

Track the Success (TTS)

Quantifying the quality of TV
and video advertising

Authors

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Abstract

This article discusses a study conducted jointly by eye square, a research institute, and Screenforce, which itself is a joint initiative of marketers of TV- and online video content in Germany, Austria, Switzerland. The experimental study compares the performance of advertising on different video channels (TV, BVOD - Broadcast Video on Demand, YouTube and Facebook) and investigates the reception situation by measuring and quantifying human experience on three different levels: perception, reaction and effect. The results show that identical spots work significantly better on TV and on a BVOD channel than on YouTube or Facebook. The study provides reasons why advertising works differently on the channels. Advertising on TV or BVOD has a greater chance of being noticed, is more emotionalizing and is also received in a relaxed and emotionally balanced situation.

Take Aways

Advertising effectiveness depends on the quality of contact, which is determined by the impact a creation has on the 3 systems of human experience (perception, emotion, effect). Quality of contact on TV remains unrivaled.

Media Comparison

- TV content has the highest advertising impact, YouTube and Facebook are significantly behind
- TV content possesses highest visibility and the most intense perception
- Advertising in TV content has the strongest emotional impact; the reception is very balanced

Special Analyses: Devices Used, Seconds Screens, Age

- Usage situations are more decisive for advertising impact than device type
- Only slight loss of impact with second screen use, advertising still very present on the big screen.
- TV advertising is just as strong with younger people as with older people; Digital channels have a poorer impact on younger people because advertising contacts are more fleeting, e.g. due to the higher scrolling speed on Facebook.
- While BVOD and YouTube lose effectiveness in out-of-home-situations, BVOD still ranks above YouTube.

Why is TV advertising so impactful?

Studies show that advertising on TV content has a better impact than on YouTube or Facebook. The big question is: How can these differences be explained in order to be made useful? This is the question TV genre initiative Screenforce and eye square research institute pursued – and hopefully answered – in our “Track the Success (TTS)” study.

Only by understanding the mechanisms at work advertising can be used effectively and efficiently on the various video channels. "Track the Success" used an innovative research approach to show how viewers perceive moving image media and what influence the reception situation has on the effect of advertising.

TTS takes a detailed look at three factors, which we consider the primary spheres of human experience (or “3 systems”):

System 1 (Perception) - playout of the advertisement and visual attention.

System 2 (Emotional Reaction) - emotional and bio-physical activation.

System 3 (Cognitive Effect) - advertising recall and purchase intention.

Participants watched identical commercials on different media channels (Setup / Study Design)

The experimental In-Home study with a total of 549 viewers from Germany, Austria and Switzerland was conducted by eye square from January to March 2021. Media included were TV, BVOD (broadcaster video on demand), YouTube and Facebook. Each participant used two video channels at home and was shown 8 test spots during these sessions while being recorded by webcam. For explicit responses a subsequent questionnaire was used. With test sessions lasting about 60 minutes, a total of almost 3,500 advertising contacts were examined in 7 different test conditions.



Image 1: Study overview

Both BVOD and YouTube were tested in equal parts on smart TV and smartphone. The embedding of the spots was as natural as possible. Participants selected content of their choice on YouTube, for example, and were shown the test spots there as non-skippable PreRoll. The biotic InContext-Testing method of eye square was used, which enables a realistic media offer by means of browser-based technologies. This is essential for reasons of external validity, because only in this way can robust data be generated on the impact of the various channels. For Facebook, half of the delivered spots were optimized for the platform.

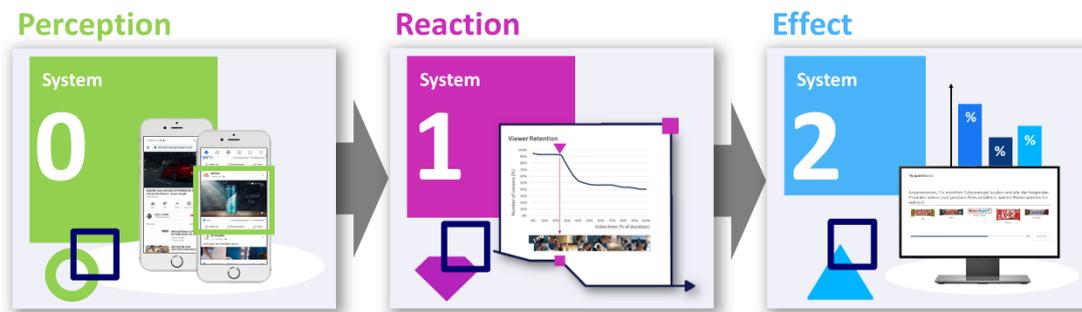


Image 2: Advertising Impact Model. Method: innovative measurement of perception and response with DIY advantages

