

A LITTLE BIT OF HISTORY IN STEAM (2001-2019)



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APRIL 2020

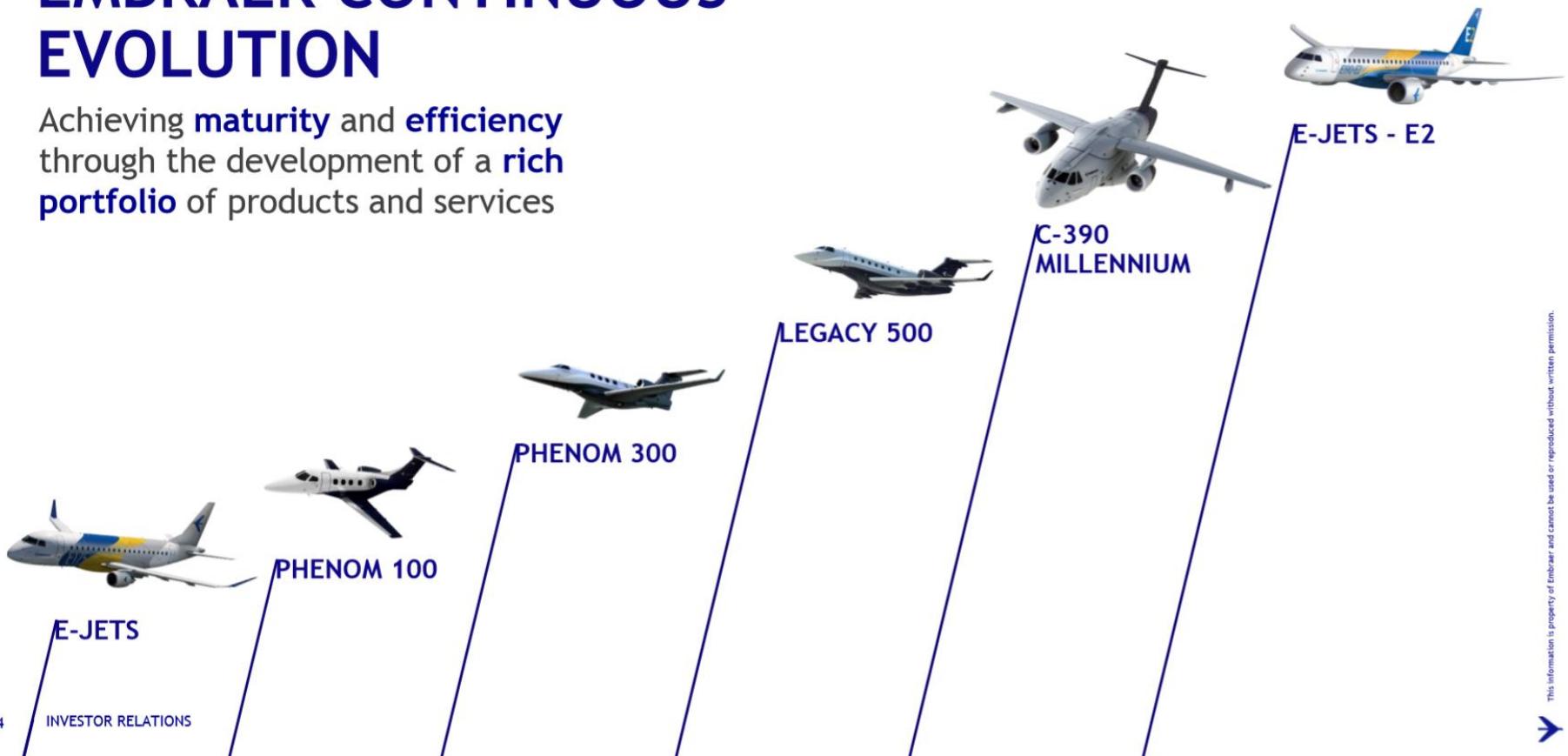
AGENDA

- Embraer High School
- Preparing Technicians
- Internships
- Engineering Specialization Program
- Mentorship
- Industrial Doctorate
- Final Comments



