

# Organização e Princípios



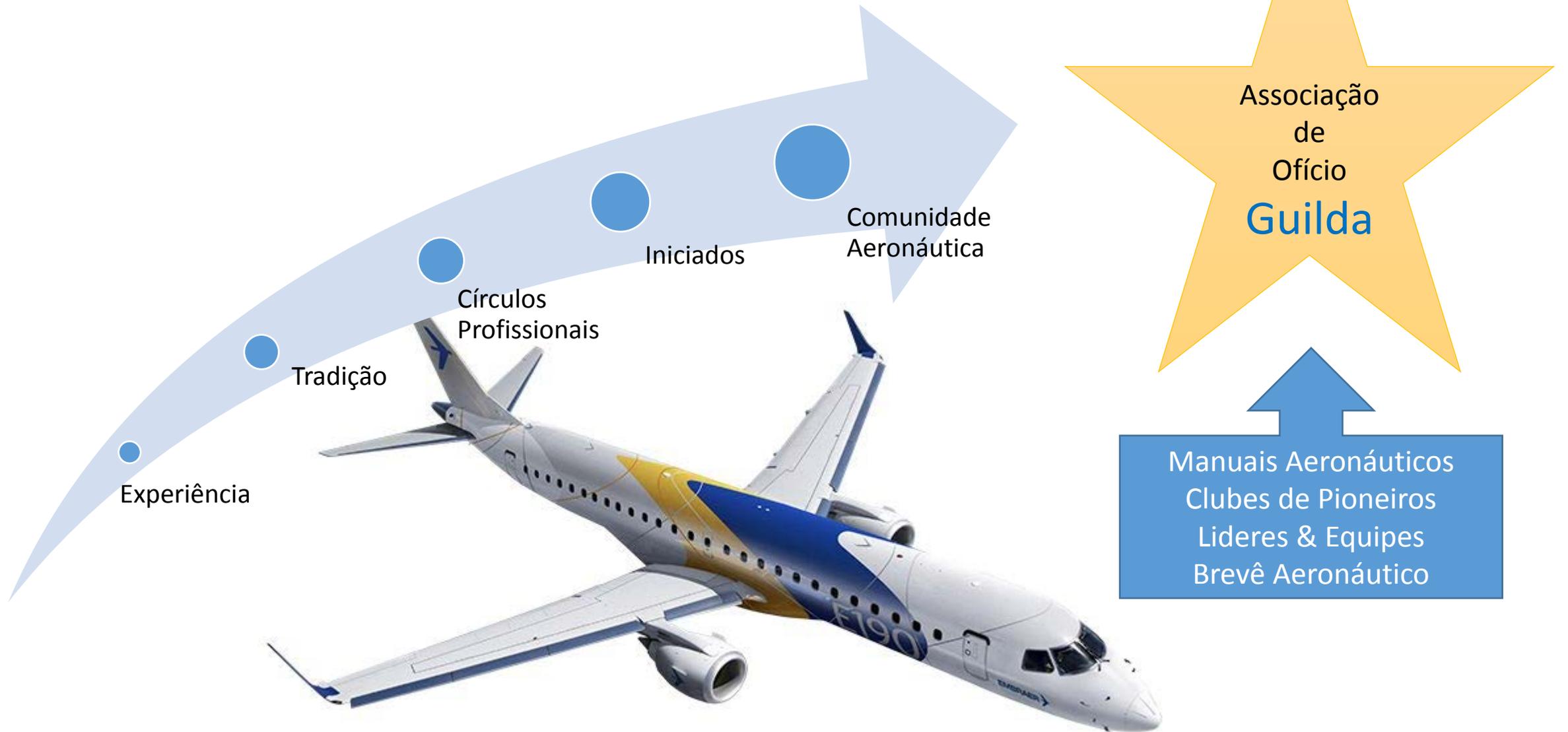
Lineage® 1000E  
BY EMBRAER

*PME3554 Introdução às Estruturas Aeronáuticas*

Departamento de Engenharia Mecânica

**Escola Politécnica da Universidade de São Paulo**

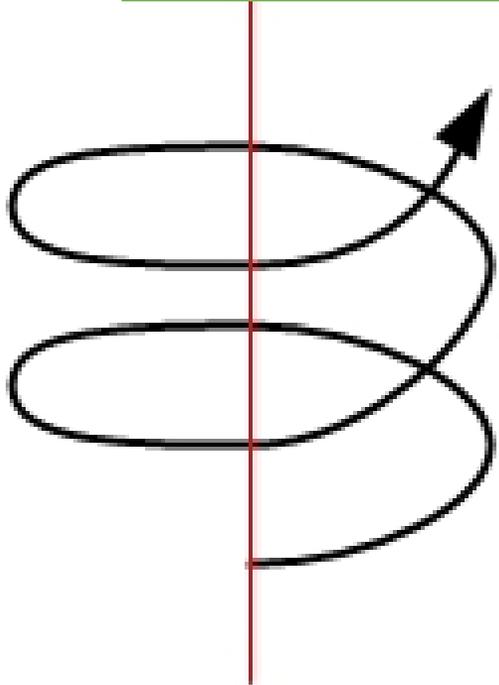
# Relações Profissionais



# Organização Industrial

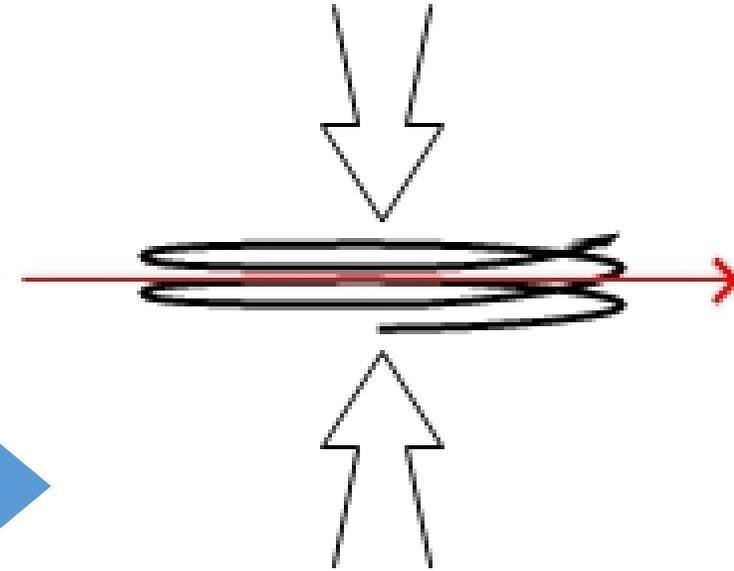