Perception / System 0

During media use, participants were filmed by webcam. Based on these recordings, visual attention to the screen can be determined: a newly developed AI-based algorithm detected whether participants' faces were directed frontally towards the TV or smartphone – these cases were counted as “facing”; all other head positions were not attributed to any screen. Using an extensive training dataset with video recordings, the high accuracy of “head position determination” was validated. After training, the algorithm detected the turn to the screen with over 95% hit probability.

For data interpretation purposes it is important to note, that even in case of “full frontal orientation” gazes can be directed to the side, upwards or downwards. Therefore, results cannot be compared 1:1 with data from eye tracking studies. Also, data from eye tracking recordings usually have much higher accuracy than the method described. In the presentation of the results, therefore, we also speak of “visual attention”, with the term “attention” being used instead of “viewing time” to transparently account for this difference in methods. Respective channel results could nevertheless be interpreted because the same method was used to measure them.

However, and this is a crucial point, the use of eye-tracking methods in media ethnography is much more elaborate and by no means amenable to a do-it-yourself approach (costs, logistics, insurance, know-how, application errors, etc.). This severely limits the number of possible tests. Therefore, a major innovation of this study is to have found a way to conduct attention measurement in a completely novel DIY study context using relatively simple means.

Emotion & Activation / System 1

For the measurement of participants' **emotional responses** webcam recordings are also usable. Through an algorithm, six basic emotions (Ekman, 1999) are identified and quantified in the facial expressions (intensity of all 6 emotions per second): joy, surprise, anger, sadness, disgust, and fear. In order to accurately determine facial expressions even when facing the smartphone, a new Android app was specifically developed to simultaneously record screen content and frontal camera video. The videos recorded with this app were extensively validated in advance with parallel camera setups and delivered high accuracy.

In addition to this, skin conductance was measured throughout the session to determine the degree of activation or relaxation caused by the media. Subjects wore Shimmer 3 GSR+ meters with two

finger sensors. Through downstream detailed analysis, the average number of discrete phasic peaks in the GSR signal was calculated as an important indicator of activation (Boucsein, 2012).

Inexpensive, Corona-safe DIY media ethnography with significant scaling effects (Logistics)

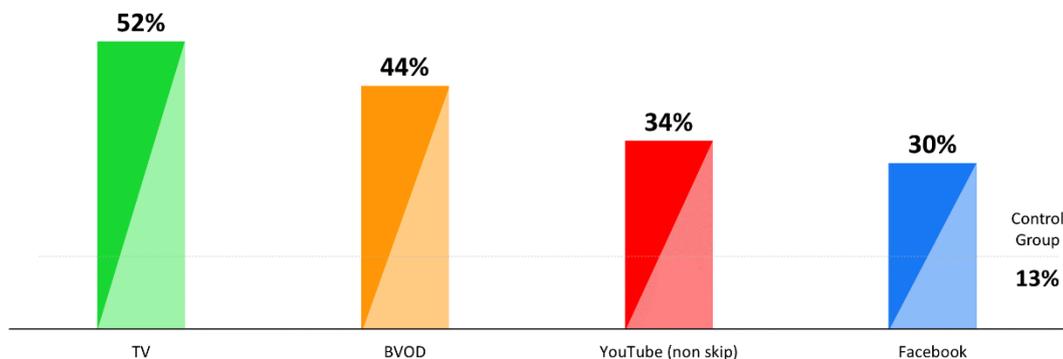
One of the key methodological innovations concerned study logistics: Covid-19 regulations necessitated organizing the entire study without test operator visits to participants’ homes. All technical equipment was shipped to participants’ homes. This included webcam, smartphone, laptop, as well as skin conductance recording device. Elaborate user-centered, iterative piloting in advance resulted in an easy-to-understand procedure from a user’s perspective: participants were instructed exactly how to connect the devices at home (participation guide and video). To ensure that everything worked smoothly, trial supervisors were available online throughout the session. They were able to provide assistance at any time in the event of queries and check whether the technical setup had been set up correctly. Tests showed that even for participants with no particular prior technical knowledge, the test setup worked smoothly. Screensharing tools were also used, e.g. to remotely monitor the functionality of the recordings on the tester devices. A video of the DIY setup can be viewed here: <https://vimeo.com/eyesquare/review/666958598/76f2e9d676>.