EMBRAER CONTINUOUS EVOLUTION

Achieving **maturity** and **efficiency** through the development of a **rich portfolio** of products and services



SMARTER BY DESIGN

17.3%

LOWER CONSUMPTION
OVER CURRENT E190

New Interior

Enhanced PAX experience and more overhead bin volume

New Wing

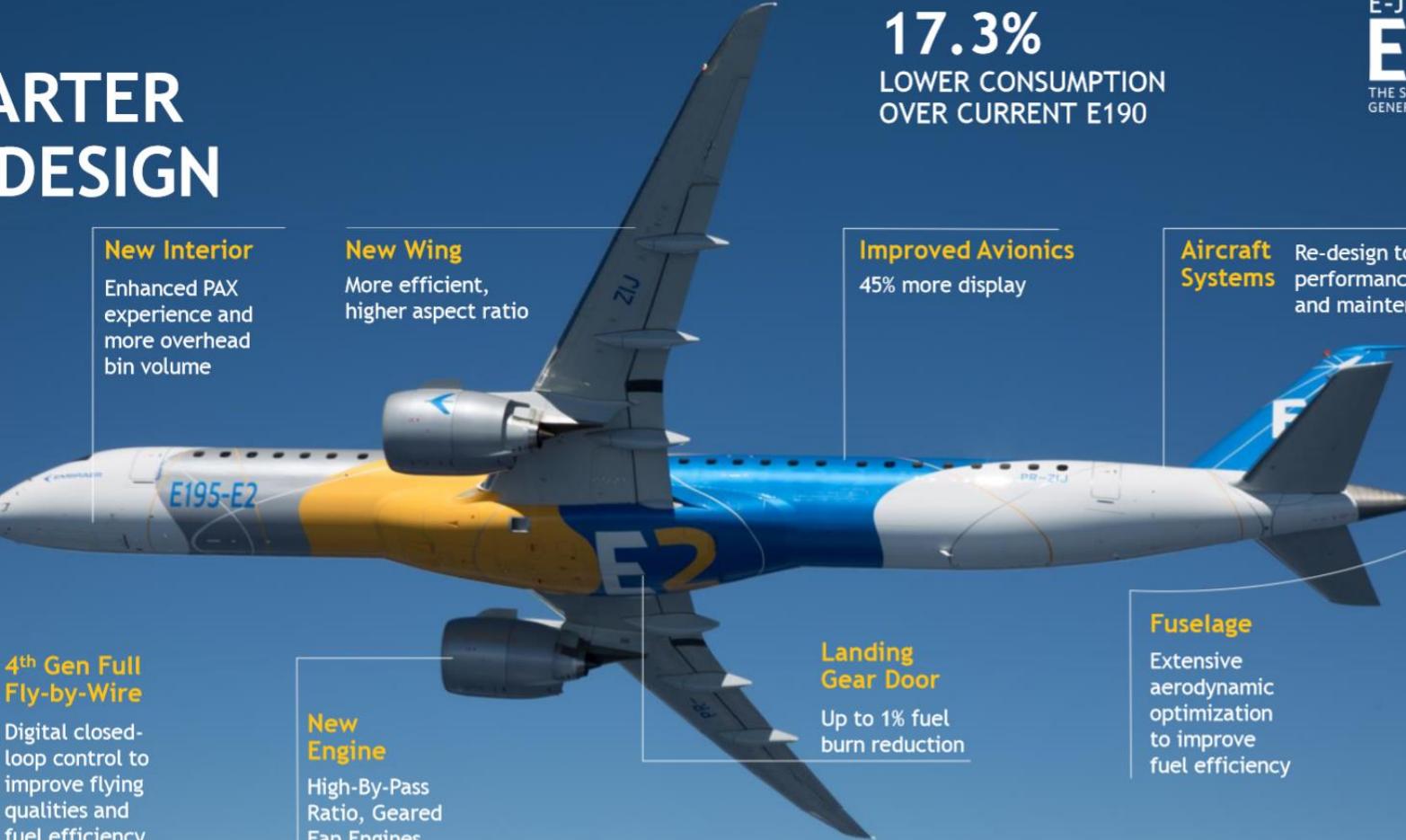
More efficient, higher aspect ratio

Improved Avionics

45% more display

Aircraft Systems

Re-design to boost performance, reliability and maintenance costs



EDUCATION

The Embraer High Schools serve low-income students and students from the public school system.



960 students per year in schools

3,000 young graduates

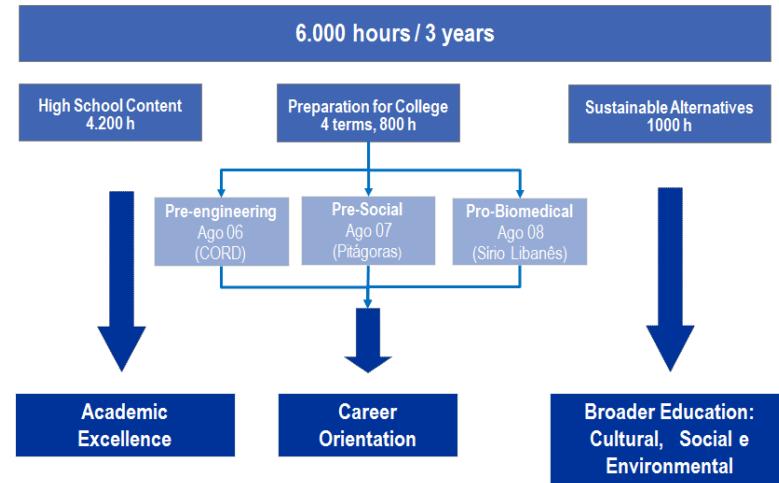
+80% of students admitted to public universities in Brazil

