Cristina Silvia Vâlcea

ENGLISH FOR ENGINEERING

(Aerospace engineering, Mechanical engineering, Energy and utilities, Manufacturing, Materials)

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Contents

Forward

This world wouldn't have been the same without engineering as engineering from a simple cog to a huge bearing sets off unimaginable forces that humanity has learnt to harness. And this book by every exercise and every activity extols its achievements in an attempt at revealing its importance and at spurring professionals' interest in building on their English skill. It goes without saying that to know engineering is vital, but to know engineering in English is the epitome of one's aspirations to an integrative role into an world-wide engineering community.

This book is addressed to English intermediate professionals who may need to improve their English knowledge and it offers a satisfying journey along five significant domains in engineering that will strengthen their control of technical vocabulary in a wide variety of exercises. The book encourages vocabulary extension by exercises that deal with synonyms, fill-in exercises which aim at bracing the comprehension of the logic of the text, matching exercises that stimulate particular understanding of concepts, multiple choice exercises that prompt professionals to associate words in verbal phrases, in idioms, etc. Every exercise has at least a twofold purpose: that of instructing the professional with the information that the text provides and that of offering language and vocabulary practice in order to stabilise and improve their English knowledge. There is a key at the end of the book which provides solutions for most of the exercises. At times, the solutions provided are limited to a reduced number of possibilities, yet, others are equally possible, especially in the exercises where the professionals are invited to give full rein to their technical knowledge.

In the first chapter 'Aerospace engineering' the exercises focus on the structure of an aeroplane, on the beginnings of flight, on the physical explanation of the flight (forces), on the airport infrastructure, on flying dangers, flying phraseology, on jobs in this domain and on the relationship between flight and the environment.

In the second chapter 'Automotive engineering' great attention has been paid to the components of vehicles, to traffic issues, to road structure and to the rather harmful effect that vehicles have on the environment.

In the third chapter 'Energy and utilities' the focal point is represented by the extraction of various natural resources with their catalytic effect on industry and harmful effect on nature, with their shortcomings in extraction and use. The chapter takes a special interest in less harmful types of energies that need intensive supervision such as nuclear energy which is presented with its ups and downs. Equally, the chapter brings into

discussion some natural types of energy such as the wind energy and the geothermal one highlighting their insufficient exploitation.

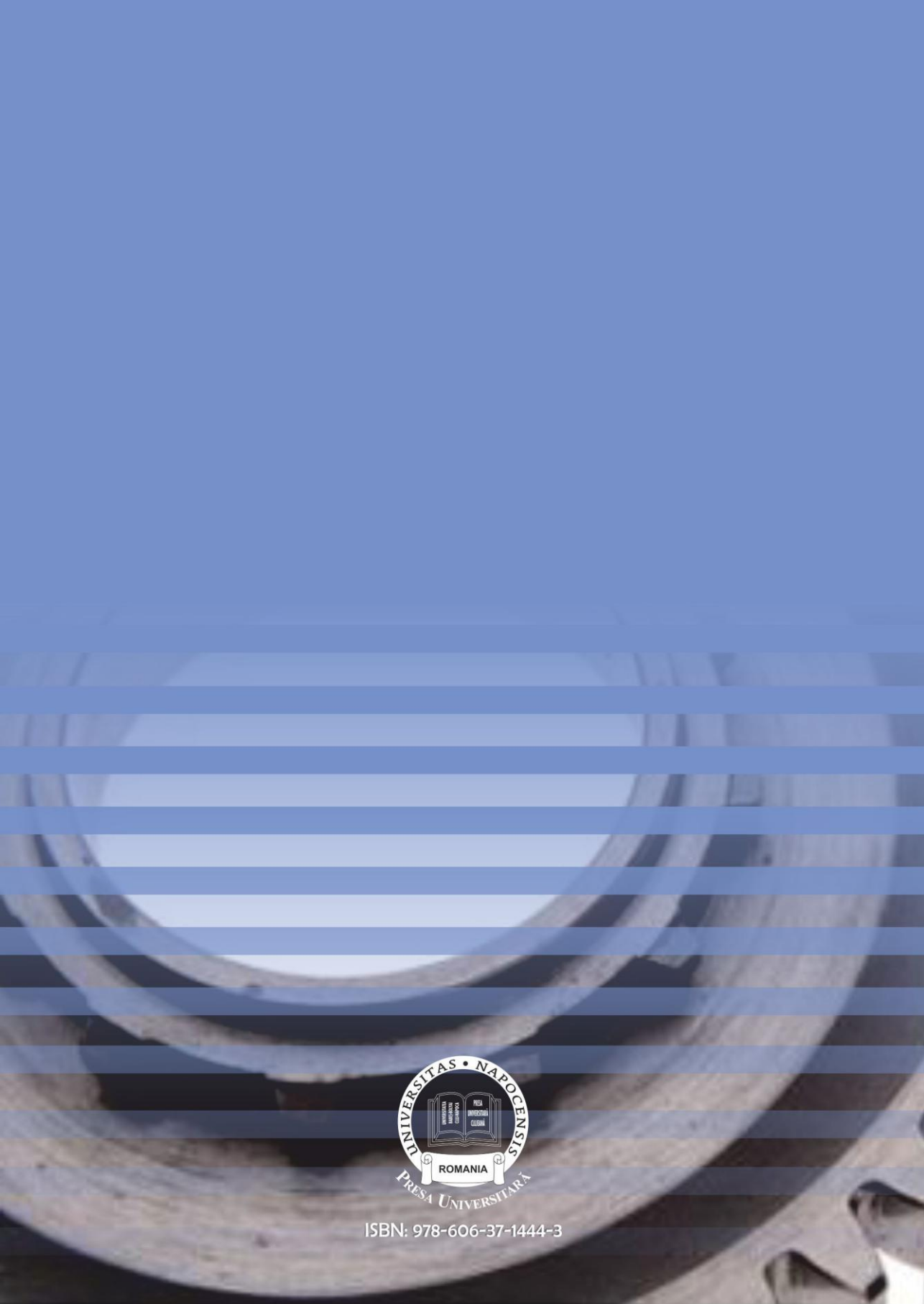
In the fourth chapter, ‘Manufacturing’ is presented as an innovation that has gradually led to the modern industrial world which could not be better represented than in a production line. A modern concept of ‘outsourcing’ is equally taken into discussion as it has had a great impact on the development of the western world. An important part of the chapter is dedicated to robots and to the progressive evolution of the industry from the Industrial Revolution to something that is currently called ‘Industry 4.0’.

The last chapter ‘Materials’ encapsulates the history of materials in the history of humanity and claims that humanity wouldn’t be today what it is if it hadn’t been for its apprehension for the importance of materials to its development. The chapter focuses on some of the most important materials: paper, wood, ceramics and on the impact they had on the human society.

Though a book that is meant to help professionals improve their English technical skills, it similarly tries to transform what could otherwise be some tedious vocabulary exercises into a story that intertwines human skills with curiosity, interest, resistance to failures to reveal the rough, but beautiful history of human love for engineering. And all this happens in English which stands both as a purpose and a means to doing it.

Brașov

September 2021



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