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Augmented reality as supporting technology for startups

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1. Initial Situation

The technological advances through digitization provide the basis for a new form of live and work. It will no longer be necessary to calibrate and monitor machines on site, but control them by the use of digital systems. Also machines and products will start to communicate with each other. One important technological hype is Augmented Reality (AR). By extending the reality with information, a variety of opportunities arise for companies.

In Austria, the number of start-ups has more than doubled within the last 20 years. Thus, start-ups are becoming an increasingly important factor in the Austrian economy, substantially contributing to the GDP. Additionally, start-ups are not only of great economic importance but also a source of inspiration and innovation.

Combining those arguments two scopes of application can be defined:

1. AR as a business model for innovative start-ups
2. AR for supporting and optimizing small companies

2. Goal Setting

This contribution gives an overview about how start-ups can benefit from AR technologies in the two outlined perspectives.

3. Approach

This contribution follows a two-step-approach:

The theoretical and practical findings in the fields of augmented reality, start-ups and innovation were collected, combined and compresses using systematic literature review. Based on that, already existing good practice examples from industry were investigated.

Most recently, the findings were redirected to processes along the supply chain in order to detect use cases for start-ups either regarding new business models or optimization potentials.

4. Results

Augmented Reality

Augmented reality describes the enrichment of reality with information:

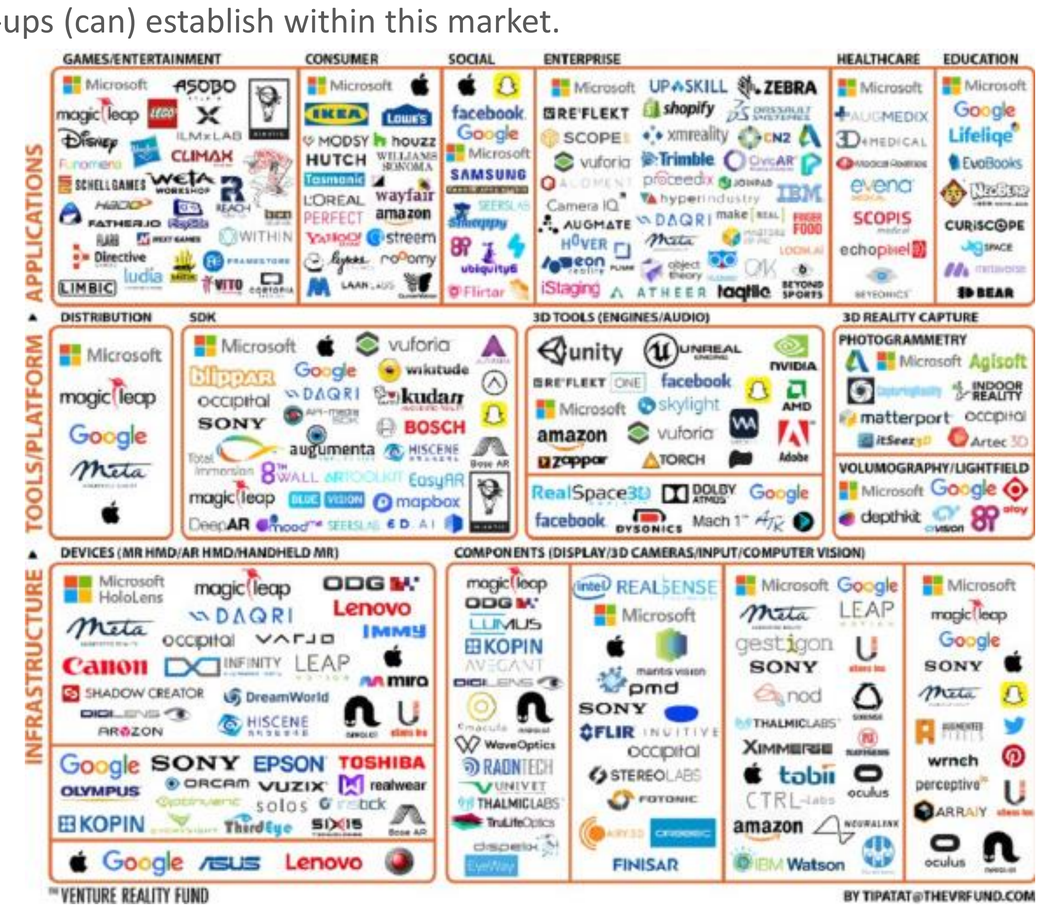
- View documents, videos or podcasts (instructions, checklists etc)
- Watch and interact with 3D objects
- Use different (Android) apps with corresponding interaction options (from ERP systems to conference tools)
- Retrieving real-time data through interfaces to other software

These can be provided on screens of different hardware devices (from smartphone use to smart glasses).

Start-ups

Achleitner (2017) defines start-ups as young, not yet established companies that are founded to embrace an innovative business idea with low start-up capital. In this concern on the organizational side “start-ups” have special requirements focusing on networking, financing, promotion and education. Startups, often have to focus on their core business; resources are lacking especially for organizational development or training. Therefore they need technologies that support their daily work in an adequate way.

Regarding to the business model, start-ups come up with innovative business solutions. Due to the potentials of digitization in general and AR specifically there is a constant rising demand for AR-Solutions in the B2B sector. Thus many start-ups (can) establish within this market.



AR Landscape monitor H1 2018 by The Venture Reality Fund

Excerpt: Relevant use cases of AR-technology for start-ups

Training of work processes and providing training videos

Improving marketing/sales

reduce costs of prototyping

Excerpt: detailed Use Case „training for an assembly process“

Training of workflow	Training of decision making	Training of problem solving
Goals: ▪ Ability to operate the machine and carry out the process steps ▪ Shorter Lead Time of classical training ▪ Step by step training of the workflow activities **Methods:** ▪ Augment the model/unit with pictures, videos, 3D-Modell, assembly instructions …	**Goals:** ▪ Gaining additional knowledge about the process and the impact of own activities **Methods:** ▪ Simulation of the impact of the decision also with regard to other business processes ▪ Automated evaluation of the plausibility of the results	**Goals:** ▪ Rising the ability of solving standard errors ▪ Understand quality factors in order to work preventive **Methods:** ▪ Providing step-by-step solution guidelines ▪ Providing remote support ▪ Providing a multimedia knowledge management system

Literature excerpt:
BLANK, S./DORF, B.: The Startup Owner's Manual: The Step-By-Step Guide for Building a Great Company, 2012, K&S Ranch.
KOLLMANN, T./STÖCKMANN, C./HENSELLEK, S./KENSBOCK, J.: European Startup Monitor, 2016, http://europeanstartupmonitor.com/fileadmin/esm_2016/report/ESM_2016.pdf.
THE VENTURE REALITY FUND: The VR Fund H1 2018 AR Industry Landscape, https://venturebeat.com/2018/07/12/ar-companies-have-grown-50-since-the-end-of-2017/.