



# ME5: ADVANCED MECHANICAL DESIGN

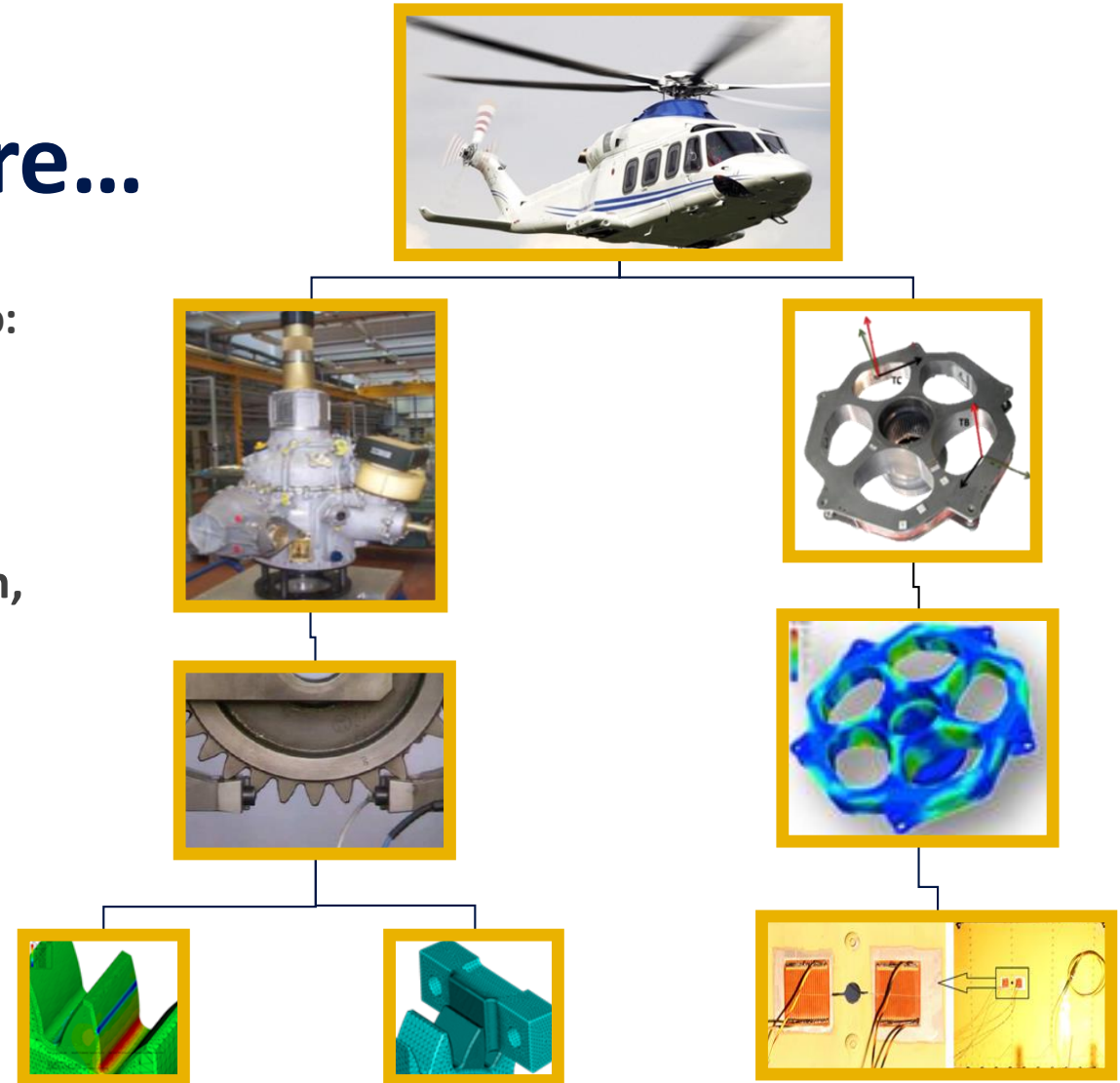
Track 5

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# ME5: Skills you will acquire...