# Metodologia de Projeto



Espiral de Projeto

Engenharia Simultânea



# Projeto Integrado



# Projeto Otimizado

Minimização

- Peso e Custo

Maximização

- Desempenho

Compatibilidade

- Projeto Integrado

Confiabilidade

- Homologação -> Ensaio

Multifunção

- Componentes desempenham múltiplas funções

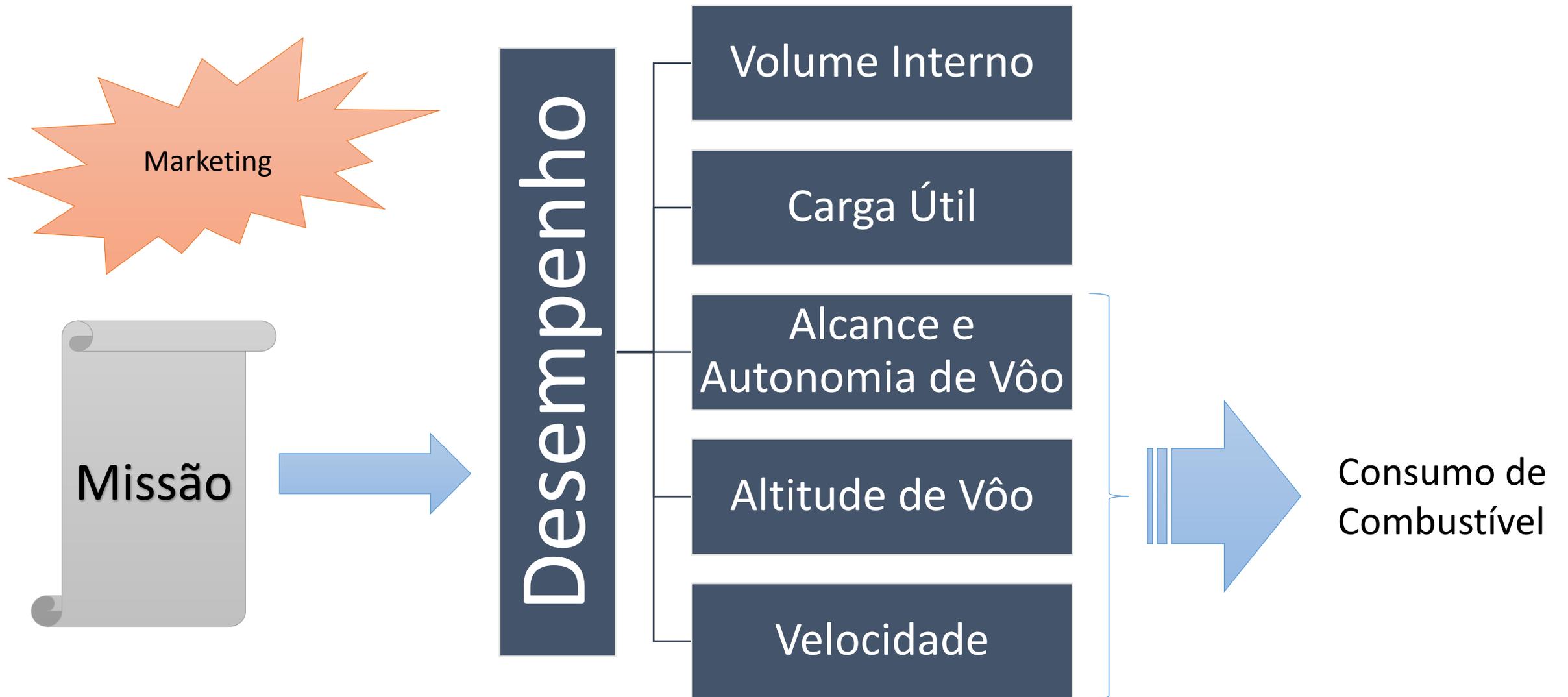