+800 university scholarships for alumni

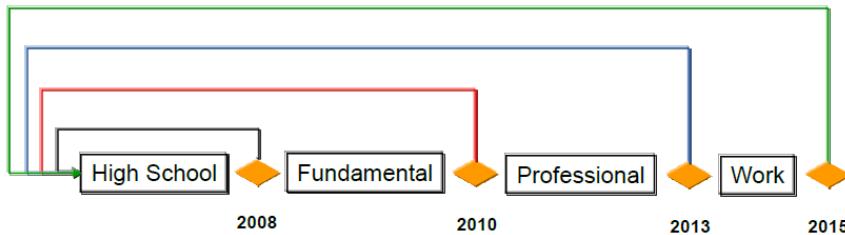
1st place at ENEM in Vale do Paraíba and Botucatu

Pre-Engineering

(since 2006)



	Semester			
	1	2	3	4
Preparation for Work	Personal Development for Career Success (40 h)			
	Computer and Internet Tools for Engineers (40 h)			
Some Principles of Engineering	Principles of Technology I (80 h)	Principles of Technology II (80 h)	Principles of Technology III (60 h)	
		Electricity CC/CA (40 h)	Basic Electronics (40 h)	Digital Electronics (40h)
Learning by Doing		Nature of things I (40 h)	Nature of things II (40 h)	
			Capstone Project (120h)	Capstone Project (120h)



PPE - Embraer Designer Program

Preparing technicians
to become aeronautical
designers.

151 professionals trained
in 4 years of operation.



