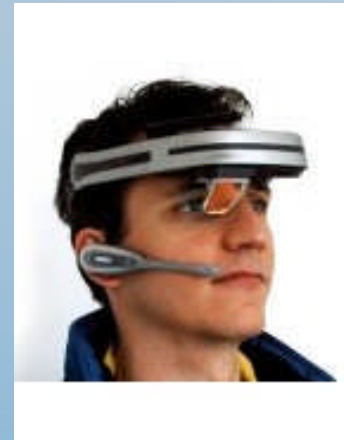
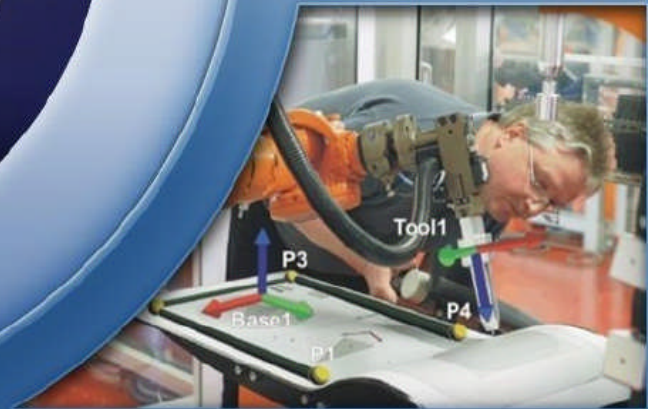
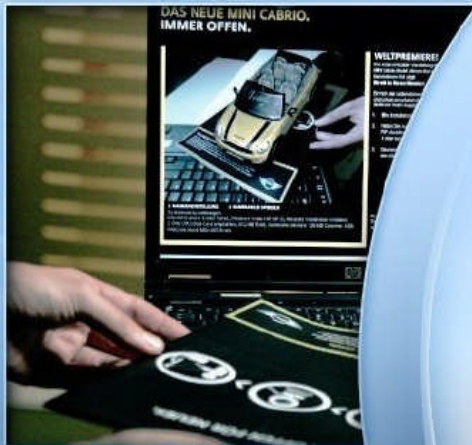


- Dipl. – Inf. Michael Kuhn,  
Senior manager/vice president  
development:
  - Graduated from the technical university  
Munich
  - Building the company from ground up,  
being with metaio since almost the very  
beginning
  - Over 7 years of experience in the field of  
AR
  - Heading the application and product  
development group at metaio
  - Local and global project management



## About myself





# Augmented Reality Software & Solutions

metaio  
AUGMENTED SOLUTIONS



- Privately held AR company founded in 2003
- Provides industries as marketing, automotive, retail and commerce with professional Augmented Reality applications
- Offices in San Francisco, Munich, Seoul
- Employees: 65, Customers: 340 (as of 07/2010)
- More than 0,5 Million Consumers are using metaio AR-technology



## About metaio

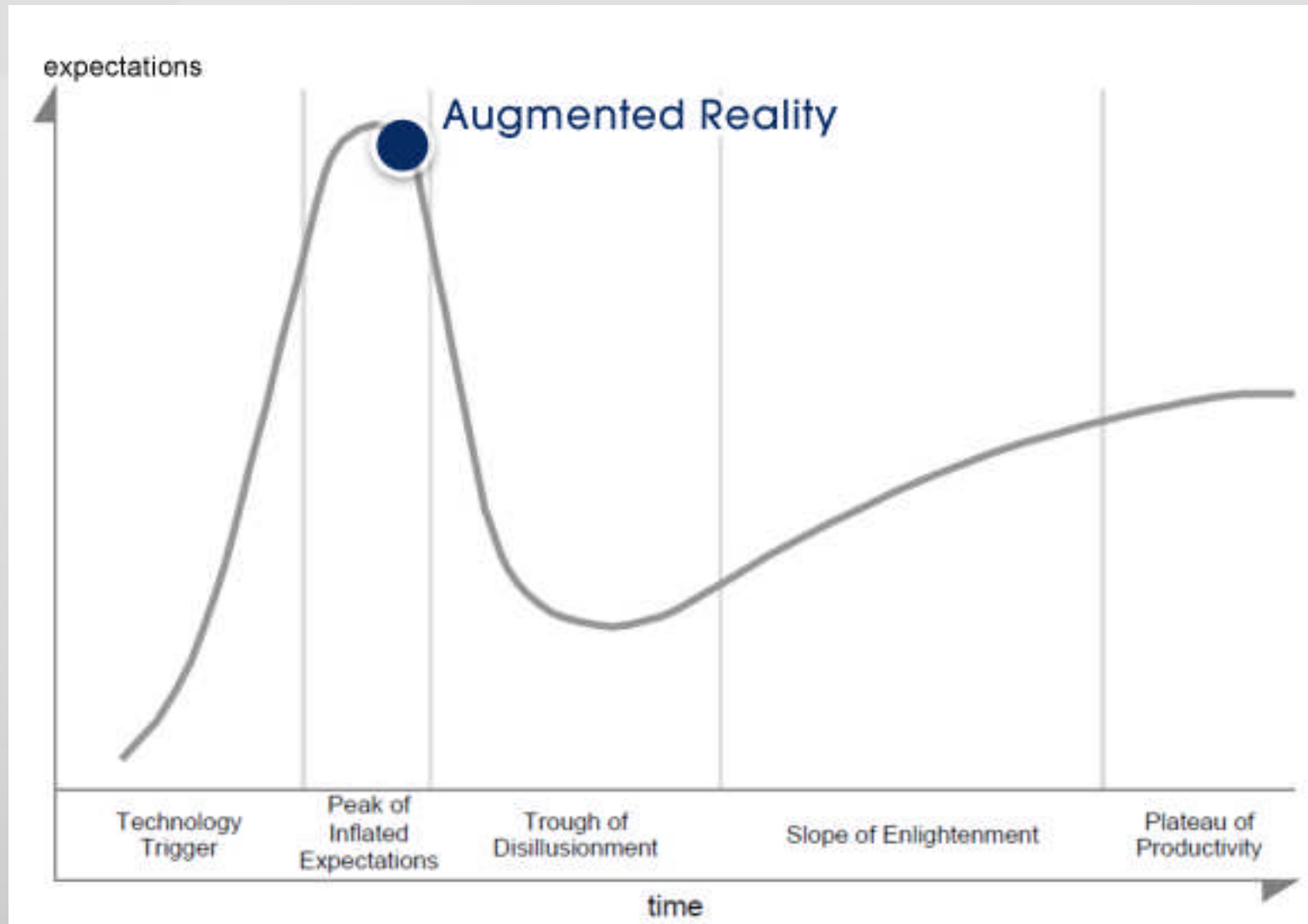


# Augmented Reality 2010 – metaio Inside the Tornado

- Augmented Reality is named one of the top 10 disruptive technologies\* for 2008-2012 (Gartner)
- 6.150.000 hits for Augmented Reality on Google
- 600.000 hits for junaio on google – up from 10 hits in 09/2009
- One new channel in junaio triggers
  - 5413 “social reactions” (Facebook, Twitter ...)
  - 810 unique “Tweets”
- Approx. more than 1,5M users for the metaio web products