Prazos

- Penalidade de contrato

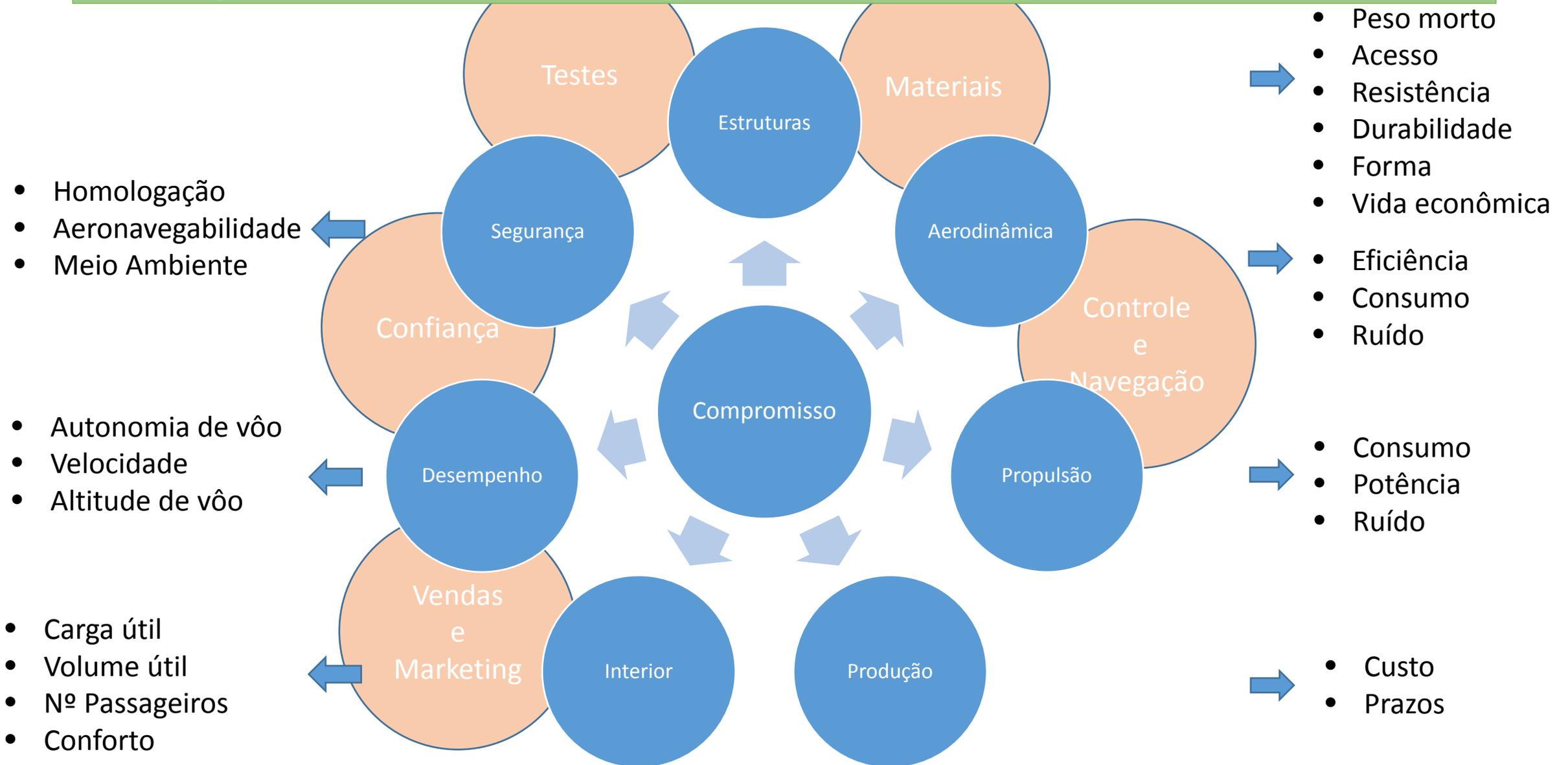
Financeiro

- Turbina é último componente

# Critérios de Desempenho



# Compromisso de Projeto

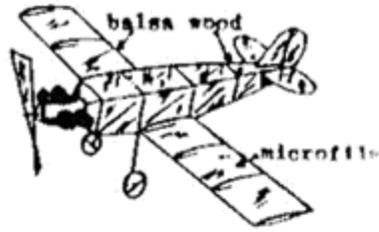


# DREAM AIRPLANES

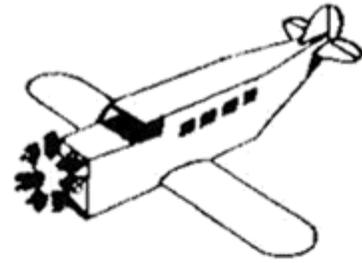
A completed airplane in many ways is a compromise of the knowledge, experience and desires of the many engineers that make up the various design and production groups of an airplane company.

It is only being human to understand why the engineers of the various groups feel that their part in the design of an airplane is of greater importance and that the headaches in design are due to the requirements of the other less important groups.

