

INSTITUTO MAUÁ DE TECNOLOGIA



Dr. Marcello Nitz  
Vice-Provost, Academic



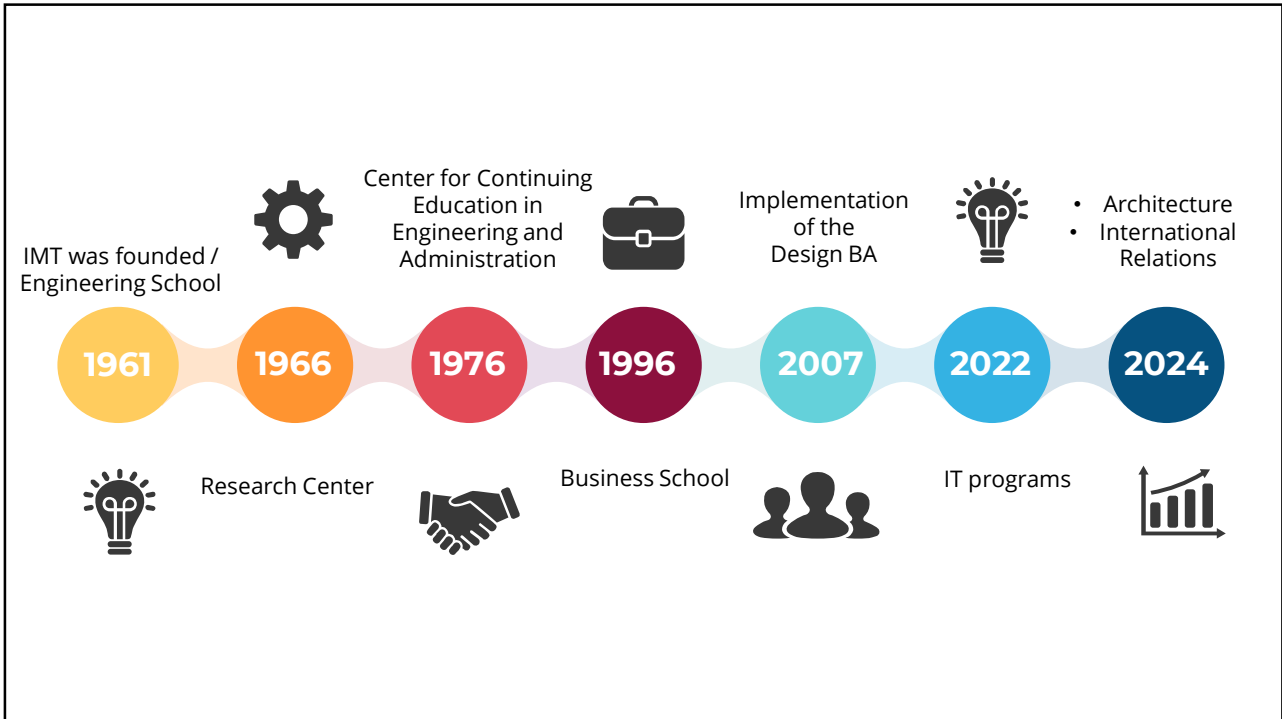
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INOVAÇÃO  
É O NOSSO DNA

Innovation is in our DNA.

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- Founded: 1961
- Private Not-for-profit
- Strong Industry Links (ABC Region)
- + 100 Labs
- National Reputation
- High accredited courses by the National Regulatory Indicators

**Mauá Institute of Technology:  
University + Research Center**

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- Main Campus: 130,000 square meters - São Caetano do Sul
- Only 12 km from São Paulo
- Campus in São Paulo: PG programs
- 150 professors
- 2.500 Students
- 13 UG Programs
- Executive Education – Non-Degree Courses



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**UG Programs:**

1. Food Engineering
2. Chemical Engineering
3. Civil Engineering
4. Mechanical Engineering
5. Control & Automation Engineering
6. Production Engineering
7. Electronic Engineering
8. Electrical Engineering
9. Computer Engineering
10. Design
11. Business Administration
12. Computer Science
13. Information Systems