Due to lower costs and higher number of simultaneous tests conducted per test director, this innovative approach generated significantly higher case numbers than conventional in-home studies, which usually operate with fewer than 100 participants per study (Bergmann, 2008). With a fleet of 50 test kits at locations distributed throughout Germany, Austria and Switzerland, the required number of cases plus over-recruitment to compensate for technical failures was realized within a few weeks.

Main Findings

Advertising content on TV is particularly effective

The results of the study confirmed that advertising in TV content is particularly effective. This applies to all indicators investigated: TV has a clear advantage in spontaneous advertising recall. For the other indicators aided recall and buying intention, TV and BVOD have roughly the same impact. YouTube and Facebook are trailing.



Question: „From which brands [of a certain sector] have you seen advertisements for recently?“ Number of ad contacts: N (TV) = 448, N (BVOD; arithmetic mean of TV and Smartphone) = 1003, N (YouTube; arithmetic mean of TV and Smartphone; 100% Non-Skippable) = 1034, N (Facebook; arithmetic mean of optimized and standard spots) = 523, N (Control group) = 444.

Image 3: TV ads are best remembered spontaneously. Free ad recall

These results are consistent with other studies. The media equivalence study by SevenOne Media, Google and Mediaplus (SevenOne Media, 2020; Sevenone Media, 2020) and the Screenforce study "Not all Reach is Equal – DACH Edition" (Screenforce, 2020).

System 0 - Perception

Variables for technical playout of advertising: sound, screen coverage, runtime

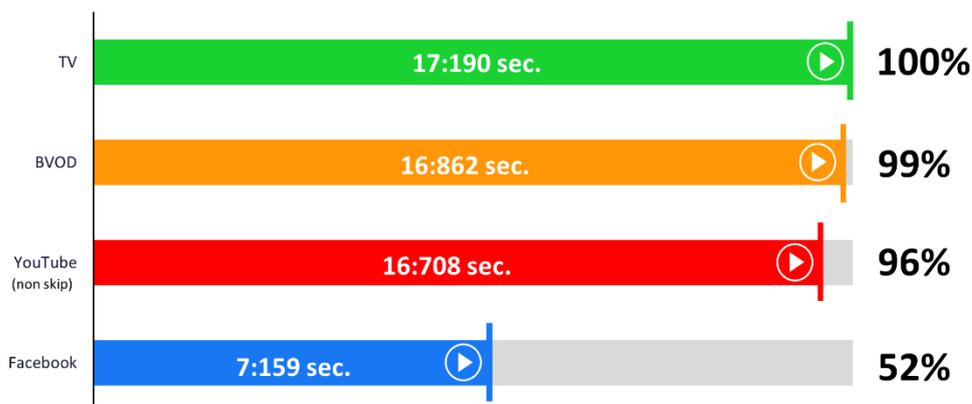
The variables for technical playout of advertising provide initial explanations for the different effects. Advertising in TV and on YouTube is always played with sound. On Facebook, on the other hand, only about a third of the advertising contacts are viewed with sound.

	 Sound on	 Muted	 Fullscreen	 Not Fullscreen
TV	100%	0%	100%	0%
BVOD	100%	0%	100%	0%
YouTube (non skip)	100%	0%	59%	41%
Facebook	34%	66%	16%	84%

Technical delivery of ad contacts: proportion of ad contacts with sound on/off and replay in fullscreen/not fullscreen. Number of ad contacts: N (TV) = 476, N (BVOD; TV and Smartphone) = 804, N (YouTube; TV and Smartphone) = 774, N (Facebook; arithmetic mean of optimized and standard spots) = 380.

Image 4: Proportion of ad contacts played back with sound and in full screen; Ads on Facebook mostly muted

Screen coverage of advertising also differs: Ads on TV (and BVOD) consistently have 100 percent coverage. For the use of BVOD on smartphones, this means that content and advertising are consistently viewed in landscape mode, marking a clear advantage. This is not the case with YouTube: Here, clear differences in usage on smart TV and smartphone occur. On average across both devices, just under 60 percent of advertising contacts had full screen coverage. On Facebook, only 16 percent of contacts are viewed with full screen coverage, as smartphones are predominantly used vertically.