After graduating, you will have developed numerous advanced technical skills. For example, you will be able to:

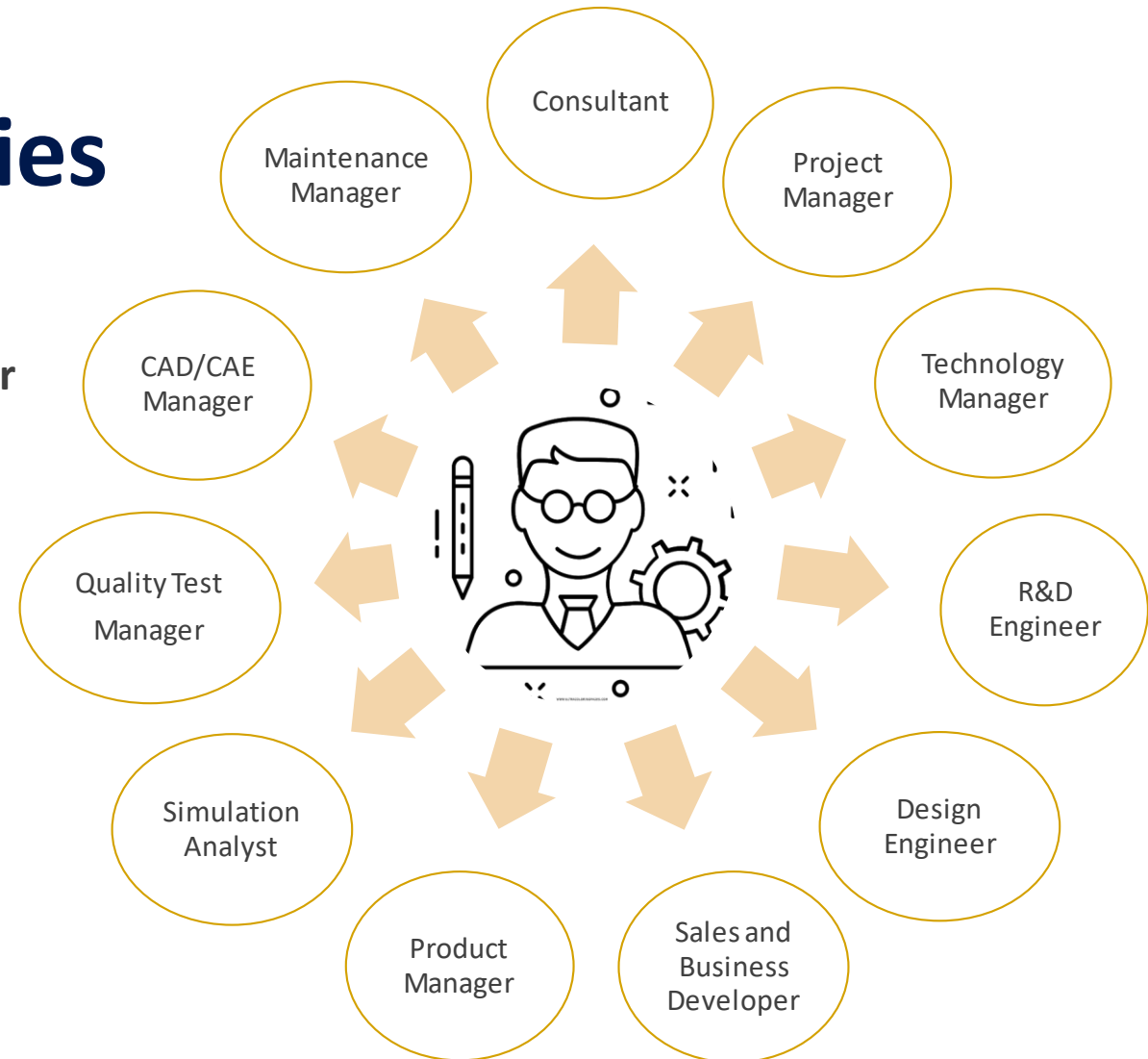
- Understand both machine elements and complex mechanical systems;
- Manage the whole design and development process: concept, preliminary design, system design, structural design, constructive design, prototyping, testing, industrializing;
- Master the complete innovation process;
- Understand mechanical behaviour of materials;
- Apply with a strong theoretical background numerical methods, such as FEM and CFD;
- Manage a testing and experimental campaign.