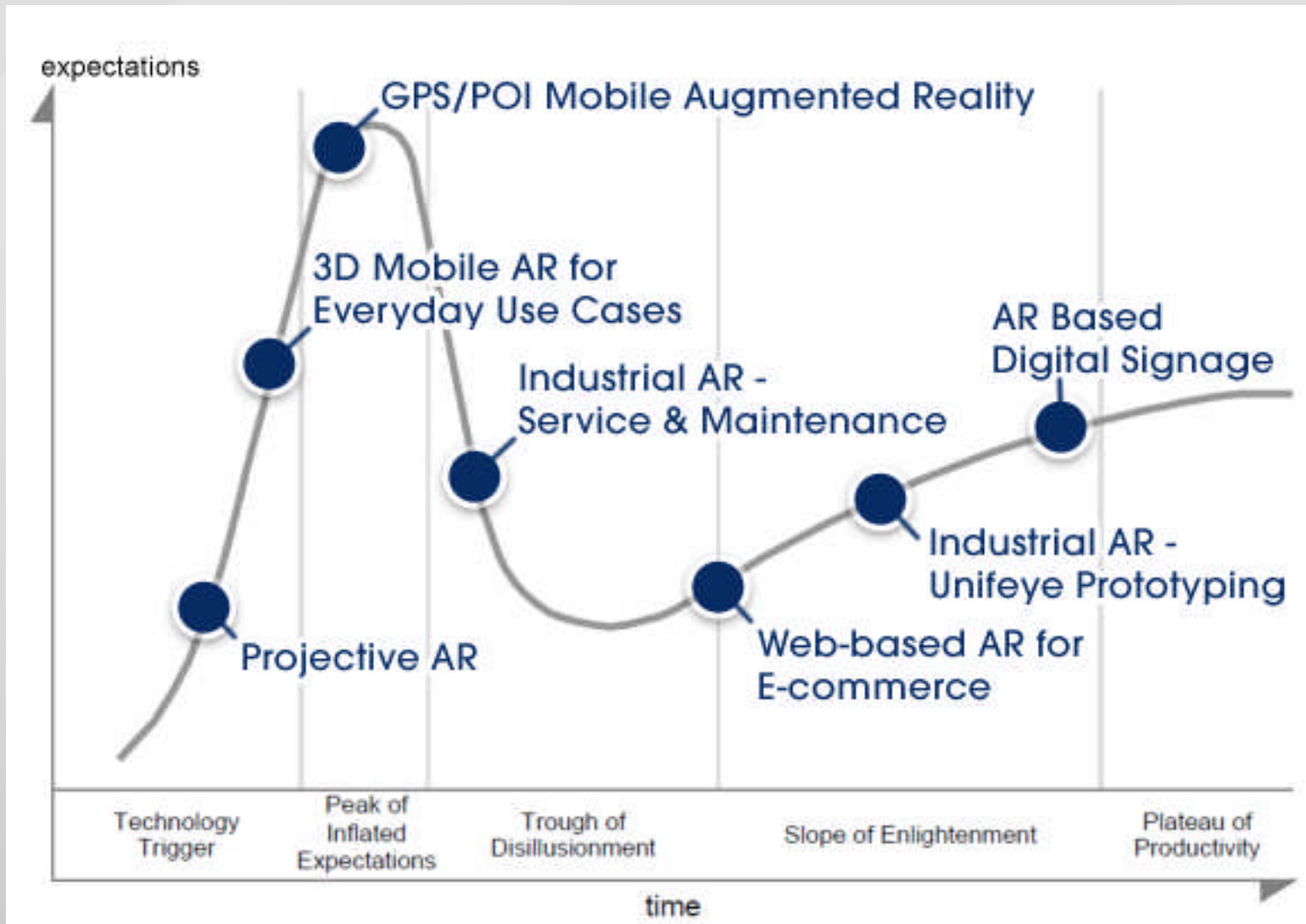
# The Augmented Reality - Hype Cycle



Gartner - Emerging Technology Hype Cycle 2010: What's Hot and What's Not



# The Augmented Reality - Hype Cycle Reality Check

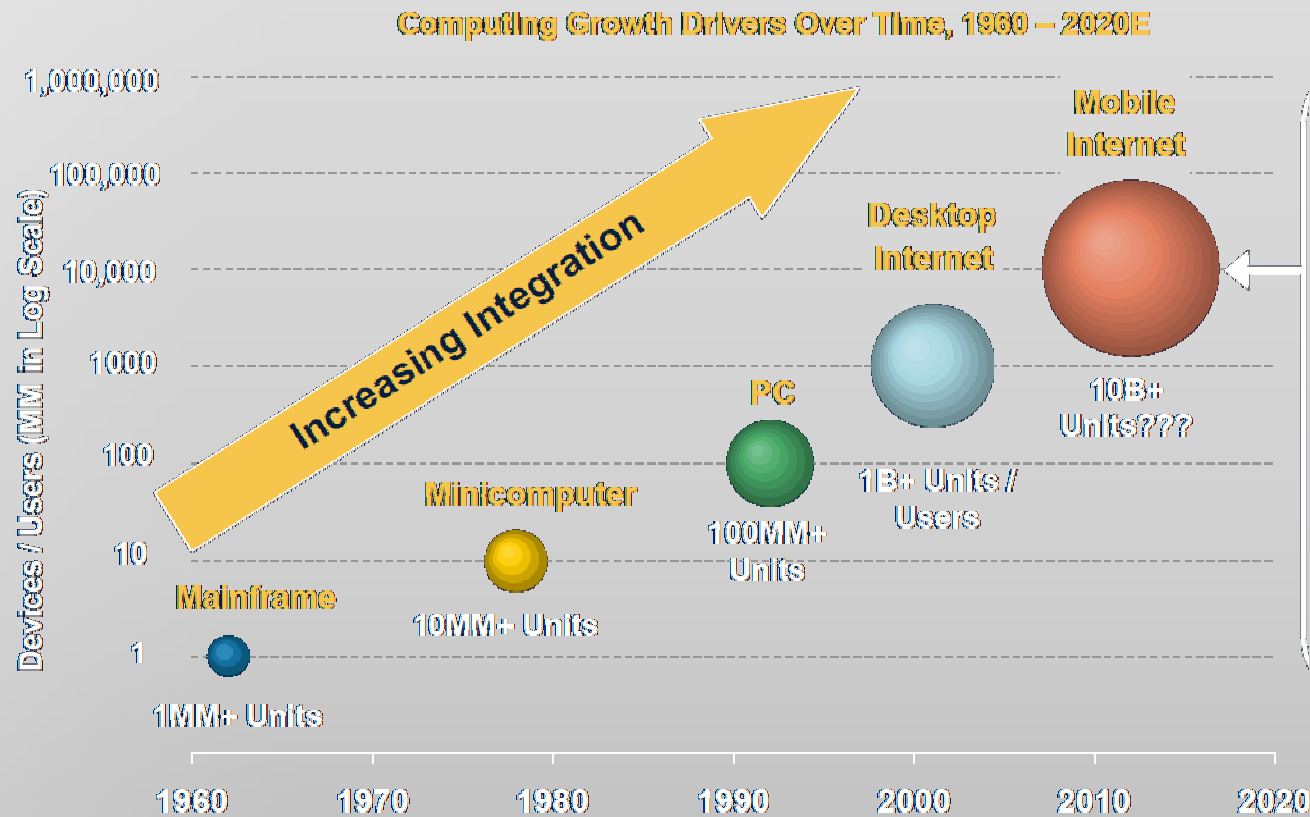


Metaio + Gartner - Emerging Technology Hype Cycle 2010: What's Hot and What's Not



# Augmented Reality Market – Driving Factors

- Augmented Reality development is nested in the dynamic mobile internet ecosystem
