

# Augmented reality for food marketers and consumers

edited by: Leanne W.S. Loijens

[http://www.wageningenacademic.com/doi/pdf/10.3920/978-90-8686-842-1\\_fm](http://www.wageningenacademic.com/doi/pdf/10.3920/978-90-8686-842-1_fm) - Friday, June 09, 2017 2:07:22 AM - IP Address: 193.147.143.67



# **Augmented reality for food marketers and consumers**



# Augmented reality for food marketers and consumers

edited by: Leanne W.S. Loijens



*Wageningen Academic*  
P u b l i s h e r s

**Buy a print copy of this book at**  
**[www.WageningenAcademic.com/augmented](http://www.WageningenAcademic.com/augmented)**

**EAN: 9789086862993**  
**e-EAN: 9789086868421**  
**ISBN: 978-90-8686-299-3**  
**e-ISBN: 978-90-8686-842-1**  
**DOI: 10.3920/978-90-8686-842-1**

**First published, 2017**

**© Wageningen Academic Publishers**  
**The Netherlands, 2017**

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned. Nothing from this publication may be translated, reproduced, stored in a computerised system or published in any form or in any manner, including electronic, mechanical, reprographic or photographic, without prior written permission from the publisher,

Wageningen Academic Publishers,  
P.O. Box 220, 6700 AE Wageningen,  
the Netherlands,  
[www.WageningenAcademic.com](http://www.WageningenAcademic.com)  
[copyright@WageningenAcademic.com](mailto:copyright@WageningenAcademic.com)

The individual contributions in this publication and any liabilities arising from them remain the responsibility of the authors.

The publisher is not responsible for possible damages, which could be a result of content derived from this publication.

This book has been co-funded by the Erasmus+ programme of the European Union 'Food Quality & Consumer Studies' (Strategic partnership Erasmus + Nr. 2014-1-SK01-KA203-000464).

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Co-funded by the  
Erasmus+ Programme  
of the European Union

**FOODCOST**

**Book reviewers:**

*Doc. Ing. Zuzana Palková*

Slovak University of Agriculture, Nitra, Slovakia

*Prof. Dr. Prof. h.c. Fritz-Gerald Schröder*

University of Applied Sciences, Dresden, Germany



# Table of contents

<b>Preface</b>	<b>II</b>
<b>1. What is augmented reality?</b>	<b>13</b>
<i>L.W.S. Loijens, D. Brohm and N. Domurath</i>	
Abstract	13
1.1 Definition	14
1.2 What senses can be addressed?	15
1.3 Technical requirements – how does augmented reality work?	19
1.4 Popular applications	22
1.5 Companies developing augmented reality technology	25
References	27
<b>2. Augmented reality technology planning and assessment</b>	<b>29</b>
<i>M. Petz and R. Haas</i>	
Abstract	29
2.1 Augmented reality as appropriate technology for the food industry: making the business case	30
2.2 Augmented reality assessment methodology and a practical method of assessment	39
2.3 Conclusion	50
References	50
<b>3. Augmented reality in retailing</b>	<b>55</b>
<i>B. Borusiak and B. Pierański</i>	
Abstract	55
3.1 The essence of augmented reality	56
3.2 The specificity of using augmented reality in retailing	58
3.3 Augmented reality in retailing – examples	61
3.4 Final remarks	64
References	64



<b>4. Consumer food related applications: food retail sector and services</b>	<b>65</b>
<i>E. Horská, J. Paluchová, P. Šimončíč and J. Berčík</i>	
Abstract	65
4.1 Introduction	66
4.2 Advantages of augmented reality marketing	66
4.3 Disadvantages of augmented reality marketing	68
4.4 The use of augmented reality in retail and services sectors	70
4.5 Augmented reality applied in services	71
4.6 Practical application of augmented reality in restaurants business	72
4.7 Augmented reality applied in retail	79
References	85
<b>5. Challenges of augmented reality in the food sector</b>	<b>87</b>
<i>L.W.S. Loijens and K. Grunert</i>	
Abstract	87
5.1 Technical challenges	88
5.2 Ethical challenges	91
5.3 Financial challenges	93
References	95
<b>6. Future trends of augmented reality</b>	<b>97</b>
<i>D. Brohm, N. Domurath, V. Glanz-Chanos and K.G. Grunert</i>	
Abstract	97
6.1 Consumer applications	98
6.2 Industry applications	100
6.3 Current problems and challenges	102
References	103





## Preface

This book is the outcome of the FOODCOST project, an international 3-year project with nine partners from eight EU countries. The project has been co-funded by the 'Food Quality and Consumer Studies' Erasmus+ program of the European Union. In addition to the 'Augmented reality for food marketers and consumers' book, three other books have been published entitled 'Neuromarketing in food retailing', 'Consumer trends and new product opportunities in the food sector' and 'Sensory and aroma marketing'.

The aim of the FOODCOST project was to modernize and improve the quality of university education in the field of food science, food marketing and consumer studies. University education represents the highest form of formal education. Universities have to prepare professionals for the job market who can implement innovative solutions into the practice. For this purpose, universities should have access to quality and modern curricula and methodologies, reflecting the developments in the society, research and industry.

Augmented reality is a new topic, even the term itself is unknown to most people. In this book the authors explain what augmented reality is and how it is/can be applied in the food sector. The authors also address the challenges that augmented reality has to overcome in order to meet its potential. There is still a lot of research to be done before augmented reality is ready for the general public but all the major technology companies are working on augmented reality. According to Apple CEO Tim Cooke, augmented reality is a core technology and will be a big technological step forward, similar to the release of the smartphone.

*Leanne W.S. Loijens*

Editor

