



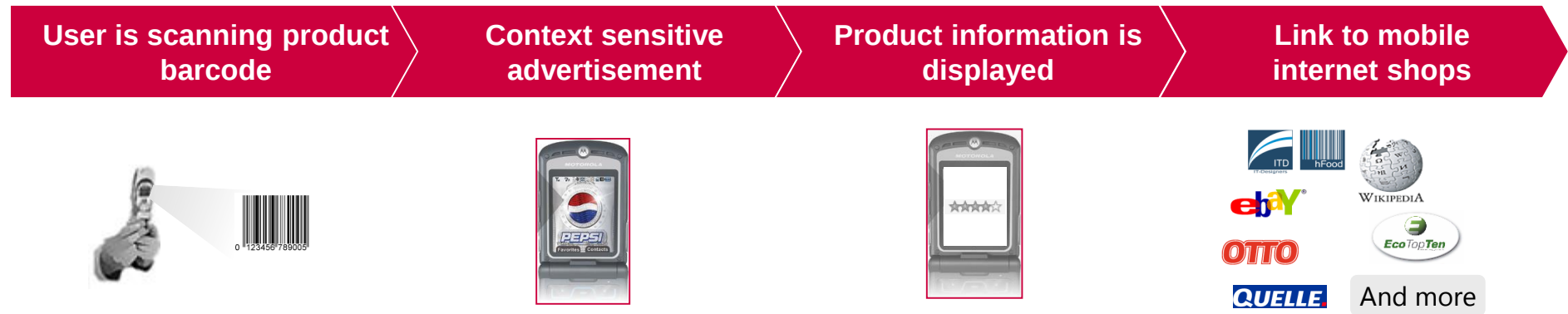
Business Plan – July 1st 2008

Contact:

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barcoo connects real world objects with consumer information from the internet



- **USP: Unique 1D barcode scanner** with a potentially high market share
- 2D barcode scanning already very popular in Japan
- **Physical world connection** through 1D barcodes with majority of products possible
- **Strong growth** of market volume with mobile advertisement (9.5 Billion US\$ 2011¹)
- User is involved in a **buying decision** → High revenues because scanned product is known
- **Aggregation of relevant information** for each product category:
 - Price comparison
 - Product reviews
 - Eco & organic information
 - Allergy information
 - Recipes
 - Nearest shop
 - Accessories/ substitute
- **Direct links** to product in mobile online shops (e.g. Amazon, eBay, Otto, Jamba/ Nokia Music Shop, Quelle)
- **Mash-up** strategy, no product databases required

1. Source: EJL Wireless Research/ Financial Times Deutschland 2007

Management Summary – barcoo

barcoo aims to

use standard 1D barcodes to provide product and market transparency on everybody's mobile phone

Product	Market	Team	Finance	Technology
• Free barcode scanner for mobile phones to access consumer information (e.g. price comparison, eco & organic information) • Highly user-friendly • Launch 01.01.2009 • Revenue by context sensitive mobile advertisement & shopping commission	• Overview - Accelerated growth for mobile advertisement expected - Growing with mobile internet flat rates • Marketing - Start in Germany - Medium-term target group: young online shoppers • No direct competitor - Advanced 1D technology - Most comprehensive service	• Three founders working full time on project since 11/2007 • Competencies in technology and commerce • Eight years of successful teamwork in a business context • barcoo is supported by an experienced advisory board • Part of the Humboldt University Innovations network	• 230 T€ capital requirement • First funding (for next 7 months): 80 T€ • Break-even: estimated 4th quarter 2009 • High revenues with growing mobile internet usage	• Unique 1D barcode scanner for wide spread mobile phone models in the European market • High barcode recognition rate through state-of-the-art machine learning and pattern recognition algorithms • Significant technological advantage compared to potential competitors

Beta version is used to seek funding and partnerships – further work on product needed

Current tasks

- Seeking funding
- Building strategic partnerships
- Porting 1D technology to J2ME

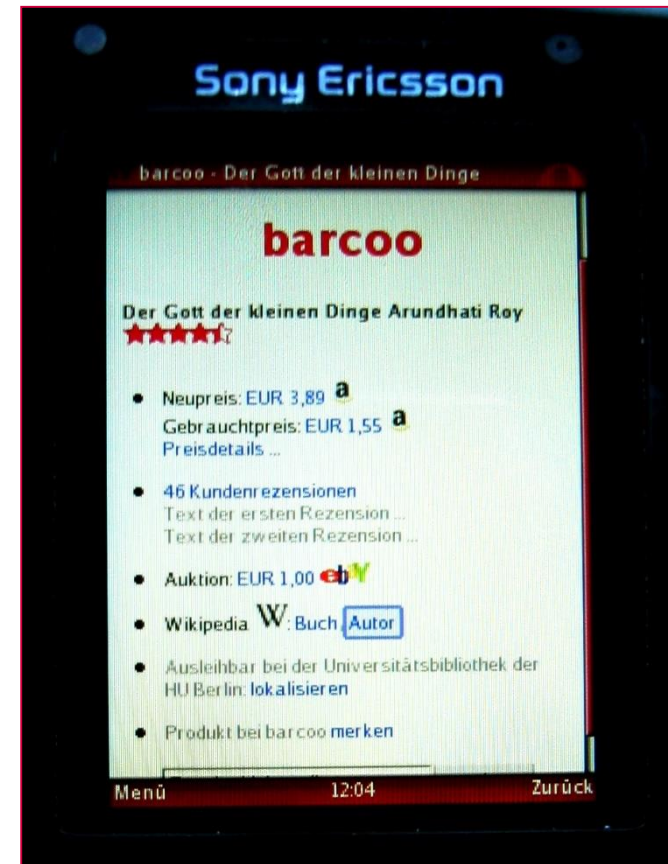
Ready to show beta version including

- Mobile phone based barcode recognition
- barcoo server application
- Mash-up data