- Gartner foresees an install base of 1,3B Smartphones for 2013
- Augmented Reality has achieved strong press visibility

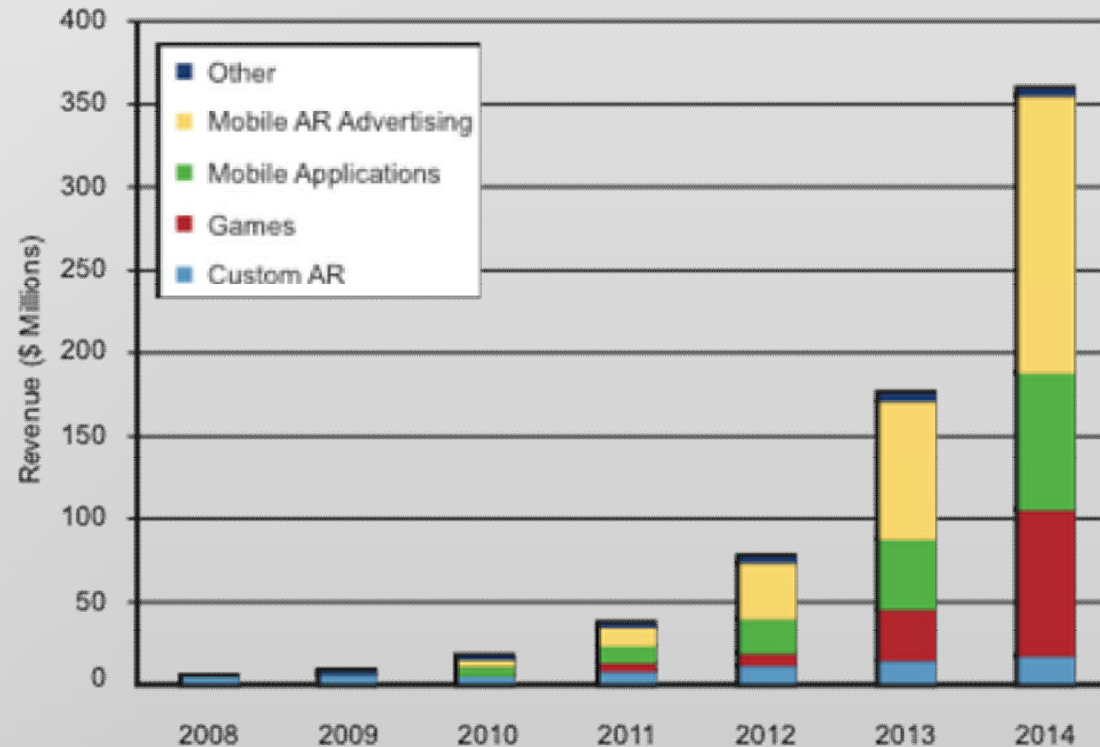


Source: ITU, Mark Lipacis, Morgan Stanley Research



# The Augmented Reality Market

Overall Revenue Related to AR Technology



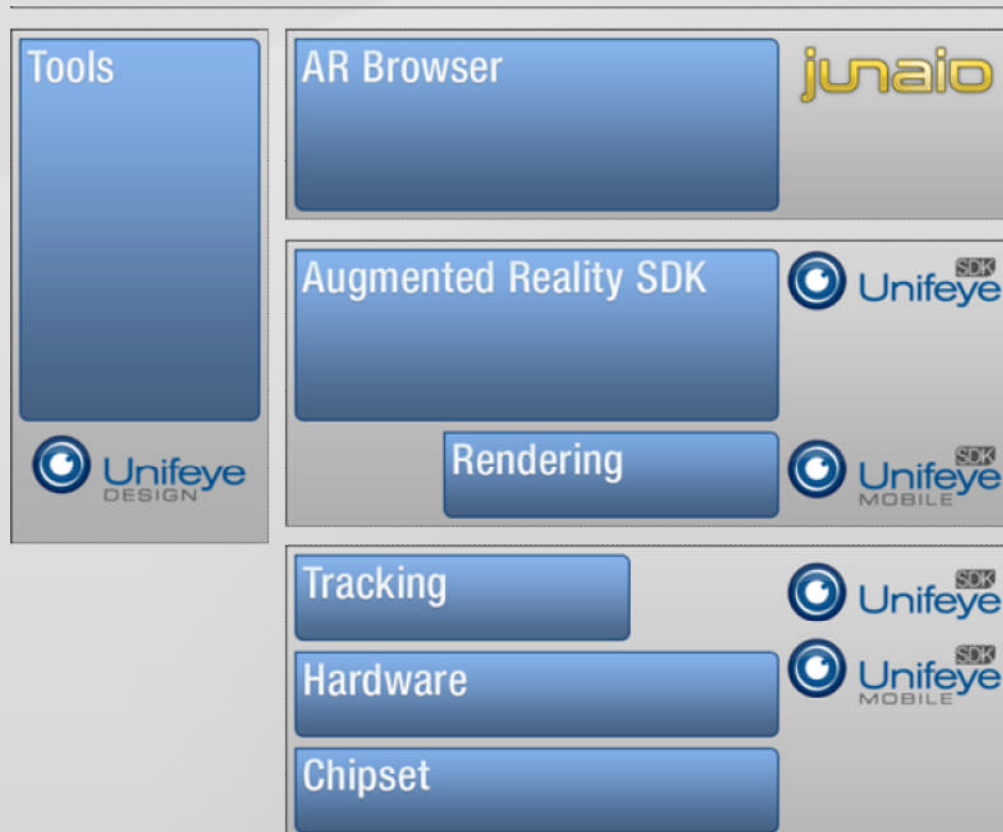
(Source: ABI Research)