Definição de Conteúdo

Criação de material didático

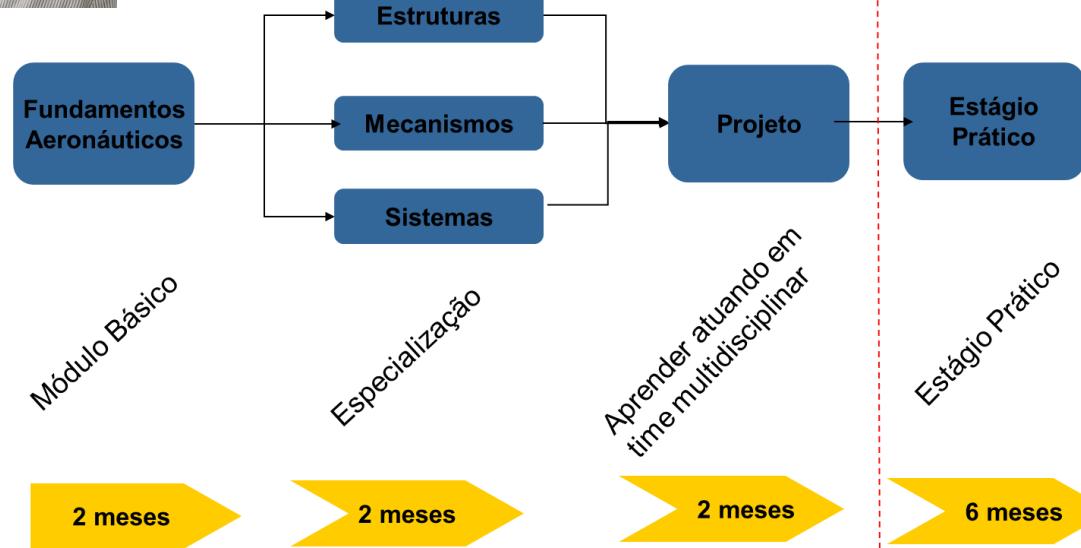
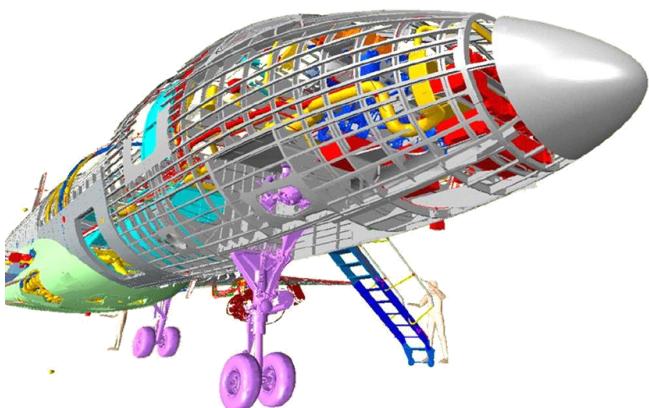
Mentores Técnicos de Projetos

Realização de visitas técnicas

Professores



- 180 empregados participaram da construção do PPE
- Em sua maioria, profissionais Carreira Y



Carga de 850 horas treinamento + 960 horas de estágio prático





Internship Program

Every young talent that appears in the universities of Brazil and worldwide is carefully watched and assessed so that one day they can be a part of Embraer.



TURMA 2



PEE - Engineering Specialization Program

Professional Master's in
aeronautical engineering,
taught on company premises.

More than 1,300 engineers
trained since 2001.







PROGRAM ORGANIZATION

Fundamentals

Introduction to Aviation

Aviation Business

Etc...

Aerodynamics

Propulsion

Control

Aeronautical Structures

DIP

Phase 1

Structures

Safety Assessment

Fatigue

NASTRAN

Etc...

Aeroelasticity

Structural Loads Analysis

Finite Elements

...

Specialization

Systems

Safety Assessment

Fly-by-wire

Avionics

Fuel System

Radio Navigation

Electrical Systems

Hydraulic Systems

...

Manufacturing Eng.

Safety Assessment

Systems Installation

Industrial Layout

Industrial Logistics

...

Robotics

Composites

Advanced Manufacturing

...

Maintainability

Safety Assessment

Integrated Logistics

eMaintenance

GSE

...

Logistics

Maintenance

Advanced Maintainability

...