Company

- Not yet incorporated
- Based in Berlin, Germany

Projected launch: 01.01.2009



barcoo result page after scanning a book
(Used phone: K770i)¹

1. Recognition is already working on mobile phones supporting JSR 234

Agenda

Product

Analysis

Team

barcoo provides direct product information and mobile shopping for consumers



Mobile scanning of products² to display existing and independent consumer information on mobile phones

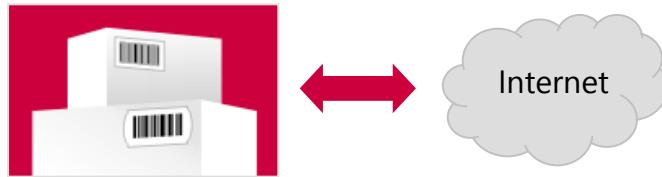
- **Price comparison**
 - **Product reviews**
 - **Eco & organic information**
 - **Allergy information**
 - **Nearest shop**
 - **Recipes**
 - **Accessories/ substitutes**
- ↓
- **Transparency for market and product**
 - **Direct shopping possibility in known internet shops**

1. Partner programs for shopping and product information via web services mostly available for free

2. Start with product categories: Consumer electronics, DVD/ CD, books
– after 10/2009 food, drugstore products, DIY

Scanning of existing 1D barcodes is universal and user-friendly

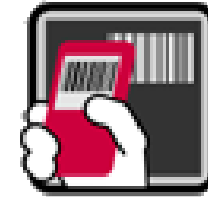
Link reality with internet through 1D barcodes



- **1D barcodes** exist on **almost every product**
- Product information via mobile internet
- 1D barcode allows for information **independent from manufacturer** – 2D barcodes¹ are mainly used for advertisement



Highly user-friendly by barcode scanning



- **No manual typing** of barcode numbers needed (but possible as backup)
- Good **User Experience**
- Users are **prepared** for barcode scanning by a increasing 2D barcode usage

1. 2D barcodes are developed for mobile applications, therefore recognition is simpler

Revenues from context sensitive advertisement and shopping commissions – also campaigns and LBS later

Mobile context sensitive advertisement



- Display of context sensitive **advertisement** after request **while aggregating results** (entire screen)
- Context sensitive **advertisement on result page**



Shopping commissions

- **Direct links** to product in mobile online shops (eBay, Otto, Jamba, Nokia Music Shop¹, Quelle)
- 
- **Commission** from 5% per purchase, from 0.10 € per bid or from 6 € per order
 - **Inclusion of more shops** as soon as mobile versions available



Later campaigns and location based services

- **Marketing campaigns** for manufactures e.g. *“Scan all 3 new flavors and you get a free ring tone”*
- **Location based advertisement** by local partners (cinemas, shops and events)
- User base necessary, therefore **start in Q3 2009** planned

1. No affiliate program yet

Agenda

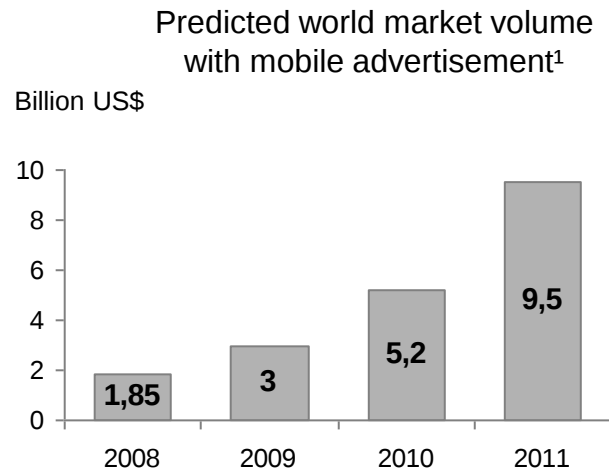
Product

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High revenues with mobile advertisement expected – Medium-term target group young online shoppers

Strong growth with mobile advertisement expected



- Accelerated growth with cheaper mobile internet flat rates
- “mobile will be a larger business than the PC-Web “³

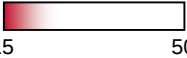
Target group: Young online shoppers, expecting market transparency

- **One third of Germans** inform themselves on the internet before buying expensive products²
- Mainly use price comparison and product reviews²