- Niche AR applications in 2008 account for a \$6 Million revenue stream
- Market will grow to \$360 M in 2014 (96,16% CAGR)
- \$190M mobile AR applications, \$170M in mobile advertisement





# Market Positioning metaio



- metaio is the only AR company which serves all aspects of Augmented Reality with their products
- metaio is uniquely positioned on all levels of the AR business as a strong B2B brand – independent tools for industrial markets
- junaio is positioned as the B2C brand from metaio
- junaio will increasingly gain momentum and importance for the ubiquitous deployment of AR



# Augmented Reality – what for?

- Information overload (some numbers):
  - **1,000,000,000,000** (one trillion) - unique URLs in Google's index
  - **10,000,000** –articles in Wikipedia (all languages)
  - **70,000,000** – number of total videos on YouTube (3/2008)
  - **900,000** – average number of blog posts per day
  - **3,000,000** – number of Tweets/day (March 2008)
  - **700,000,000** – number of photos added to Facebook monthly

From <http://thefuturebuzz.com/2009/01/12/social-media-web-20-internet-numbers-stats/>

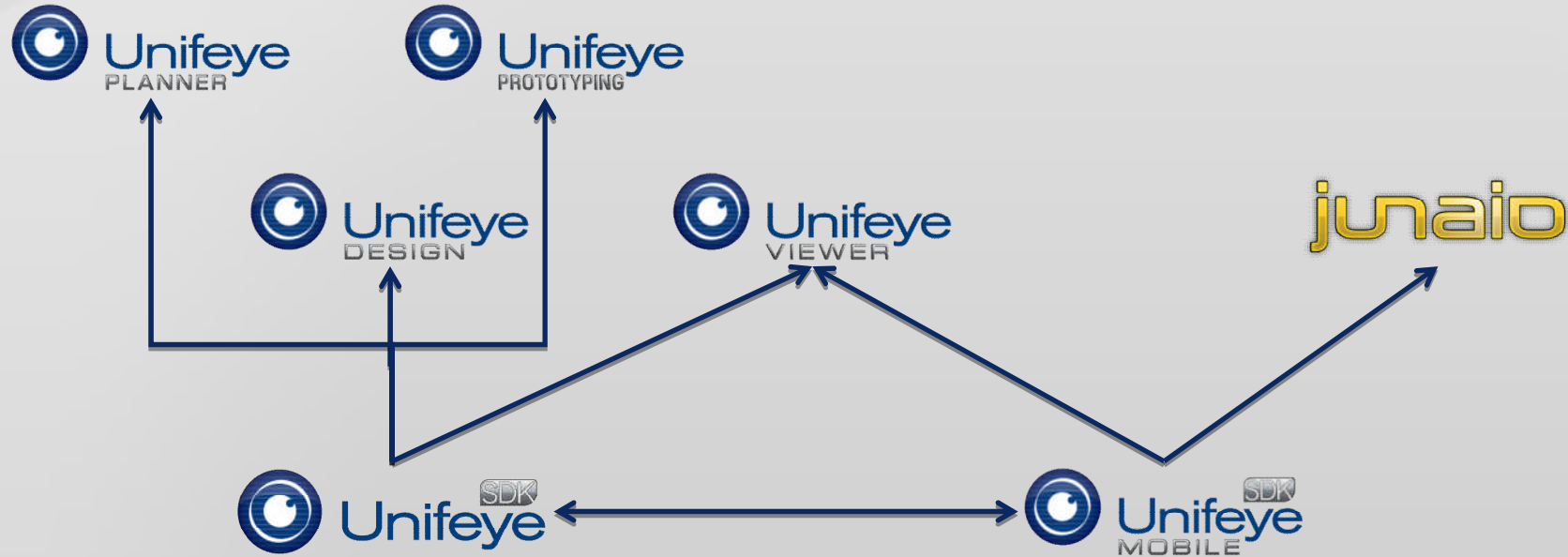


# Implication: Eliminate the gap for information display

- Values:
  - Easy information access
  - Understanding information
  - Wow
- Implications:
  - Strong **products** and platform
  - Strong **research**
  - Strong **projects**
  - Strong **partners**



# Strong products: SDK base



- SDK and Mobile SDK as base for all products
- Correlation between SDK and Mobile SDK with mutual improvements
- Development driven by research, internal, external and strategic requirements

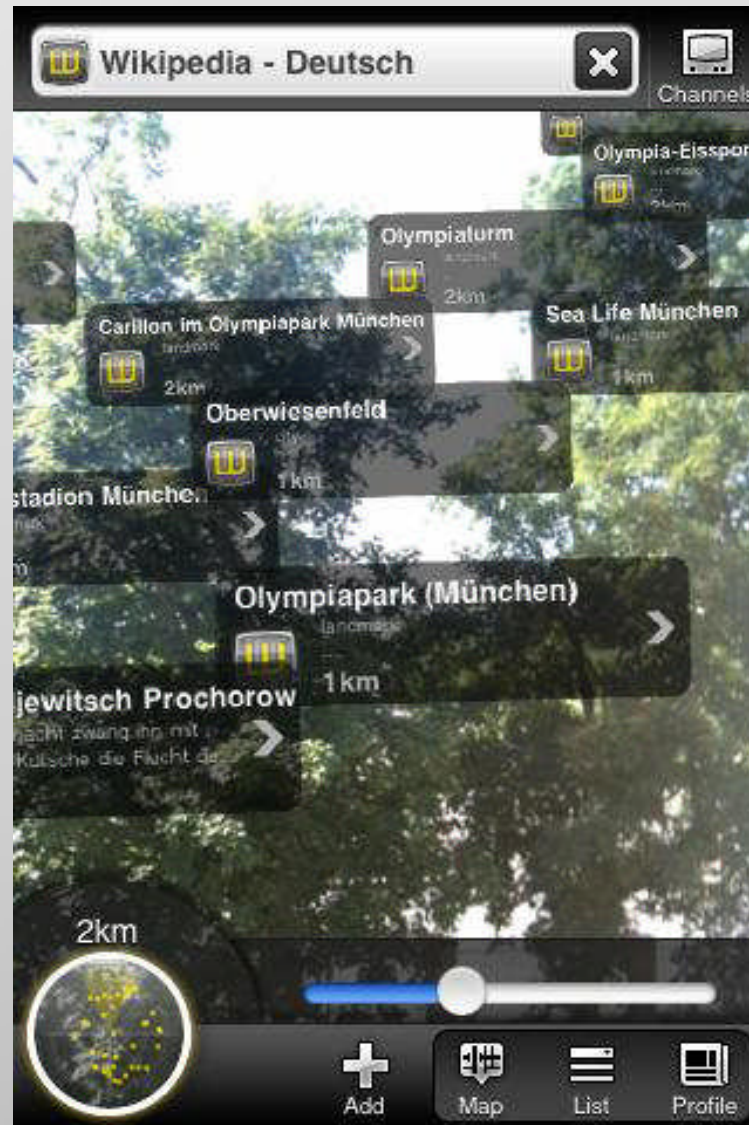


## Strong products: What's junaio?

- junaio® - the most advanced mobile AR browser - your source of instant information about places, events, bargains or objects around you.
- The unmatched ease of use, great choice of content and superior features make junaio® your smart companion wherever you are.