**TRIPOD OF INNOVATION**  
Desirability / Viability / Feasibility




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**Research groups :**

1. Development of Tech applications for: Agriculture, Biomedical Engineering and Process Control
2. Engines and Internal Combustion
3. Manufacturing Processes and Mechanical Design
4. Intelligent Mechatronics and Robotics Systems
5. Civil Construction Materials
6. Development and Conservation of Food Products
7. Embedded Electronic Systems
8. Microwave on Chemical Processes
9. Biological Treatment of Wastewater
10. Science and Materials Engineering
11. Education in Engineering, Design Business Administration
12. LABDESIGN, Creative Process, Experience and Innovation
13. Particulate Systems
14. Renewable Energy, Sustainability and Environment



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 <b>RESEARCH AND DEVELOPMENT PROJECTS</b>			
FOMENT AGENCY	DEPARTMENT IMT	PROJECT TITLE	ORGANIZATION
ANEEL	CP-DET	Development of low cost solution for Remote Monitoring of Fuse Cutouts via Lorawan system.	Sulgipe / Daimon
ANEEL	CP-DMV	Development of a methodology for analyzing the performance of the components of the fuel injection system, avoiding the loss of performance in the motor-generators and the increase in the emission of pollutants.	Tevisa
ANEEL	CP-DET	Advanced loss control system through active management of the low voltage distribution network.	Celeesc / Daimon
ANEEL	CP-DET	Development of project "efficient mobility: distributed microgeneration based on EVs (electric vehicles) with SOFC (solid oxide fuel cell) coupled to low voltage sockets".	Equatorial Energia / AVL / Daimon
FINEP	CP-DET	Intelligent feed management system in silos for small and medium-sized cattle ranchers, milk producers.	Aspect Mídia / Agrária / Daimon
FINEP	CP-DET	PNEU -IoT - Develop a communication system for tags and RFID sensors, a database and the manufacturer's platform with the automaker's platform and a vehicular CAN network, which has technical interoperability, based on machine learning algorithms, which add value in a way equitable for all actors in the chain.	Prometeon / FEI
FINEP	NSPi	Intelligent Autonomous Packaging for Cold Chain of Health System.	São Rafael/UNIFESP/ITAL
FAPESP	NSPi	Retrofit Tokamak (nuclear fusion reactor) - Development of a prototype using new technologies.	Inst. Física - USP
Rota 2030	CP-DMV	Evaluation of a High Pressure Injection System operating with Brazilian Ethanol.	PSA / Bosch / Marelli / FCA / ÚNICA / EPUSP / IPT
Rota 2030	CP-DMV	Increased Performance of Flex-Fuel Engines through the application of high and ultra-high pressure injection systems (HPDi) - Technological Challenges for the use of Ethanol.	AVL / FCA / FORD / GM / MAGNETI MARELLI - ITA / UNICAMP / UFSM / USP
FINEP	CP-DMV	Development of hybrid engines on dynamometric benches.	Embraer
ANP	CP-DMV	Study of technologies in flexible fuel cells powered by mixtures of ethanol and methane, which can be biogas or natural gas for electricity generation.	Repsol / Senai
ANEEL	CP-DMV	Conversion of Large Motor Generators to Heavy Fuel Oil for the Use of Methane and Hydrogen with Emphasis on Nationalization of Processes and Maintenance of Energy Efficiency.	Tevisa / CAAR
RDT	CP-DMV	Development of a method for qualifying vehicle pollutant emissions and fuel consumption through numerical simulations.	CCR

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## RESEARCH AND DEVELOPMENT PROJECTS

### FINEP – “Demonstrating Platforms of New Aeronautical Technologies”

**Thematic Line I** – Aircraft demonstrating technologies focused on passenger transport.

The objective is the development of an aircraft demonstrating technologies that can integrate electric or hybrid propulsion, aiming at unmanned driving for passenger transport, with the capacity to test integrated autonomous operation.

#### Benefits:

- Financial amount: BRL 9.4 million;
- Partnership with an institution that owns technology;
- Participation of professors and students during the project;
- Possibility of laboratory assembly for propulsion systems.