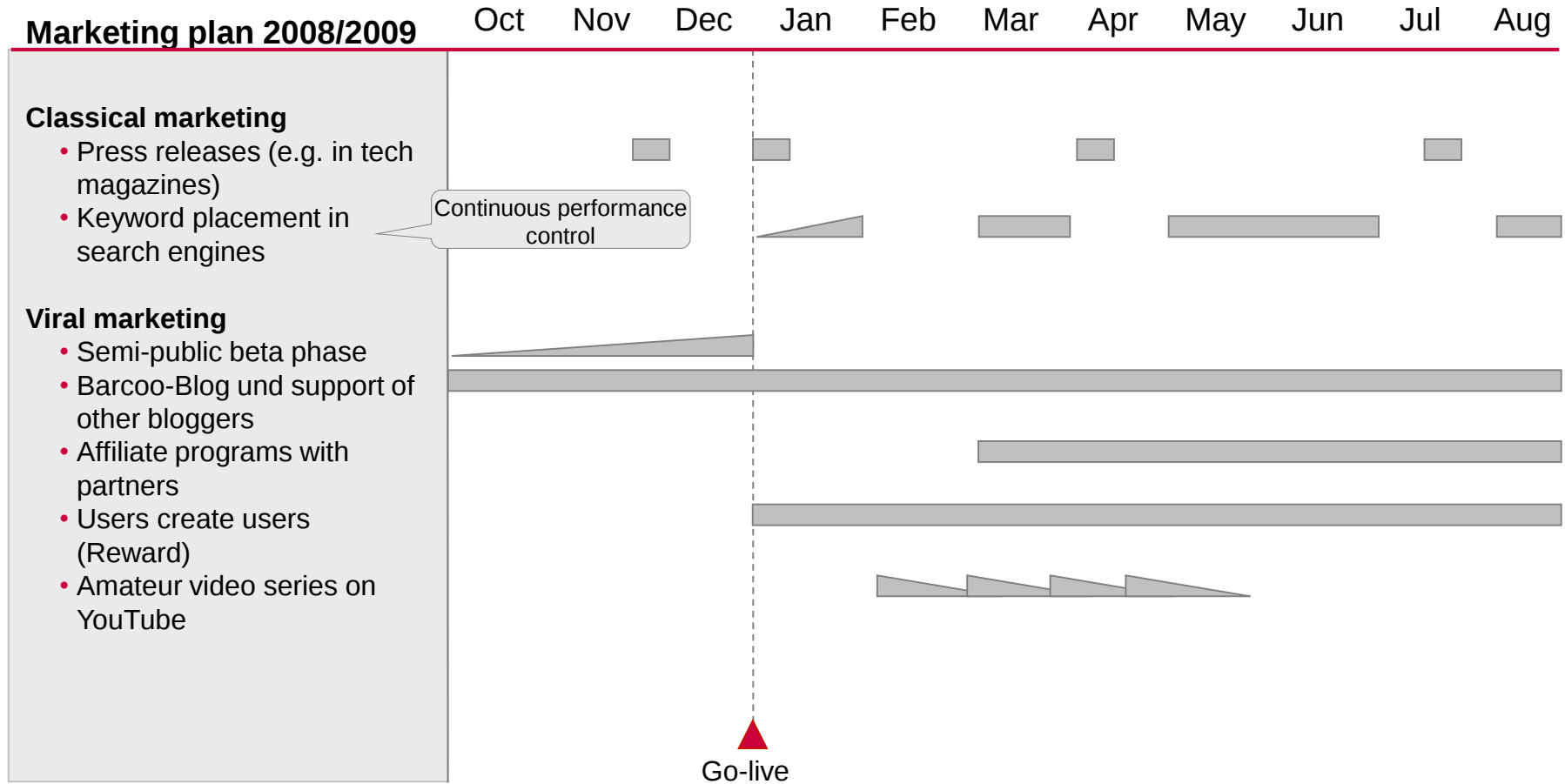
Mid-term Target group: **young online shoppers** (age of 15 - 40) willing and able to **install applications** on mobile phone - further specification according market segments

1. Source: EJM Wireless Research/ Financial Times Deutschland 2007
2. Source: Study of Gesellschaft für Konsumforschung 2007
3. Source: Google CEO Eric Schmidt, 27.05.2008 in the FAZ

5 market segments will be focused on in 2009 and 2010

	Spontaneous shopper	Bored high school student	Spontaneous recipe user	Eco consumer	Film freak
Age					
Gender					
Annual income					
Characteristics	Self-determined, is used to high market transparency, interested in new technology	Wants to impress the clique, open to new “toys”	Loves spontaneity, open to new things	Strong ecological awareness, expects high market transparency, distrustful	Interested in films and likes new technology
Dominating information categories	- Price comparison - Product reviews	- Recipe suggestions - Eco information - Background information	- Recipe suggestions - Nutritional value	- Label explanation - Information on ingredients - Allergy information	- Actors/ directors - Critiques - Summaries
Amount of users	2009: 28,000 2010: 57,000	2009: 3,000 2010: 34,000	2009: 0 2010: 11,000	2009: 0 2010: 6,000	2009: 3,000 2010: 6,000

Focus on viral marketing – first winning the multipliers



barcoo differs from competitors in completeness of information and 1D barcode scanner