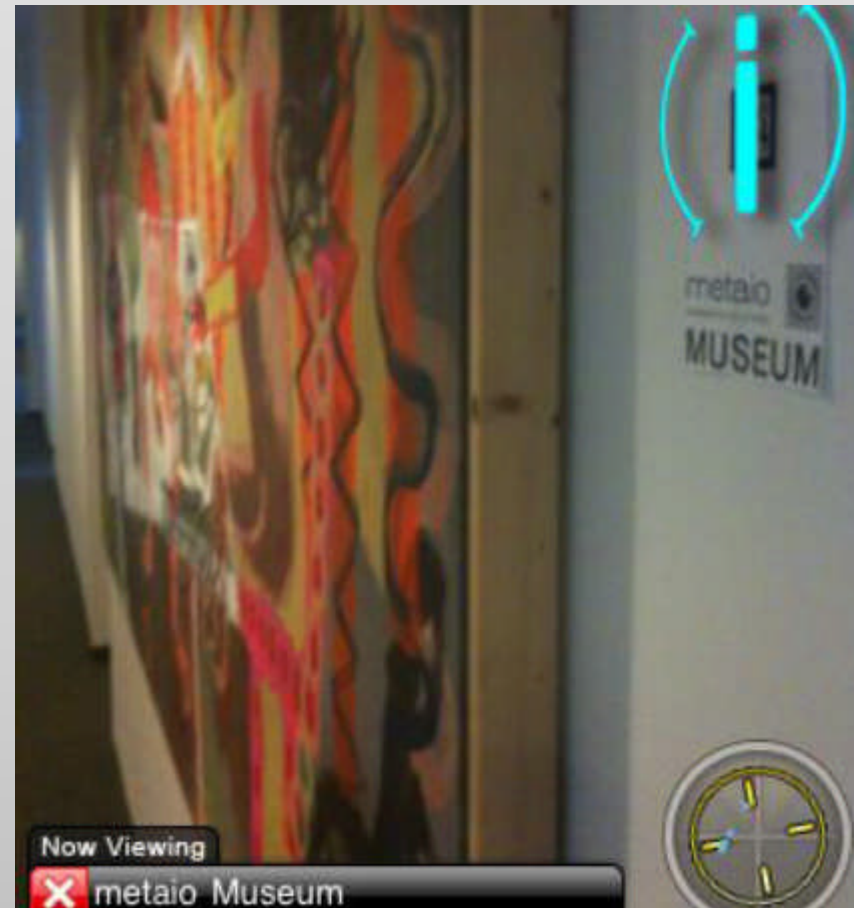
# Strong products: Location based AR



# Strong products: Real 3D model support



# Strong products: Indoor Navigation





# Strong products: Interactive object recognition techniques



# Strong products: Sophisticated information backend

- provides users with dynamic, location-based content
- allows content-providers and developers ways to add AR-content, easily
- gives metaio full control over licensed functions



## Strong projects: SITA and Malaysia Airlines: MHdeals iPhone App



Demo Video: <http://www.youtube.com/watch?v=LPhoizmFssM>

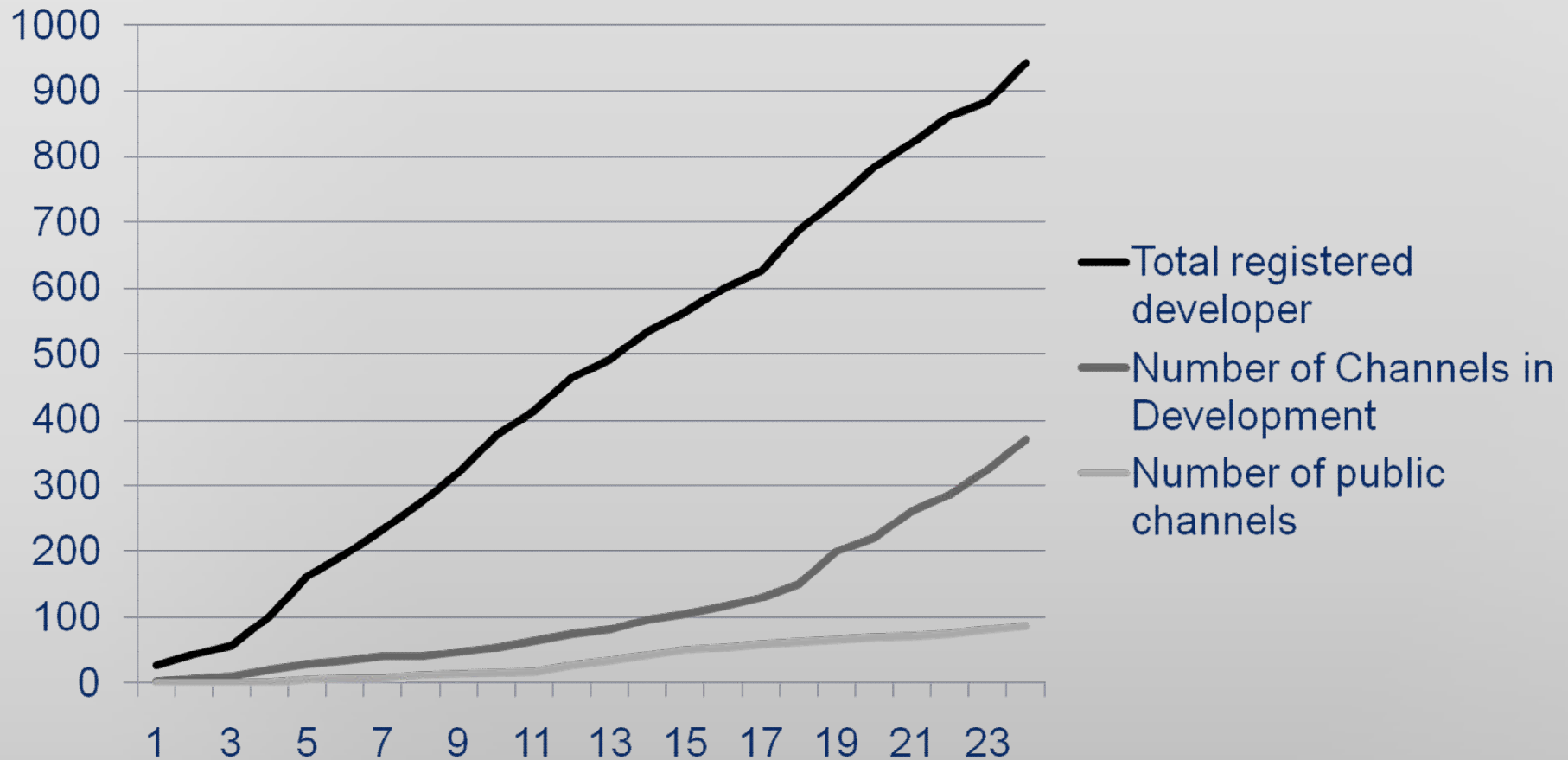
### FACTS

- Allows customers to pick up the best airline deals from nearby airports and for inspiration travelling
- Airports and deals are shown in the live-camera view around
- Malaysia's App shows how airlines can exploit the technology commercially as a new possibility for ticket sales