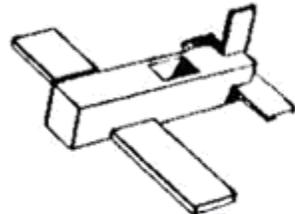
This cartoon "Dream Airplanes" by Mr. C. W. Miller, design engineer, indicates what might happen if each design or production group were allowed to take itself too seriously.



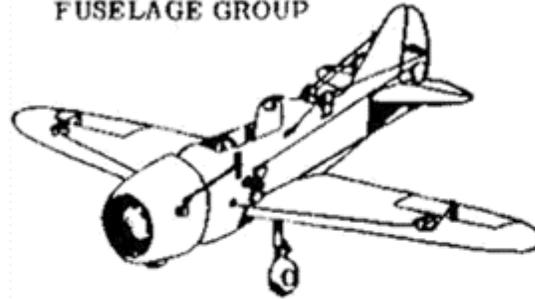
WEIGHT GROUP



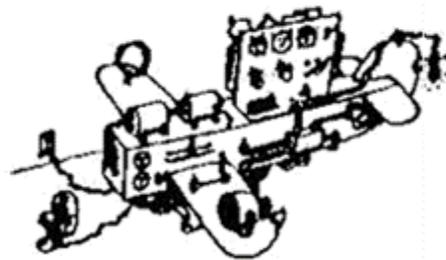
FUSELAGE GROUP



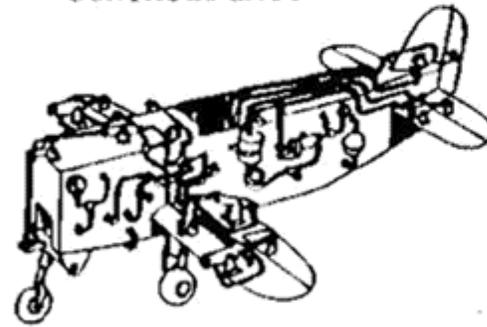
LOFT GROUP



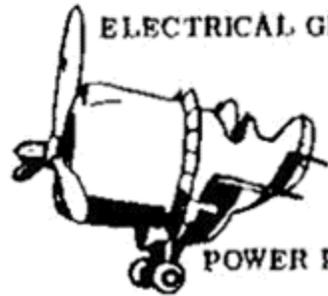
CONTROLS GROUP



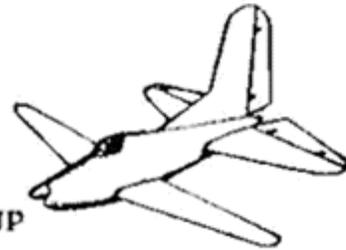
ELECTRICAL GROUP