# ME5: Career Opportunities

After graduating, you will be able to **pursue your career** (not only, but also) in:

- R&D;
- Technology and Machinery Design;
- Business Services;
- Aerospace;
- Automotive;
- Industrial fields.



# ME5: Track Mandatory and Elective Courses

**38 ECTS**

Track Mandatory Courses  
20 ECTS

Track Elective Courses  
18 ECTS

| COURSE TITLE   | SEM | ECTS      |
|--|-----|-----------|
| Methods and Tools for Systematic Innovation I. C.                | 1   | 10        |
| Methods and Advanced Mechanical Design                           | 2   | 10        |
| <b>Track Elective Courses I</b>                                  |     | <b>6</b>  |
| Modelling of Mechanical Behaviour and Materials B                | 1   | 6         |
| Mechanical Systems Reliability                                   | 1   | 6         |
| Metodi Sperimentali per la Diagnostica Strutturale               | 2   | 6         |
| Mechatronic Systems and Laboratory B                             | 1   | 6         |
| Computer Vision and Reverse Engineering                          | 2   | 6         |
| <b>Track Elective Courses II (2 out of 19 courses available)</b> |     | <b>12</b> |
| ...  | 1-2 | 6         |
| ...  | 1-2 | 6         |
| Max. 1 course to be chosen from Group OPEN                       | 1-2 | 6         |

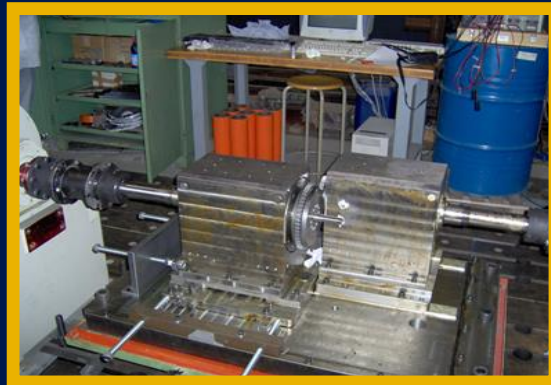
For further information click here:

[https://www8.ceda.polimi.it/manifesti/manifesti/controller/extra/RegolamentoPublic.do?jaf\\_currenWFID=main&EVN\\_DEFAULT=evento&aa=2020&k\\_corso\\_la=483&lang=EN](https://www8.ceda.polimi.it/manifesti/manifesti/controller/extra/RegolamentoPublic.do?jaf_currenWFID=main&EVN_DEFAULT=evento&aa=2020&k_corso_la=483&lang=EN)

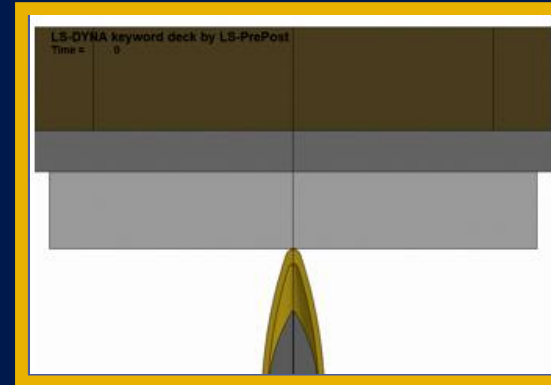
# ME5: Examples of Master's Thesis



Structural Health  
Monitoring of  
aerospace structures



Design and Testing of  
power transmissions



Ballistic impact and  
design of protections



Design, prototyping  
and testing of a solar  
parabolic system

# ME5: Partners

## Universities & Research Centres



## Companies & Organisations