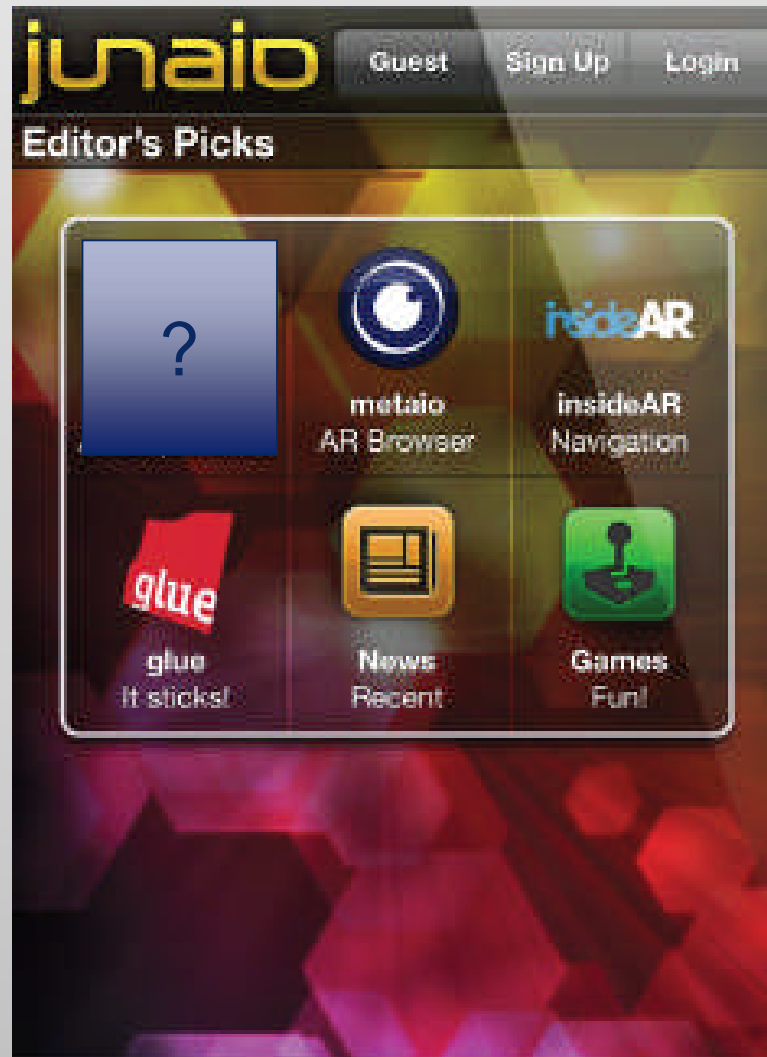


# Strong products junaio

- ... easy entry to the world of mobile AR



# Strong products: New Channel Navigation on junaio 2.5



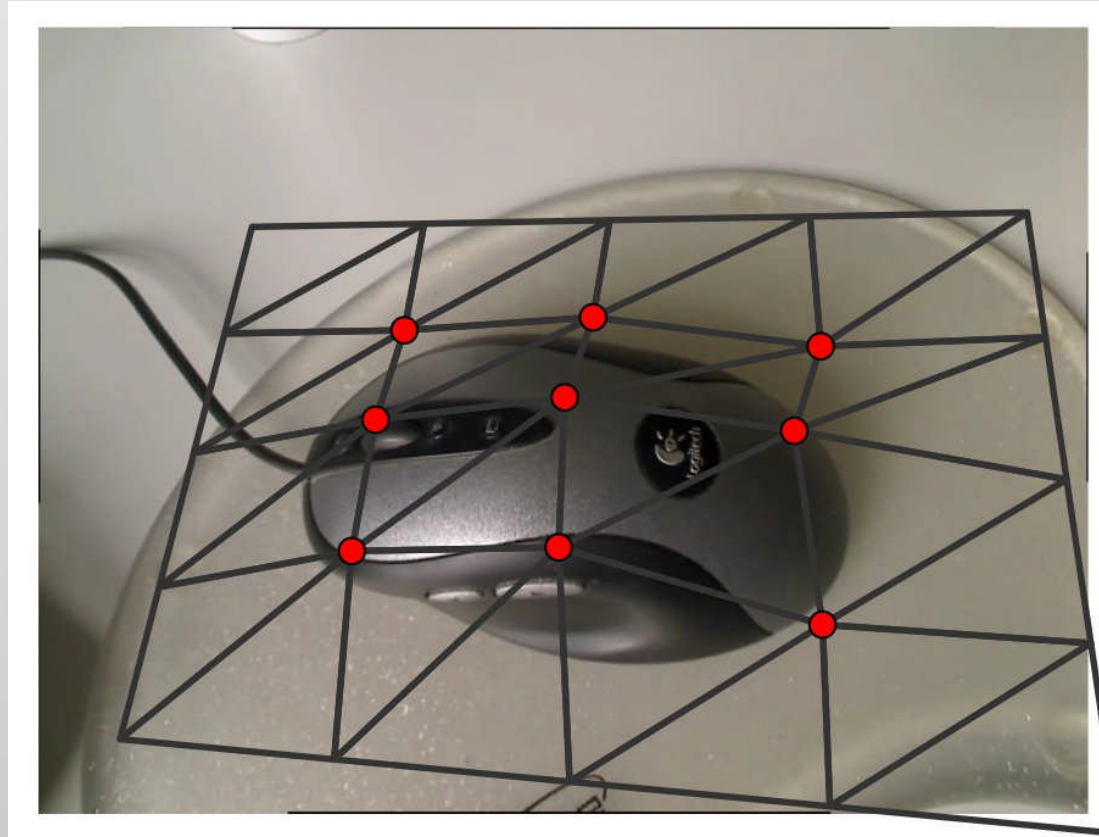
# Strong products: Product Roadmap

- PC:
  - New/Improved tracking approaches: face tracking, 3D markerless and extensible tracking, object detection/tracking
  - Higher performance/stronger multicore usage/optimizations
  - Projective AR
- Mobile:
  - Higher performance/optimizations
  - Movie texture support
  - 3D markerless tracking/large area outdoor tracking/face tracking
- General:
  - Improved usability and configuration tools
  - Sustainability and beyond the wow
  - Dialogue instead of monologue (in technology and people)