HYDRAULICS GROUP



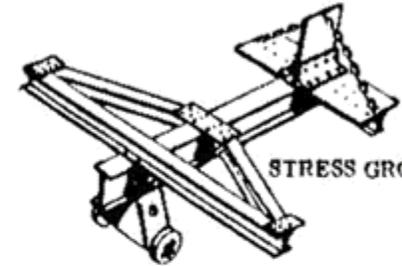
POWER PLANT GROUP



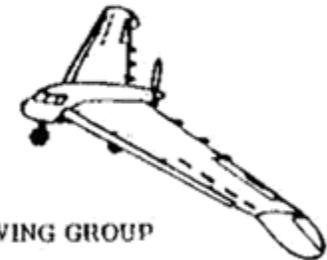
EMPENNAGE GROUP



AERODYNAMICS GROUP



STRESS GROUP

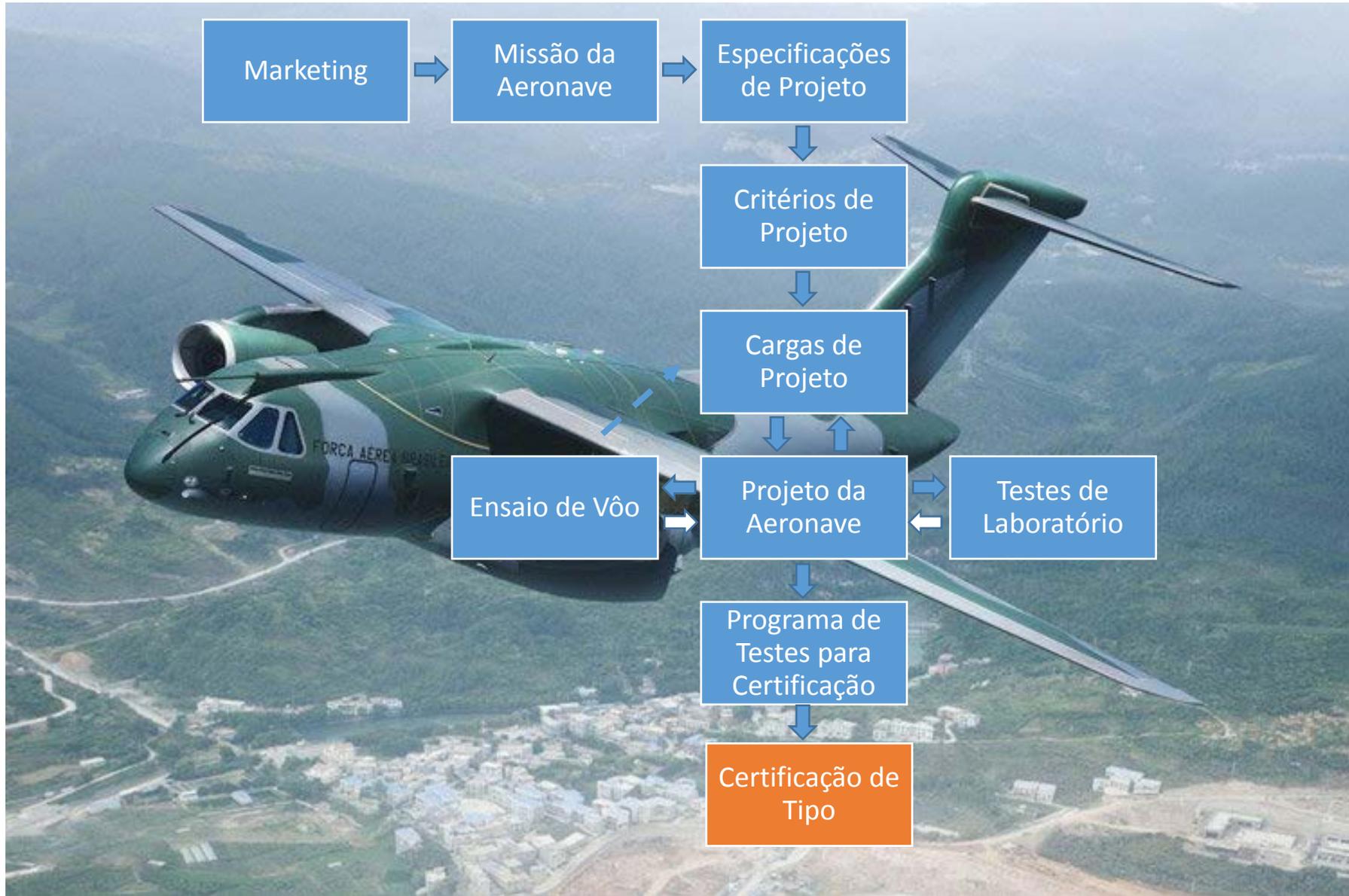


WING GROUP



EQUIPMENT GROUP

# Projeto, Desenvolvimento e Certificação



# Estruturas



Resistência Mecânica



Deflexão



Rigidez



Flambagem



Concentração de tensão



Mecânica da fratura



Confiabilidade



Manutenabilidade e Disponibilidade



Apoio à produção



Ensaio