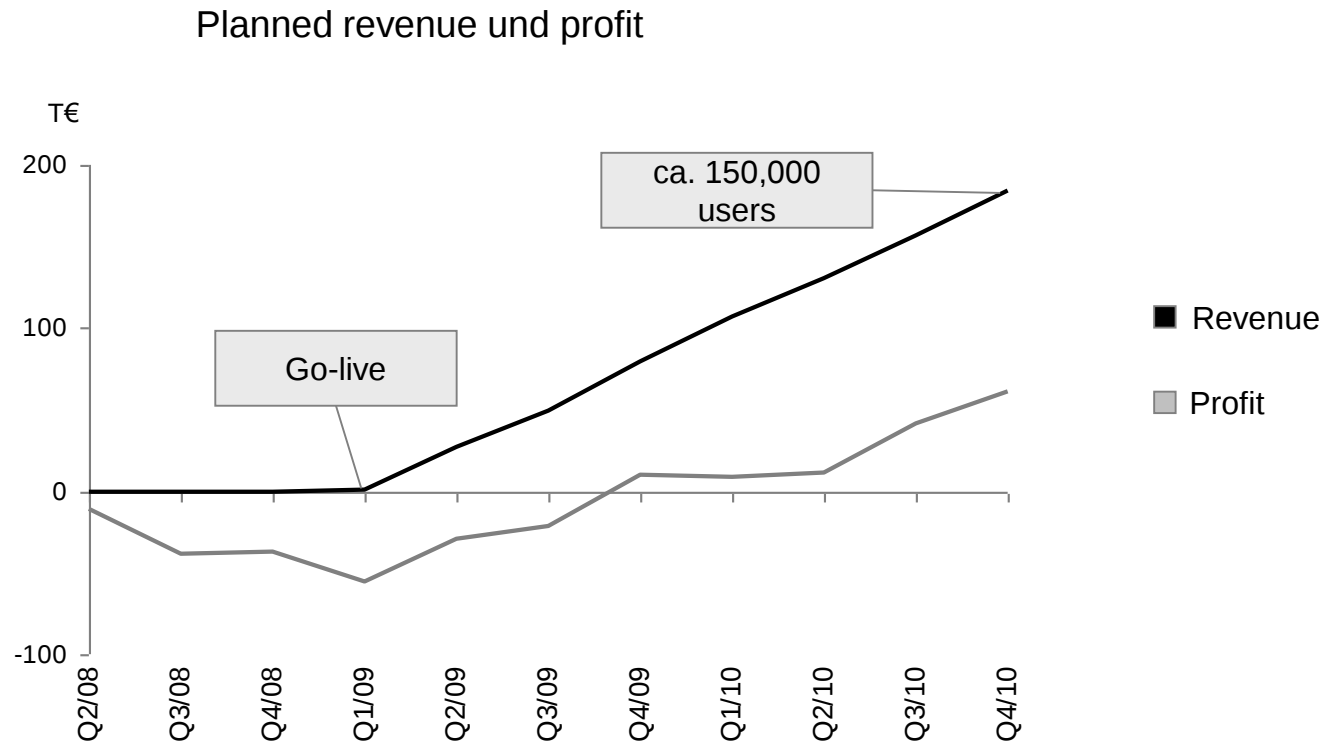
Comparison of barcoo and main competitors	1D barcode					2D barcode				Price comparison/ product information					barcoo				
Legend: + Supported o No productive service available/ announced (research project, etc.)	Competitor	Android Scan	Amazon.jp	BaToo	CamClic	Gravitec	Scanbuy	Google zXing	Thrrum	BeeTagg	Billiger.de	Guenstiger.de	Frucall	ciao.com		dooyoo.de	essen & trinken	hFood	
1D scanner (high end mobile phones)		+	+	(2)	+	+		+											+
1D scanner (low end mobile phones)			(1)	(2)															+
2D scanner					+	+	+	+	(3)	+									
Input of EAN-13 possible		o	+	o	o							+	+			+		+	+
Offers independant information		o		o	o			o			+	+	+	+		+		+	+
Price comparison		o			o						+	+	+	+		+			+
User reviews		o	+		o				+		+	+		+		+			+
Eco information																			+
Allergy information				o													+	+	
Background information (e.g. recipes)		o		o	o											+	+	+	
Free for end user (not including cost of internet)		o	+	o	+	+	+	+		+	+	+	+	+	+	+	Tbd.	+	
German market						+		+		+	+	+		+	+	+	+	+	
Location based services (e.g. nearest shop)		o						o										+	
B2B focused					+	+	+	+		+							+		