# Strong research: Some research results

- Dense deformable tracking and reconstruction: video



# Strong research: Some research results

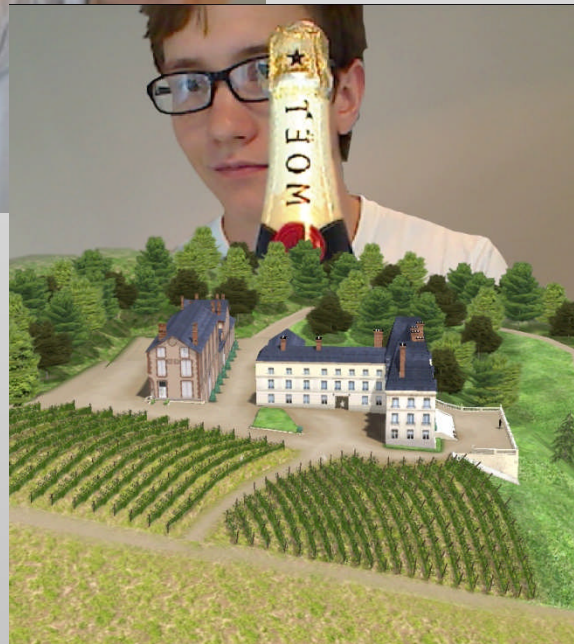
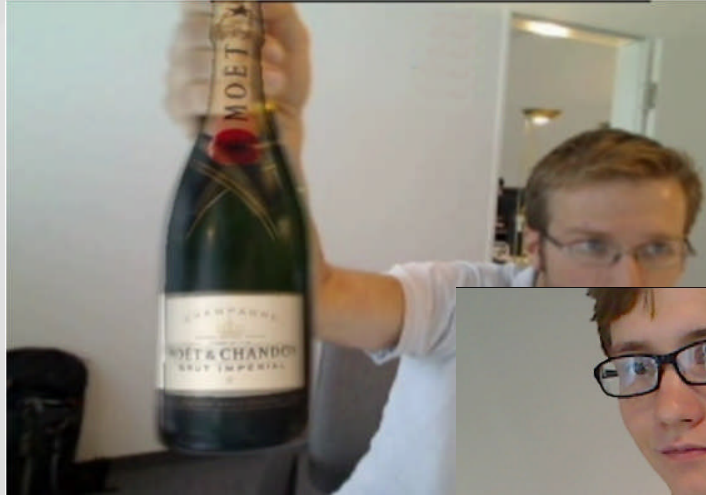
- Robust Face Tracking





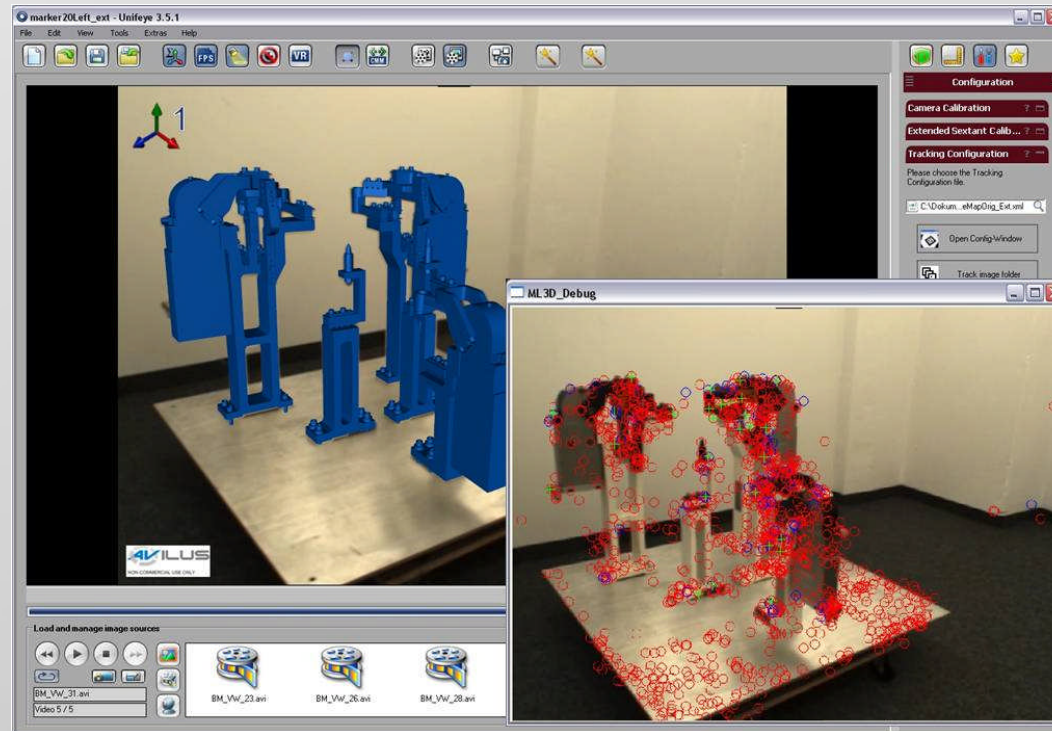
# Strong research: Some research results

- Productive 3D Tracking



# Strong research: Some research results

- Productive extensible tracking (SLAM): video



# Strong research: Some research results

- Sensor fusion and outdoor tracking (on mobile devices)



# Strong projects: LEGO Digital Box



Get the experience: <http://www.youtube.com/watch?v=PGu0N3eL2D0>

## FACTS

- Installed in all LEGO brand stores worldwide
- Let consumers see a virtually built-up and fully animated LEGO product by holding the package up to the DIGITAL BOX
- Higher brand experience and sales per customer



# Strong projects: Face Tracking Kiosk for “The Future is Wild”



## FACTS

- Kiosk installed in the Sydney aquarium
- Visitors get augmented with a 3D baythysphere and dive into a vibrant underwater world
- Interaction methods:
  - famous creatures of „The Future is Wild“ can be fed with cards held in front of the kiosk
  - Users move their head and the animals react!



