Contents

Foreword		
1. Chapter Introduction	1	
2. Chapter Patents and Standards	7	
A. Standards	7	
I. Definition and examples	7	
II. Types of standards	8	
III. Relevance	9	
B. Tension between standards and patents	9	
I. Hold-up: Unwilling or unreasonable licensor		
II. Proliferation of patents	11	
III. FRAND ambiguity	15	
1. Clarifications concerning FRAND	15	
a) Main purpose: To avoid hold-up	15	
b) Goldstein and Kearsey's definition of FRAND	16	
c) Discrimination: Possible if objectively justifiable	16 17	
d) Main problems lie in the term 'Reasonable'	17	
a) Possibilities in German law: Analysis of Maaßen's proposals		
a) 'Invitatio ad offerendum' in conjunction with Section 145 CC		
bb) 'License of right' in terms of Section 23 Patent Act		
cc) 'Pactum de contrahendo cum tertio' in conjunction with	22	
Section 328 CC	24	
(1) A true pre-contract		
(2) Third parties and performance: Determined or determinable .		
(3) Performance determinable: Essentialia negotii of the main		
contract fulfilled in the pre-contract	26	
a) First essentialia: Settlement to grant; difficulties if only		
bundling patents are offered	28	
b) Second essentialia: Compensation; FRAND ambiguity		
and supplementary judicial interpretation	30	
c) The circumstances of the case may allow a lower level		
of certainty		
(4) Steps to determine FRAND		
a) The Georgia-Pacific factors		
b) Goldschneider's 25% rule		
 c) Charts available and previous licensing agreements (5) Complexion 		
(5) Conclusion		
b) Contract for the benefit of third parties in other countriesc) Alternative to pactum in contrahendo cum tertio in German law:	51	
contradictory conduct – Section 242 CC	39	
	59	

IX



	d) 'Bona fide' in other legislations	40
IV.	Excessive cumulative royalties (royalty stacking): Patents (dis)incentive	
	innovation	41
- V.	Over-declaration of patents	42
	1. Reasons	42
	2. Percentage of over-declared patents	43
	 <i>Nokia v. InterDigital</i>': Declaration of non-essentiality Does FRAND commitment apply to whatever is disclosed in the 	44
	database?	45
1/1	5. Update obligation: Change of IPR policy may not be necessary	45
V I.	Patent family and FRAND commitment	46
С.	Summary and conclusion	48
3. C	hapter Several ways to participate and evaluate the standard setting	
	process – business models	55
А.	Small and medium-sized companies	55
B.	Product companies	59
C.	Largely research and development (R&D) companies	60
D.	Defensive strategy companies: Sleeping dogs	61
Е.	Pro 'open-standard' companies	61
I.	Open standards avoid lock-in	61
II.	Not necessarily royalty-free	62
F.	Different strategies within the same company	63
G.	Patent troll companies	65
Ι.	How to recognise patent trolls	65
II.	Contrary to the purpose of the injunction	65
III.	Patent trolls in the US: The threat of injunction	67
	1. <i>'NTP v. RIM'</i>	67
	2. 'MercExchange v. eBay'	67
	3. 'KSR v. Teleflex'	68
	4. Concerns/Critiques after recent jurisprudence	68
	5. Patent trolls: A very lucrative business	69
IV.	Patent trolls in Europe: The same concerns as in the US?	70
	1. Does a commitment to license certain essential patents on FRAND terms	
	survive the transfer of these patents?	70
	a) 'IPcom v. Nokia'	70
	b) <i>'N-Data'</i>	71
	c) 'Rembrandt'	72
	2. How to defend oneself against unfair injunctions and excessive royalty	
	rates in Germany	73
	3. Are patent trolls a problem in Europe?	76
H.	Summary and conclusion	77