(1) Standard mobile phones in Japan have better optics

(2) Barcode recognition works only with extra lens mounted on mobile phone

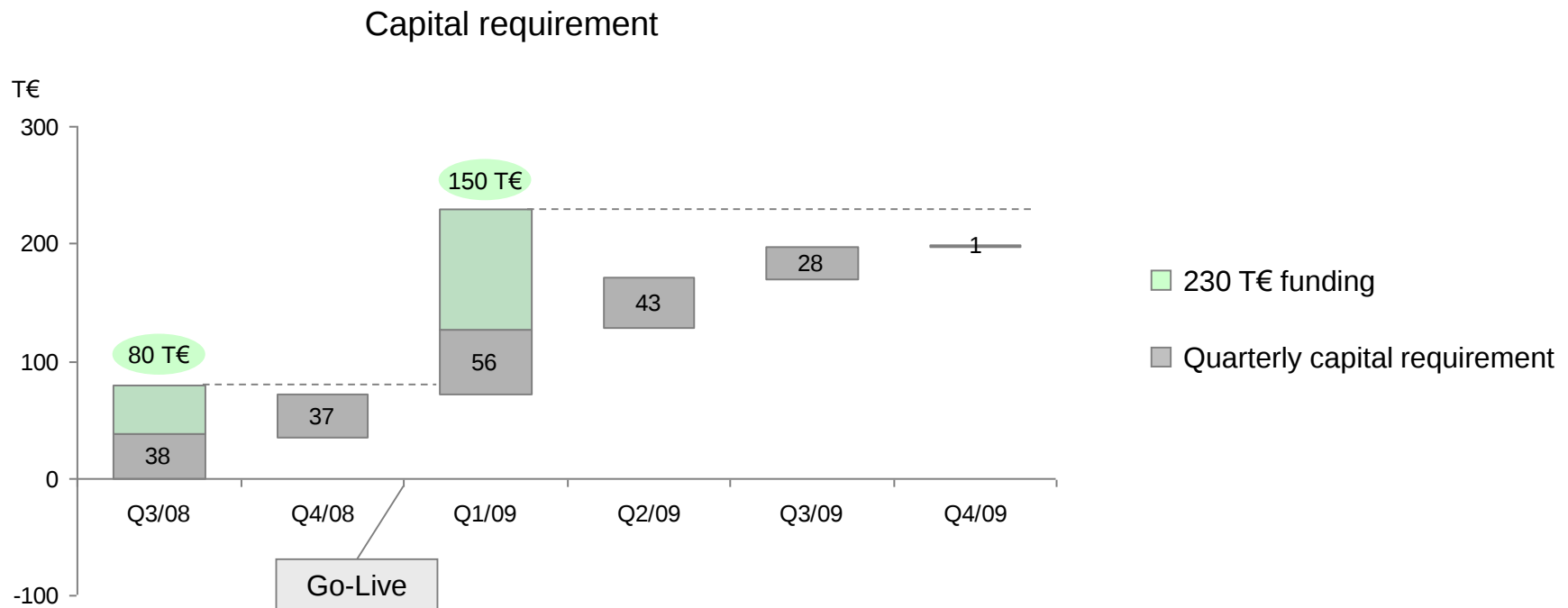
(3) Use of picture of book cover instead of barcode

Break-even expected in 4th quarter 2009 – 10 months after go-live



Detailed derivation of user numbers,
revenues and costs in appendix

230 T€ funding planned in 2 steps



Long-term strategy is based on extension of service – Integration of additional partners is intended

barcoo extensions	Priority concerning content
Location Based Services • Show cheaper or better product in near-by stores • Mobile coupons (e.g. rebate for movie after scanning DVD of same genre)	
Development and integration of community functions • Website: profiles, scan history, adding product information (Wiki-like principle) • Mobile micro blogger (cp. Twitter, Plazes or flirt features)	
2D barcodes/ Image recognition/ RFID • Additional barcode standards: support for 2D barcodes (all-in-one reader) • Recognition of logos, titles, RFIDs in case barcode not available	
Integration of retailer/ manufacturer information • Retailers and manufactures can provide content (clearly separated) • Special marketing campaigns for manufactures and retailers	
Product chat • Real time communication with other users with same interest • Mobile or internet based possibility for questions and answers	