Visibility duration: Visibility duration of ad contacts in sec. in proportion to average length of commercials (in %). Number of ad contacts: N (TV) = 476, N (BVOD; TV and Smartphone) = 804, N (YouTube; TV and Smartphone) = 774, N (Facebook; arithmetic mean of optimized and standard spots) = 380.

Image 5: Visibility duration of ads in proportion to average length of commercials. Ads on TV are always visible

Furthermore, runtime of advertising spots differs. Ads are visible for the shortest time on Facebook. On YouTube, visibility due to forced exposure in the study is only slightly below that of TV and BVOD. For YouTube ads that are skippable, run time of ads is significantly shorter which was proven by a separate analysis done in the study.

Visual attention is longest with TV

“Visual attention” for TV is longest, followed by BVOD, with YouTube and Facebook well behind. On Facebook faces are turned toward the screen for less than half of the ad runtime.

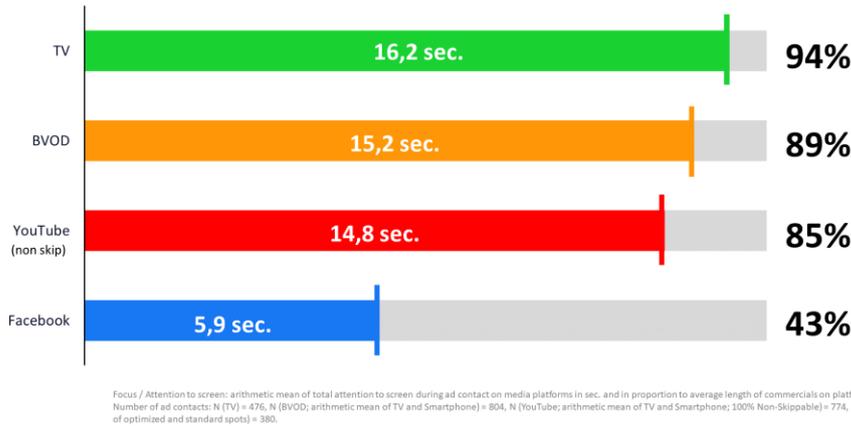


Image 6: Attention to screen during advertising in seconds and in proportion to average spot length. TV reaches the highest allocation of attention

Our term “visual attention” refers specifically to a frontal orientation of the head towards the screen. However, even if the head is facing the screen, this does not mean that the viewer's gaze is actually directed at the commercial. This is especially true when advertising is not played out in full screen coverage. To determine the actual likelihood of viewers perceiving the advertising, screen coverage of the ad must be included and offset against visual attention. Perception is most likely for TV with 94%, as for 94% of the time a spot is running, faces are directed towards the screen - with 100% screen coverage. This is not the case for YouTube and for Facebook. Here, the odds for perception are 58% for YouTube and 20% for Facebook. During 43% of an ad’s duration visual attention is towards the (full) screen, while the ad only covers 47% of it.

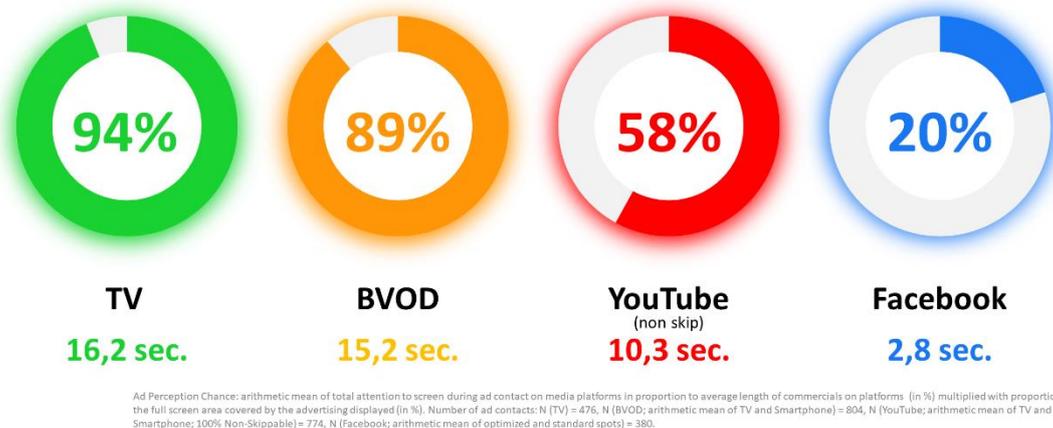


Image 7: Ad Perception Rate: Attention to screen times screen coverage- low perception of Facebook ads

System 1 - Emotional Reaction & Activation

Advertising in TV content has the strongest emotional impact

Emotions play a crucial role in the impact of advertising: studies show that consumers are particularly receptive to messages when they are in a positive mood (Schwarz & Clore, 1983) and that customers are more likely to buy products if they are emotionally connected to the brand (Magids, Zorfias, & Leemon, 2015). Emotions also have a positive effect on memory. A message which stirs emotions is remembered longer.

