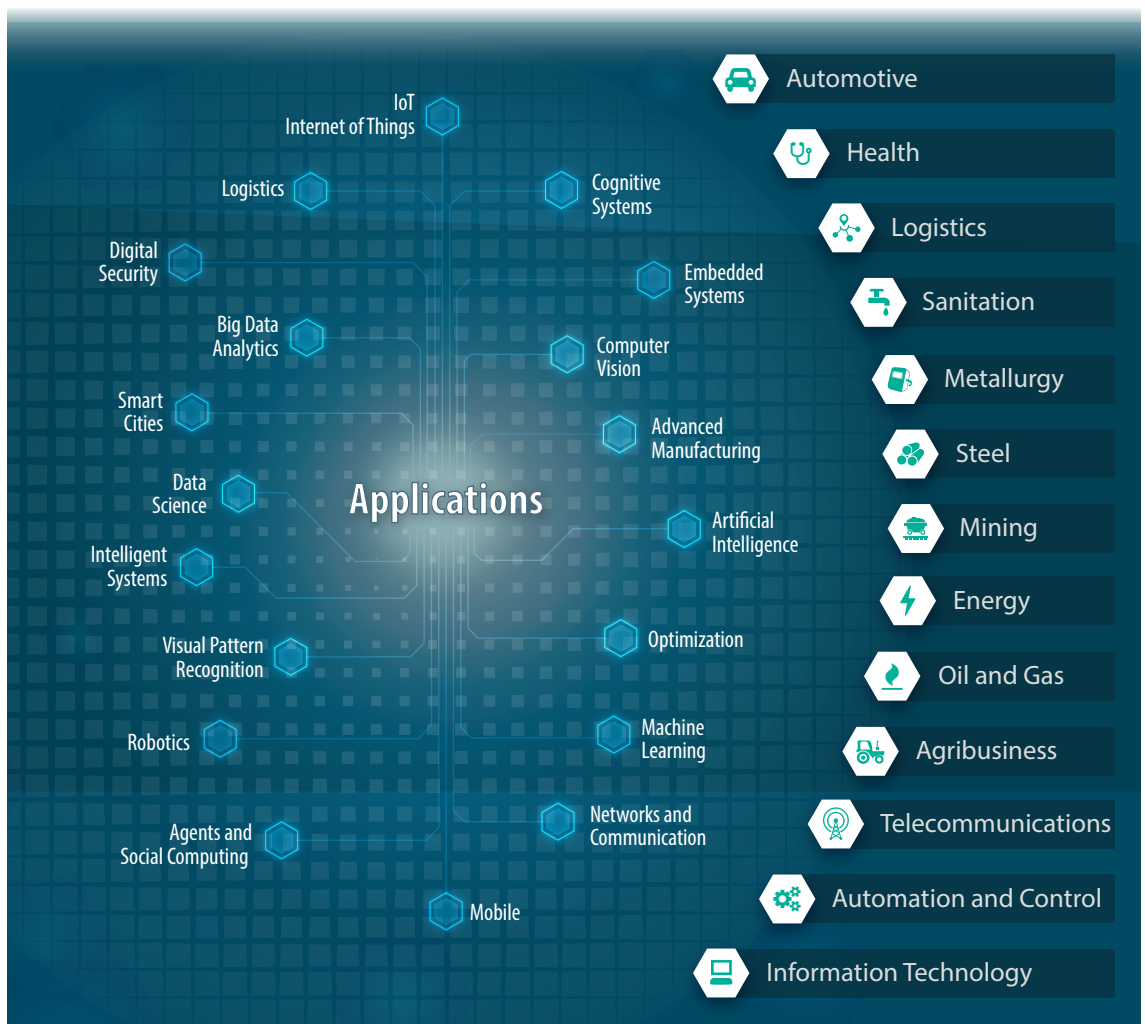- Creation of innovative solutions, processes and products

COMPUTER SCIENCE DEPARTMENT
DCC-UFMG

Since its foundation in 1976, the Computer Science Department – DCC-UFMG has focused on the training of human resources inextricably linked with R&D activities. Graduates and other professionals have thus been exposed to real world problems of the Information and Communication Technology (ICT) industry and other industrial areas through the cooperative execution of R&D projects.

Our portfolio of R&D projects with the industry include partnerships with companies such as Aperam, Astrein, Cemig, Cenibra, Codemge, Elo7, Engetron, Fiat, Gerdau Açominas, Google, HP, IBM, Intel, Kunumi, LGE, Maxtrack, Microsoft, Mundiale, Nexa, Petrobras, Samsung, Serpro, Usiminas, Vale, Vallourec.

The DCC-UFMG is accredited by CATI / MCTI to execute projects with resources from the Law of Informatics.

The UE-DCC/UFMG works in the area of Software for Cyber-Physical Systems with applications in several industrial segments.

IoT Internet of Things

Logistics

Cognitive Systems

Digital Security

Embedded Systems

Big Data Analytics

Computer Vision

Smart Cities

Advanced Manufacturing

Data Science

Applications

Intelligent Systems

Artificial Intelligence

Visual Pattern Recognition

Optimization

Robotics

Machine Learning

Agents and Social Computing

Networks and Communication

Mobile

Automotive

Health

Logistics

Sanitation

Metallurgy

Steel

Mining

Energy

Oil and Gas

Agribusiness

Telecommunications

Automation and Control

Information Technology

EMBRAPII
UE – DCC/UFMG
SOFTWARE FOR CYBER-PHYSICAL SYSTEMS

Please contact us to discuss partnerships that will foster the development of innovative solutions and products for your company

EMBRAPII UNIT DCC/UFMG
Software for Cyber-Physical Systems

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EMBRAPII
Brazilian Company of Research and Industrial Innovation

MINISTRY OF
EDUCATION

MINISTRY OF
SCIENCE, TECHNOLOGY, INNOVATION AND COMMUNICATION

PÁTRIA AMADA
BRASIL
BRAZILIAN GOVERNMENT