Agenda

Product

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Team

Team with years of shared business experience and good competency mixture

Tobias Bräuer



- 1st place world championship Robocup Rescue Simulation

Martin Scheerer



- 1,5 years trainee in Future Studies Section, European Space Agency

Benjamin Thym



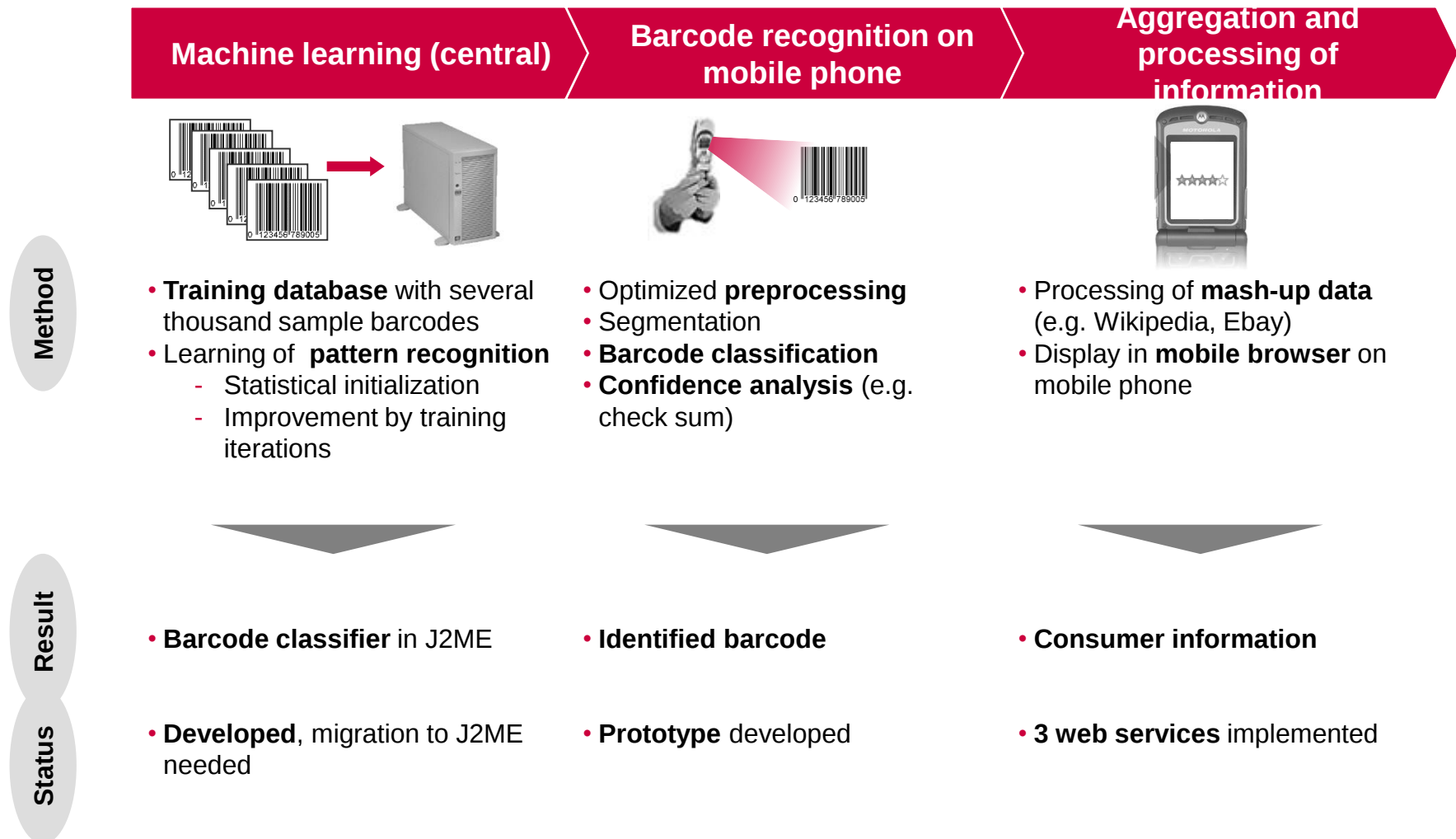
- 3 years strategic IT-consultant

- Developing software **successfully together** since 1999
- Competencies in **technology** and **commerce**

barcoo is supported by an experienced **advisory board** and part of the **Humboldt University** Innovations network

Appendix

Barcode scanner based on machine learning – increased training improves recognition rate



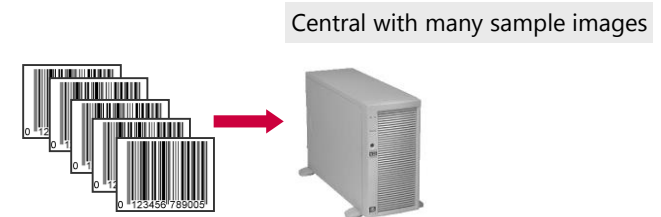
1D barcodes currently not recognized by mobile phones – machine learning algorithm enables recognition

Technical challenge: blurry images



- Fine bars of a 1D barcodes
- **Low-cost optics** of mobile phone cameras¹
- **Programming interfaces** can not access advanced functionality (e.g. macro- und auto focus mode)²