Integration

Aircraft Project

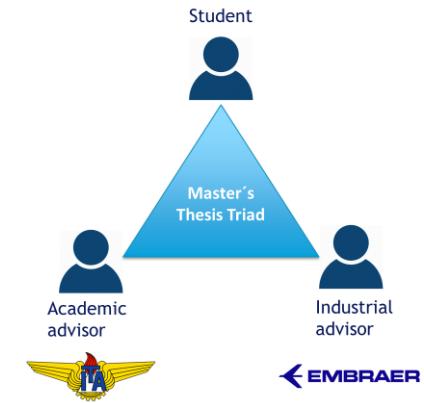
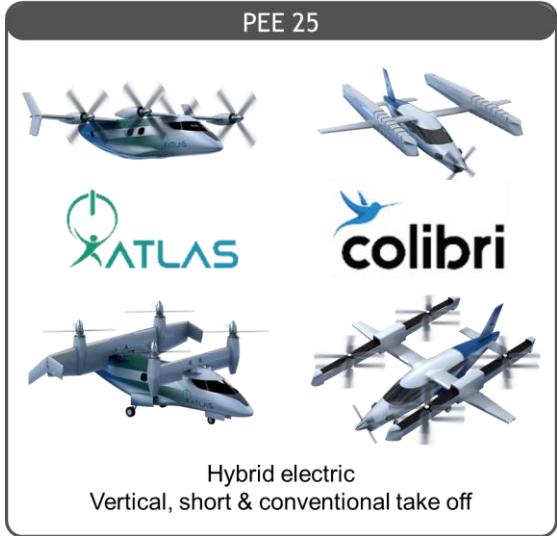
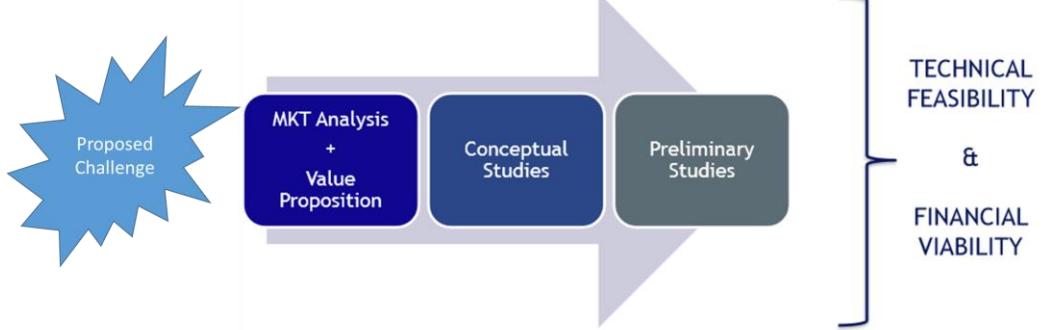
Master Thesis

~ 5 months

~ 6 months

~ 6 months

Phase 4 – Master Thesis (ITA + EMB)



TECHNICAL MENTORSHIP PROGRAM

Involves all engineering areas.

Aimed at real technological problems, which can be solved in the short term.

DURATION 18 MONTHS

The last cycle was completed in 2017 with 105 pairs of mentors and mentees completing their studies.





INDUSTRIAL DOCTORATE



DOUTORADO ACADÊMICO INDUSTRIAL



1. Desafios tecnológicos → pesquisa aplicada, → academia + empresa
2. Pesquisador formado → atuar na empresa ou universidade
3. Empresa (tema + orientador industrial + complementação bolsa)

Em andamento:

- Manufatura → Performance
- Inteligência Artificial → planejamento manutenção de frota
- Imperfeições superficiais → transição camada limite
- Engajamento Aéreo Cooperativo



FINAL COMMENTS

- Selection is key
- Full time dedication
- Learning by doing
- Partnerships are essential
- Involvement of experienced professionals
- High management support
- Mission + values (technology + education)





THANK YOU

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