4. C	hapter Harm to the standardisation process	81
A.	Phases of the standardisation process: Possible injection of patents	81
B.	Patent ambush	84
Ι.	Description and consequences	84
II.	Requisites	85
III.	18-months hidden period	85
IV.	Grace period	86
	Trying to avoid patent ambush through IPR Policy	87
	1. To make information exchanged within the SSO 'available to the public'	~-
	in terms of Article 54 EPC	87
	2. Incongruent case-law within EPO Boards of Appeal	88
	a) 'Erich Jäger & Co. v. Pirna & Procon'	88
	b) 'Kabushiki Kaisha Toshiba v. Gemplus Axalto'	88
	3. Conclusions	89
VI.	The thin line between use and misuse	90
	1. Practical hurdles	91
	2. Legal hurdles	92
	a) Is a combination of pieces of prior art patentable?	92
	b) Revocation or invalidation	94
	aa) First example	95
	bb) Second example	96
	3. The US perspective	97
	4. Proposal to amend the IPR policy	98
C.	Can deceptive conducts, particularly patent ambush, harm competition	00
	law?	99
1.	From the US perspective	99
	1. 'Dell'	99
	2. 'Unocal'	100
	3. 'Broadcom v. Qualcomm'	101
	a) Background of the case and Qualcomm's conduct	101
	b) District Court	102
	c) Third Circuit	102 103
	aa) Unlawful monopolisation under Sec. 2 Sherman Act	103
	(1) First pre-requisite: Monopoly power of WCDMA	103
	Technology Markets	105
	of monopoly power and causation	103
	(3) Conclusion	103
	bb) Attempted monopolisation under Sec. 2 Sherman Act	104
	(1) Anticompetitive conduct	105
	(2) Specific intent to monopolise	105
	(2) Specific intent to monopolise	105
	4. ' <i>Qualcomm</i> ' and ' <i>Rambus</i> ': similar but different	105
	5. 'Rambus'	111
	a) Background of the case and Rambus's conduct	111
	b) Section 2 Sherman Act and Sec. 5 FTC Act	112
	c) Monopolisation claim: fundamental issues	112
	c) monoponsation claim, fundamental issues	113

	aa) Exclusionary conduct	114
	bb) Possession of monopoly power	115
	cc) Causation	115
	d) Rambus's arguments rejected	116
	e) FTC decision	117
	f) Court of Appeals' decision	117
	g) Implications of the Court of Appeals' decision	119
	h) What does Sec. 2 of the Sherman Act protect?	120
	i) The standardisation context: To be considered in court decisions	121
	j) Petition towards the US Supreme Court	124
II.	From the European perspective	126
	1. Patent ambush may harm competition law	126
	2. ' <i>Rambus</i> ' from the EC perspective	128
	a) Requisite 1: Existing dominant position	128
	b) Requisite 2: Abuse of the dominant position	130
	aa) Requirements	130
	bb) Exclusionary and exploitative abuses: Prognosis of EC decision in	150
	Rambus	130
	c) Why not exclusionary abuse?	135
	aa) Objective justified?	135
	bb) Pro-competitive effects: Efficiency defence	135
	d) Causation	136
_		
D.	Summary and conclusion	137
5. C	Chapter Proposals to avoid hold-up and royalty stacking	149
А.	Minimum Change Optimum Impact	149
A. <i>I</i> .	Minimum Change Optimum Impact Quick win solution	149 149
A. <i>I</i> .	Minimum Change Optimum Impact Quick win solution MCOI in connection with the 'Time Multiplex Process' case	149
A. <i>I</i> .	Minimum Change Optimum Impact Quick win solution MCOI in connection with the 'Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing	149 149 151
A. <i>I</i> .	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer	149 149 151 151
A. <i>I</i> .	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee	149 149 151 151 153
A. <i>I.</i> <i>II</i> .	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court	149 149 151 151 153 153
A. <i>I</i> .	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions	149 149 151 151 153
A. <i>I.</i> <i>II</i> .	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court	149 149 151 151 153 153
A. <i>I.</i> <i>II.</i> <i>III.</i> B.	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations	149 149 151 151 153 153 155
A. <i>I.</i> <i>II.</i> <i>III.</i> B.	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons	149 149 151 151 153 153 155 159
A. <i>I.</i> <i>II.</i> <i>III.</i> B. <i>I.</i> <i>I.</i> <i>I.</i>	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC?	149 149 151 151 153 153 155 159 159
A. <i>I.</i> <i>II.</i> <i>III.</i> B. <i>I.</i> <i>I.</i> <i>I.</i>	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC? A softer approach	149 149 151 151 153 153 155 159 159 160
A. <i>I.</i> <i>II.</i> <i>III.</i> B. <i>I.</i> <i>I.</i> <i>I.</i>	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC?	149 149 151 153 153 155 159 159 160 163
A. <i>I.</i> <i>III.</i> B. <i>I.</i> <i>II.</i> <i>II.</i> <i>II.</i>	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC? A softer approach 1. To 'consider but not discuss' public information 2. Conclusions	149 149 151 153 153 155 159 159 160 163 163 164
A. I. II. B. I. II. II. C.	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC? A softer approach 1. To 'consider but not discuss' public information 2. Conclusions	149 149 151 153 153 155 159 159 160 163 164 165
A. <i>I.</i> <i>III.</i> B. <i>I.</i> <i>II.</i> <i>II.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i> <i>I.</i>	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC? A softer approach 1. To 'consider but not discuss' public information 2. Conclusions Fixing a cap The European Commission's interpretation	149 149 151 153 153 155 159 159 160 163 164 165 165
A. I. III. B. I. II. II. C. I. I. I.	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC? A softer approach 1. To 'consider but not discuss' public information 2. Conclusions Fixing a cap The European Commission's interpretation Personal interpretation and conclusions	149 149 151 153 153 155 159 159 160 163 163 164 165 165
A. I. II. B. I. II. II. II. II.	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC? A softer approach 1. To 'consider but not discuss' public information 2. Conclusions Fixing a cap The European Commission's interpretation Personal interpretation and conclusions Abuse of collective dominance of the GSM market in terms of Article 82 EC?	149 149 151 153 153 155 159 169 163 163 163 164 165 165 165 166
A. I. II. B. I. II. II. II. D.	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC? A softer approach 1. To 'consider but not discuss' public information 2. Conclusions Fixing a cap The European Commission's interpretation Personal interpretation and conclusions Abuse of collective dominance of the GSM market in terms of Article 82 EC? 'Ex ante' disclosure	149 149 151 151 153 153 155 159 169 163 163 164 165 165 165 166 169
A. I. II. B. I. II. II. II. D. I.	Minimum Change Optimum Impact Quick win solution MCOI in connection with the Time Multiplex Process' case 1. Proportionality and Aggregated Reasonable Terms in every licensing offer 2. Provision to guarantee a reasonable cumulative licensing fee 3. Two alternative examples suggested by the court Conclusions Joint negotiations Pros and cons Exception in terms of Article 81 (3) EC? A softer approach 1. To 'consider but not discuss' public information 2. Conclusions Fixing a cap The European Commission's interpretation Personal interpretation and conclusions Abuse of collective dominance of the GSM market in terms of Article 82 EC?	149 149 151 153 153 155 159 169 163 163 163 164 165 165 165 166