# Strong projects: CEWE Photobook

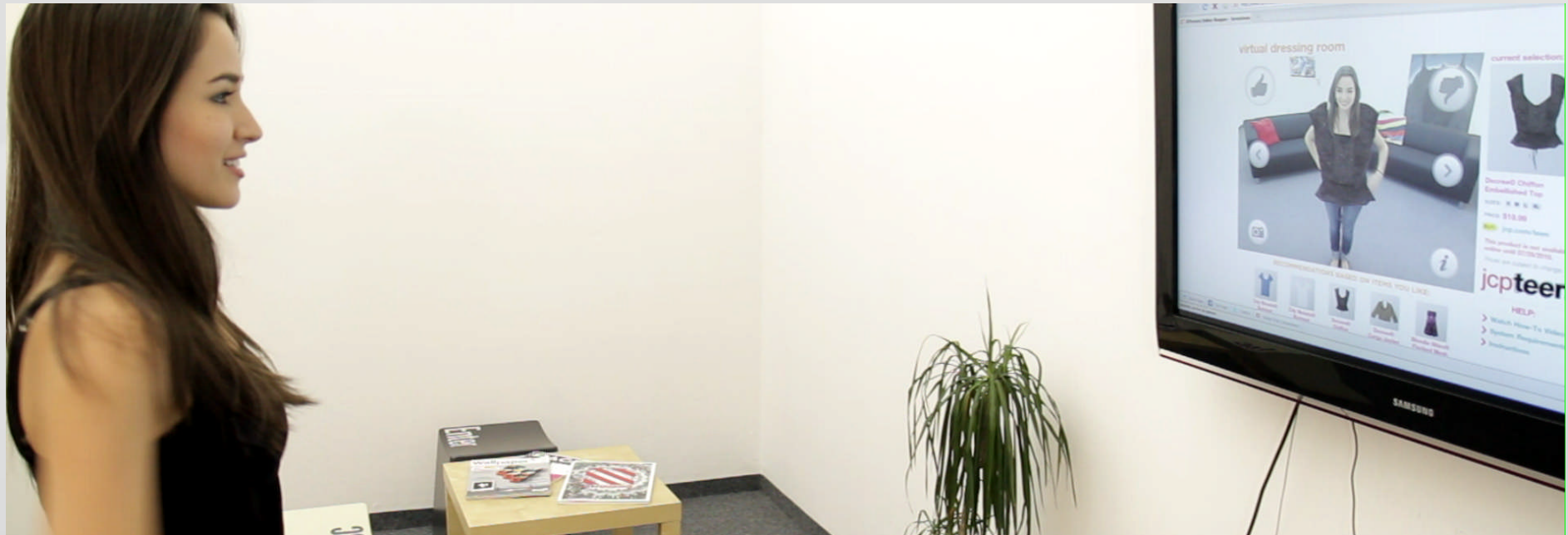


## FACTS

- First individual/customized AR point-of-sale application
- Consumers experience their own photos as part of an interactive photo book
- Add videos and customized messages to your photo book



# JC Penney: Virtual Dressing Room



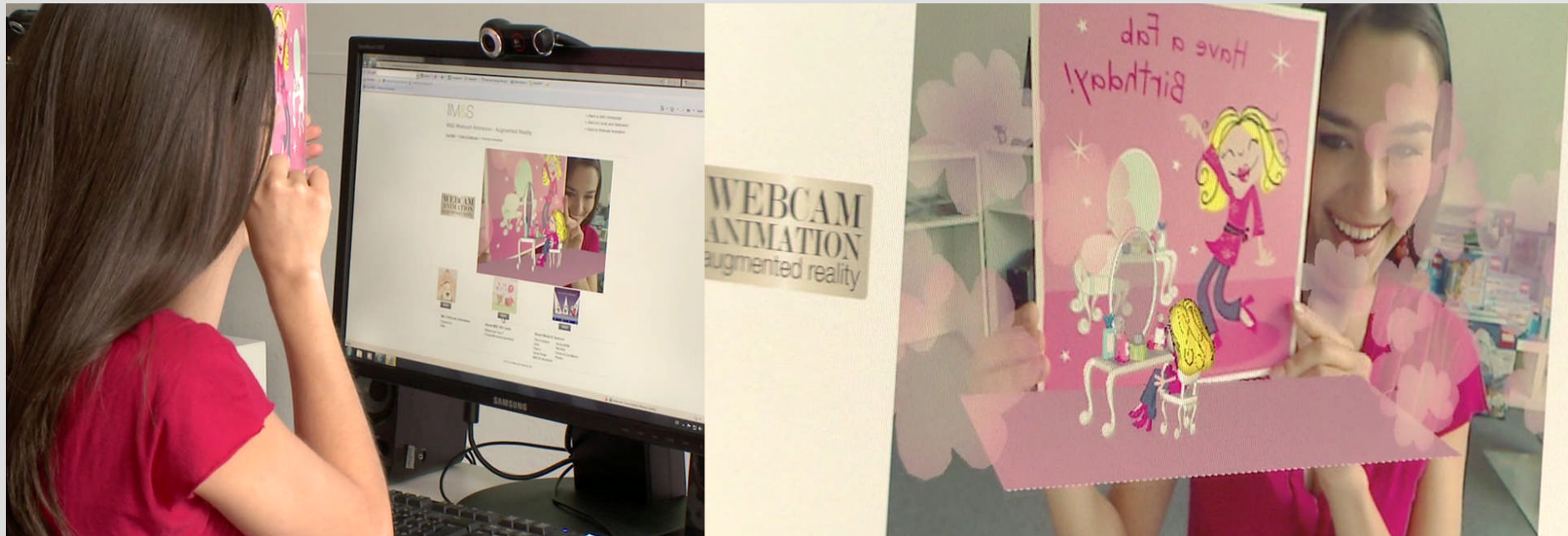
Video: <http://www.youtube.com/watch?v=fhjuZMEJ4-U>

## FACTS

- Online Shopping Experience with clothes superimposed onto the live-video image
- Navigation with „Motion Capture“: Size, position, product search and rating
- Connected to shop-system and Facebook



# Augmented Reality Greeting Cards for Tigerprint



Video: <http://www.youtube.com/watch?v=st9l80YNxfQ>

## FACTS

- Greeting cards on sale at Marks & Spencer (UK)
- Users go online and experience additional 3D content which is displayed simply by holding the cards in front of a webcam
- Augmented Reality cards are on sale for 3,60 GBP at M&S stores in the UK
- Average viewing count per card is 8





## Strong projects: Nestlé: CHAMYTO Online Games – PART TWO



Get the Experience here: <http://www.chamyto.com.mx/index.html>

### FACTS

- In packs of CHAMYTO cereals there are playing cards, which function as controlling device for 8 online AR games
- The kids are able to steer the main character of the campaign through elaborate and lovely game worlds
- Second campaign launched after very successful Phase 1 in 2009



# Strong projects: Ben & Jerry's: „Moo Vision“



Demo Video: <http://www.youtube.com/watch?v=VLKLg2AnvGE>

## FACTS

- World's first iPhone App with image processing
- By pointing the iPhone to standard packages, customers can experience the hidden contents of Ben & Jerry's
- Collecting different Ben & Jerry's lids customers can share their experience online and win prizes



# Strong partners

- 31 partners worldwide
- Partners account for a large proportion of the revenue in 2010
- Partners profit from professional expertise and “Lighthouse” projects
- Partners can use the results of the lighthouse projects and replicate the success stories in their markets
- Partners business models become increasingly profitable





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