Solution by machine learning

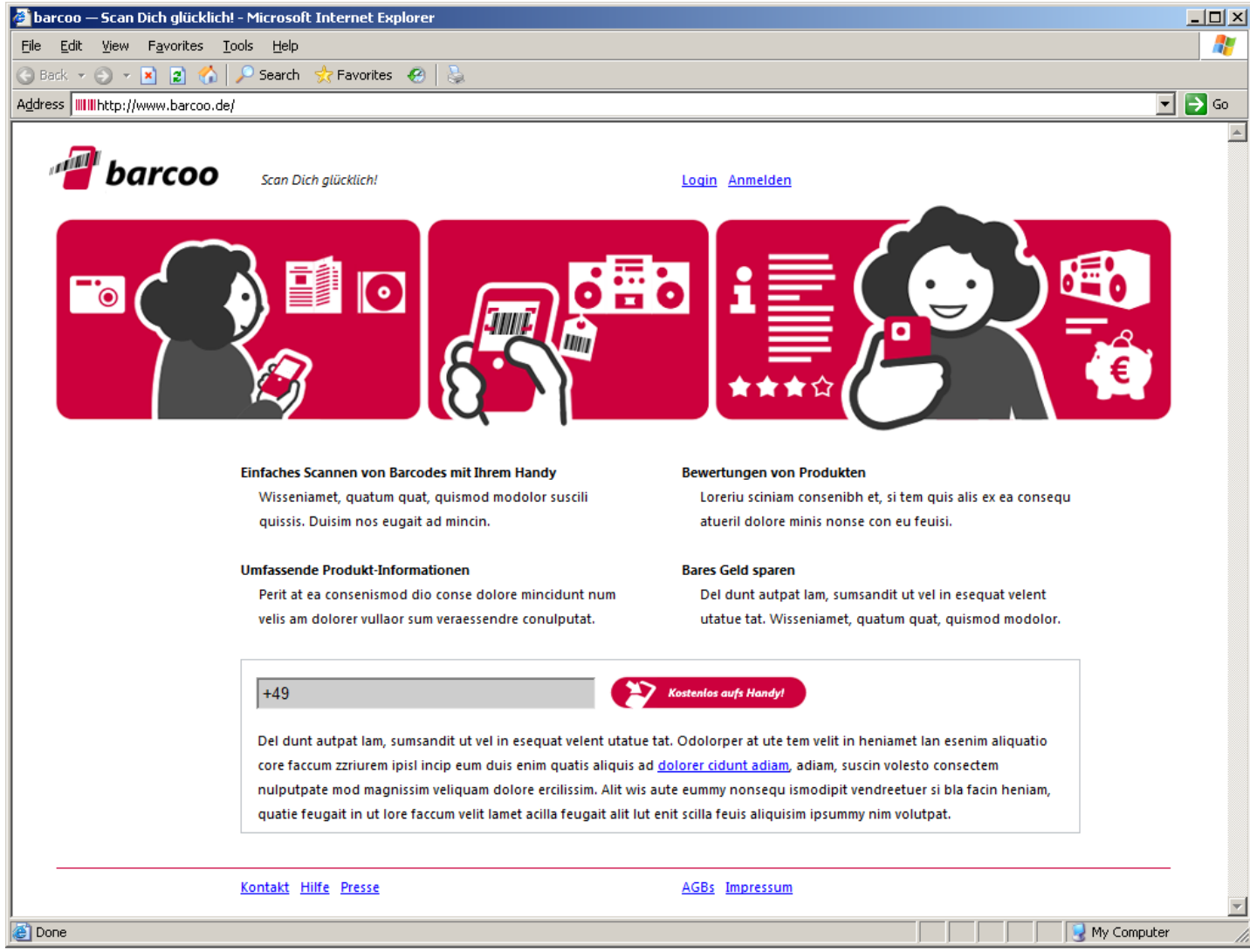


- **Preprocessing**
 - Histogram normalization
 - Use of Landweber method for inverse point spread function
 - Segmentation and region of interest detection
- **Machine learning**
 - Database of many sample images is used to train the classifier
 - Classifier is deployed to the mobile phone
 - Trained classifier is used to recognize barcode images
 - Classifier generalizes and can decode any valid code, even if was not stored in training database

1. Japanese mobile phones often come with a specialized macro lens

2. Solutions for some systems (e.g. Symbian, J2ME JSR 234) with low market share exist. barcoo expects that JSR 234 will not have a significant market share in the next years.

Target group oriented design



Patent situation investigated – scanning of barcodes in Europe not patentable

Many existing services

Price comparison, product reviews

- Many services in Europe
- **Trivial** business model

Barcode scanner

- **Pure software patent in Europe not enforceable**, because contains no “further technical effect”¹
- Already 11 different standards in 2D domain with more than **20 service providers**

Check of accepted/ pending patents

Accepted patents

- EP0645728B1
- EP0856812B1
- US7237721
- US6687345

Pending patents

- WO9949640A1
- WO2005017812
- US20060138237A1

Declined patents

- WO05122021A1
- GB02383231A1

Research was supported by
(professional IP management)



1. Source: European Patent Office (“a program for a computer is not patentable if it does not have the potential to cause a “further technical effect” which must go beyond the inherent technical interactions between hardware and software”)

Profit and loss statement (projected)

	2008				2009				2010				2011			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Turnover (Σ)					1	27	49	80	107	130	157	184	223	252	288	326
Other income																
Operating income	0	0	0	0	1	27	49	80	107	130	157	184	223	252	288	326
- Purchases (Σ)																
- Personnel costs (Σ)		9	27	27	27	36	46	38	56	76	69	71	71	78	71	71
Salaries		6	19	19	19	26	33	27	40	54	49	50	50	56	50	50
Payroll deductions		3	8	8	8	10	13	11	16	22	20	20	20	22	20	20
Voluntary services																
- Write downs																
- Interest expenses																
- Other operating expenses (Σ)		2	11	10	29	20	26	32	42	43	47	52	60	58	62	66
Rent			1	1	1	1	1	1	2	2	2	2	2	2	2	2
Electricity, gas, water																
Insurance fees				1	1	1	1	1	1	1	1	1	1	1	1	1
Office supplies																
Phone, fax, internet			1	1	1	1	1	1	2	2	2	2	2	2	2	2
Postage																
Leasing charge																
Motor vehicles																
Publicity				1	13	8	10	14	14	17	19	21	21	21	23	23
Travelling, advertising expenses		1	2	3	3	3	3	3	5	5	5	5	5	5	5	5
Legal advices and consultancy			1	1	3	1	1	1	3	1	1	1	3	1	1	1
Other cost			6	2	7	5	8	11	17	16	18	21	27	27	30	33
Operating costs	0	11	38	37	56	56	71	70	98	119	116	123	131	136	133	137
Operating profit	0	-11	-38	-37	-55	-29	-22	10	9	11	41	61	93	117	155	189
Public benefits (Σ)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investment subsidy																
Benefits																
Taxes on profit	0	0	0	0	0	0	0	0	0	0	0	0	0	36	48	58
Result after tax	0	-11	-38	-37	-55	-29	-22	10	9	11	41	61	93	81	107	131

Note: Expenses excl. VAT – figures in T€

Income (projected)