In television, positive emotions are shown for a particularly long-time during commercials. Only reactions that occurred during the commercial and when the viewer turned to the screen are considered. BVOD performs on a similar level. Facebook only emotionalizes for a very short time, since its use is also only very fleeting.

Another interesting aspect is the comparison of the emotions evoked by advertising and content. On television, content has a comparably strong emotional impact as advertising. So, the state is very balanced. On BVOD, too, there are only slight differences in the emotionalization between content and advertising. On YouTube however, the difference is somewhat greater. On Facebook it is particularly strong. Here, the content provides significantly more emotion than the advertising. For the comparison of content and advertising, the share of emotional reactions in the total media exploration was used.

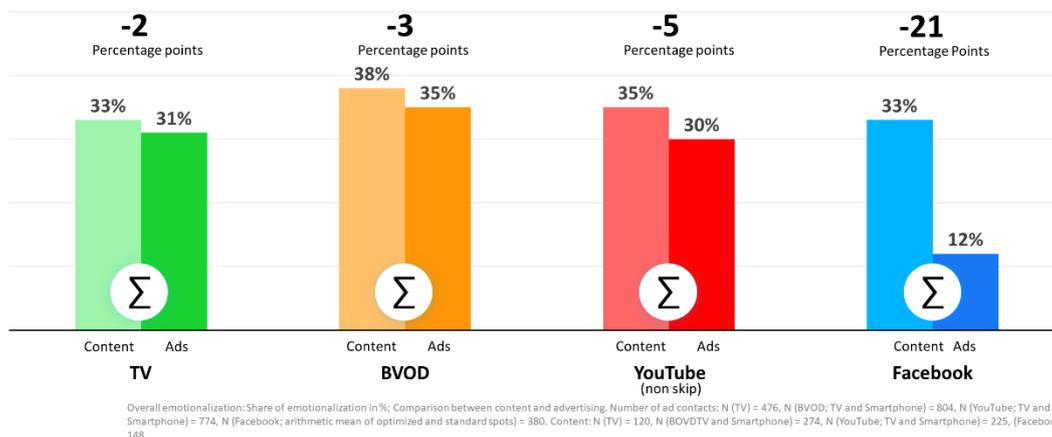


Image 8: Differences in the overall emotionalization from content to advertising. Facebook advertising loses heavily

There are also clear differences between the media channels in terms of activation. For linear TV people are often in "lean-back" mode - a relaxed reception situation that requires little activity. BVOD services of TV stations require a bit more engagement, as viewers search for specific content. Once they have selected the content, the relaxed TV-like lean-back mode starts. This basic relaxed position applies equally to programming and advertising. TV and BVOD show a balanced activation level during advertising and content. On YouTube, there is a clear break in activation: while on TV, advertising is accepted and "runs along," on YouTube, the switch between content and advertising creates significant fluctuations in emotional activation. With Facebook, the changes between content and ad are too fast to lead to major breaks in activation.



Activation response: Average number of peaks per minute during ad contact on media platforms. Comparison between content and advertising. Ad contacts: N (TV) = 384 N (BVOD; arithmetic mean of TV and Smartphone) = 678, N (YouTube; arithmetic mean of TV and Smartphone) = 617, N (Facebook; arithmetic mean of optimized and standard spots) = 301. Content: N (TV) = 97, N (BVOD; arithmetic mean of TV and Smartphone) = 235, N (YouTube; arithmetic mean of TV and Smartphone) = 179, N (Facebook) = 118.

Image 9: Change in activation (peaks/minute) from content to advertising- the change to advertising is smallest

Special Analyses: Key Points

Apart from the major comparison of the processing and the effect of the different media channels this study addresses a series of special research questions that are currently being discussed in the market.