**Departments Involved:** CP-DMV; CEUN-EEM-MC.

**Current Status:** Approved FINEP – Under contract.



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#### Some Research Projects:

- CUBE SAT (BRAFITEC/ THALES)
- Giant Magellan Telescope (GMTO CONSORTIUM)
- HIRES (ESO)
- PLATO (ESA)
- SMART CAMPUS
- ONÇASAT (NGO ONÇAFARI)
- PRECISION AGRICULTURE
- SMART CITIES
- SERVICE ROBOTS
- INTELLIGENT MANUFACTURING
- ETHANOL ENGINES (FAPESP/PSA)
- MATERIALS FOR VEHICLE EXHAUST SYSTEMS (GM)



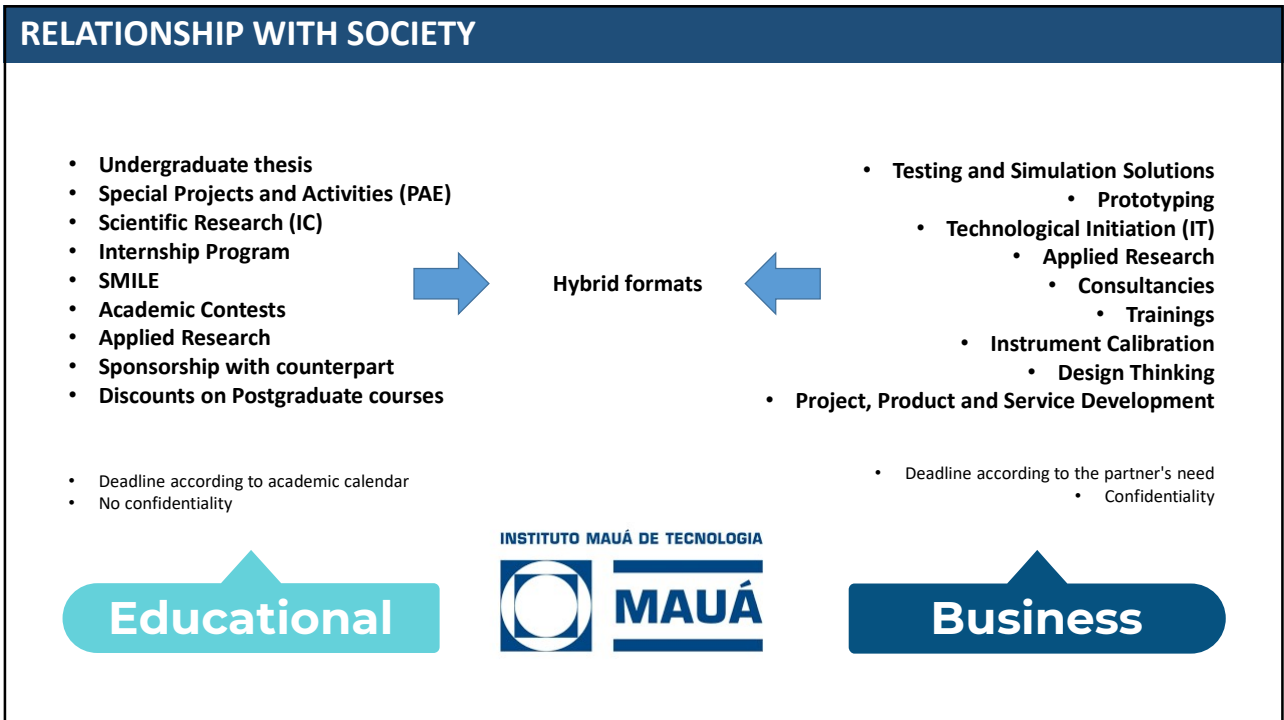
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**Research Center :**

- Applied Technological Research
- Product and process development
- Testing, analyses, trials, expert opinions and certifications
- Projects, Consulting, support and planning
- Specialized training in different areas of expertise



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Thank you 😊

**Dr. Marcello Nitz**  
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[nitz@maua.br](mailto:nitz@maua.br)