Quarter	2009				2010				2011			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Income (in T€)	157				579				1,090			
	1	27	49	80	107	130	157	184	223	252	288	326
Full screen advertisement after request sent	0	22	42	65	89	108	130	152	185	209	238	270
Advertisement on result page	0	2	3	4	4	5	6	7	8	9	11	12
Shopping commissions	1	3	5	8	11	13	16	18	22	25	29	32
Advertisement on barcoo community pages	0	0	0	1	1	2	2	2	3	3	4	4
Location based services (e.g. mobile coupons)	0	0	0	2	2	3	4	4	5	6	7	8

Assumptions:

- Scan rate of power user/ month 20 15% share
- Scan rate of normal user/ month 2 30% share
- Scan rate of non user/ month 0.08 55% share
 - > Average scans per month 3.6
- Revenues per full screen ad 0.10 € (corresponds to CPT of 100€)
- Average cost per click 0.30 €
- Click rate mobile internet 2009 2.0% (Source: O2 2007: 5-7%, T-Mobile 2007: 2-3%)
- Click rate mobile internet 2010/11 1.5% (Convergence with click rate of 'traditional' internet)
- Conversion for shopping links 1.6%
- Average shopping commission 0.75 €
- Click rate 'traditional' internet 0.2% (Source: AdTech 2007)
- Share of users using the community page 30.0%
 - 20
- Hits on community page per community user/ month
- Average payment per click on community pages 0.48 €
- Possibility to offer location based services 8.0%
- Conversion location based services 5.0%
- Revenue per location based service 0.70 €

Marketing costs (projected)

Quarter	2009				2010				2011				Costs/ new user
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Marketing costs (in T€)	45				70				88				0.55
	13	8	10	14	14	17	19	21	21	21	23	23	in €
Classical marketing	2	3	3	5	3	5	5	5	5	5	5	5	0
- Press releases (esp. tech magazines)													0.00
- Keyword placements in search engines	2	3	3	3	3	5	5	5	5	5	5	5	3.28
- Marketing by providers and content portals													0.00
- Marketing support for founders (synergie-effekt.net)				2									0.00
Viral marketing	11	5	7	9	10	12	14	16	16	17	18	19	0
- Semi-public beta phase													0.00
- Support bloggers with information													0.00
- Affiliate programs with partners		2	2	2	3	3	4	5	6	6	7	7	2.00
- Users create users (reward)	1	2	4	4	5	5	6	6	6	6	6	6	2.00
- Amateur video series on YouTube	9												3.75
- T-shirt for super users (> 1,000 scans)		1	1	2	3	3	4	5	4	5	5	6	0.00
- Word-of-mouth advertising													0.00

Assumptions:

- Not including direct personal costs
- Not including VAT
- Average costs per click 0.50 €
- Key word placements per month 400
- Average clicks per day and key word 8
- Reward for each new active user (affiliate) 2 €
- Reward for each new active user payment in amazon vouchers (minimum 10€) 2 €

User numbers (projected)

	2009				2010				2011			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Sum of users (period average)	6,880	25,113	39,013	59,699	80,577	98,611	118,900	140,052	168,859	191,507	218,255	247,813
Sum of users (end of period value)	10,856	32,454	50,854	68,875	88,153	109,242	128,688	157,495	180,291	205,816	233,763	266,936
Loss of users	316	1,483	2,618	4,036	5,798	7,109	8,720	10,191	12,351	14,223	16,163	18,340

Assumptions:

- Loss of users due to change of mobile phone: 50% 2.1% per month
- Loss of users due to uninstallation per month 0.5%

	2009				2010				2011			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
New users	77,227				120,439				170,517			
	11,073	23,080	21,018	22,057	25,076	28,198	28,167	38,998	35,146	39,748	44,110	51,513
Classical marketing	7,410	16,760	13,660	11,660	11,660	12,140	9,040	17,040	9,040	11,040	11,940	15,940
- Press releases (esp. tech magazines)	6,000	14,000	10,000	8,000	8,000	8,000	4,000	12,000	4,000	6,000	6,000	10,000
- Keyword placements in search engines	960	960	960	960	960	1,440	1,440	1,440	1,440	1,440	1,440	1,440
- Marketing by providers and content portals	450	1,800	2,700	2,700	2,700	2,700	3,600	3,600	3,600	3,600	4,500	4,500
Viral marketing	3,663	6,320	7,358	10,397	13,416	16,058	19,127	21,958	26,106	28,708	32,170	35,573
- Semi-public beta phase	0	0	0	0	0	0	0	0	0	0	0	0
- Support bloggers with information	550	300	300	300	300	300	300	300	300	300	300	300
- Affiliate programs with partners	150	900	1,050	1,200	1,350	1,650	1,950	2,550	3,000	3,000	3,300	3,300
- Users create users (reward)	600	1,200	1,800	2,100	2,400	2,700	3,000	3,000	3,000	3,000	3,000	3,000
- Amateur video series on YouTube	1,200	1,200	0	0	0	0	0	0	0	0	0	0
- Word-of-mouth advertising	1,163	2,720	4,208	6,797	9,366	11,408	13,877	16,108	19,806	22,408	25,570	28,973

Assumptions:

- Conversion of visitors via press releases 20%
- Key word placements per month 400
- Average clicks per day and key word 8
- Click conversion 15%
- Coverage per video episode 20,000
- Conversion video series 3.0%
- Snowball effect by public mobile usage 4.0%