Contents

1. VITA 2. CESI compared to VITA 3. Are ex ante critiques justifiable? 4. Relevant difference still not considered 111. Conclusions: Possible change of the ETSI IPR Policy to a mandatory ex ante disclosure?	171 172 176 181 182
E. Summary and conclusion	185
6. Chapter Alternatives to formal standard-setting organisations.	191
	191
A. Next-Generation Mobile Networks I. The origin	191
II. Goals	192
III. 'Ex-ante' notification to a trusted third party	193
IV. Some remarks	193
V. Unrealistic results	194
B. Fora and consortia Image: Consortia in ICT standardisation I. Relevance of fora and consortia in ICT standardisation Image: Construct and proprietary licensing models: II. Coexistence of open-source and proprietary licensing models: Image: Construct and proprietary licensing models:	194 194
LiMo Foundation	197
C. Cross-license agreements and patent pools	198
D. Summary and conclusions	202
7. Chapter Final conclusions	205
Annex	217
Annex 1 Interview with Ray Alderman, Executive Director VITA	218
Annex 2 E-mail exchange with Ray Alderman, Executive Director VITA	225
Annex 3 Interview with Yann Dietrich (General Counsel LiMo Foundation, ex. EMEA Chief IP Counsel Intel Corporation Ltd.)	227
Annex 4 Interview with Franco Cordera, Peter Kuhn, Alexander Seeger and Fulvio Moschetti, EPO	231
Annex 5 Interview with Dr. Michel Goudelis and Frank Rüschmann, EPO	253
Annex 6 Interview with Dr. Konstantinos Karachalios, EPO	266
Annex 7 Interview with Qualcomm Inc.	269
List of Abbreviations	281
Bibliography	285
Table of Cases	317
Civil Codes And Common Law Contract Acts	331
Index	333