1. Device type does not play a substantial role

A comparison of devices (large screen / smartphone) for BVOD and YouTube shows that it is not screen size but the usage scenario that does play a major role for the ad effectiveness. Whereas on BVOD advertising performs equal on both screens, on YouTube advertising tails off on the smartphone. The reason for this diminished ad effectiveness for YouTube on a smartphone lays in the screen coverage of the ads. While on BVOD users see the ad in a full screen mode (horizontal usage) on YouTube over 90% of the ads are perceived in a vertical modus and thus only cover 25% of the screen. In this case users get distracted by the content and the ad cannot reach its full impact. It must be mentioned, though, that our study gave YouTube an “artificial advantage” by not allowing the skipping of ads, thus probably even inflating activation and recall numbers.

2. Second screen usage has little negative impact on Ads on the big screen

Another major factor in today’s digital experience is the usage of two or more screens simultaneously. Especially among younger age groups, smartphone use very often accompanies other media types. Surprisingly enough, the study produced only a small difference in the effectiveness of advertising on a big screen (in our study TV) between single or double screen usage - 60% and 50% recall respectively. One of the factors is most likely, that TV sound is rarely turned off during TV advertising, making images more easily perceivable due to spoken explanations, mentions of brands, product names and benefits. Also, visual attention was actually only lower by about 16%, while activation rose by 18% when two screens were used - TV’s typical lean-back relaxation mode is thus indeed reduced.

3. Age does not really matter

One final word on the impact of age on ad effectiveness. Our study differentiated age groups of below and over the age of 40. Results (aided recall) showed that there was no difference between the age groups for TV (60%), while recall was consistently lower for the younger cohort in the different digital media compared to the older age group. It is remarkable that younger participants’

visual attention for Facebook ads was almost 35% lower than for the older group (4.6 vs 7.0 seconds), which is due to their higher scroll speed. This factor is inexistent with TV ads, as there is only “one-speed-for-all”.

4. Out-of-home situations decrease the effectiveness of advertising by about 12%

Finally, TTS also examined the effect of out-of-home situations (public areas, transportation) on the effectiveness of advertising. While viewability of ads remained almost unchanged, System 2 scores (intentions / opinions, recall) unsurprisingly both were lower, as out-of-home situations present more diversions. While the absolute drop-off was bigger for BVOD, it still ranked well ahead of YouTube, though.

Conclusion

TV Content still is a champion when it comes to ad effectiveness of video ads. With similar results for classical linear TV and BVOD, the TV family successfully transferred its special media perception situation into the new world of streamed video content.

Track the success explains why video ads are more effective within TV content. The more intensive perception of ads in terms of play duration, sound level, screen coverage and attention towards the screen are accompanied by a more positive emotionalization and a very smooth and relaxed transition from content to ads.

YouTube shows difficulties to catch up on the smartphone - the vertical usage scenario leads to distraction and therefore a diminished ad effectiveness. Furthermore, a strong break between content and ad can be observed - waiting for the chosen content video leads to a tense situation and a reactance towards the ads.

For Facebook the study shows a very superficial perception situation. Ads get much less visual attention and are often seen without sound. This consequently leads to low activation - physiologically and emotionally and in the end to less ad impact.

The study deployed a new method for attention measurement and made the In-Home media ethnography with physiological recordings possible without an operator on site. A method that will definitely be used also in post corona times to make this ethnographic research approach much more scalable and cost effective and therefore available to understand media behavior where it naturally happens at home or outside in the real world.

Going deeper with literature

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Stefan Schönherr has been working as a brand and media specialist in the Brand & Media Experience unit at eye square since 2007. He has been its Unit Lead since 2013 and became a partner in 2018. Stefan holds a degree in psychology with a focus on media consulting, advertising impact and media reception. At eye square, he conducts quantitative studies on the understanding of media genres and media use.



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Overall responsibility for Screenforce lies with Malte Hildebrandt who has held the position of Managing Director since January 2021. Malte Hildebrandt has been active for Screenforce since 2015, most recently as CMO of the genre initiative. With a degree in business administration, he held various management positions at ProSiebenSat.1 from 2005 to 2016, including Managing Director Marketing SevenOne Media, Founder and Managing Director of SevenOne AdFactory and Chief Marketing Officer of ProSiebenSat.1 TV Deutschland.



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As Research Director of eye square, Dr. Matthias Rothensee is responsible for eye square's method and innovation development. His research focuses on the implicit impact of marketing, emotions and visual perception. He is an expert in digital marketing, ad effectiveness research, implicit methods and multivariate statistics and develops eye square's media benchmarks.

Impressum

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