Site Search 360°

Semantic Product Search

Case Study

GRAVIS

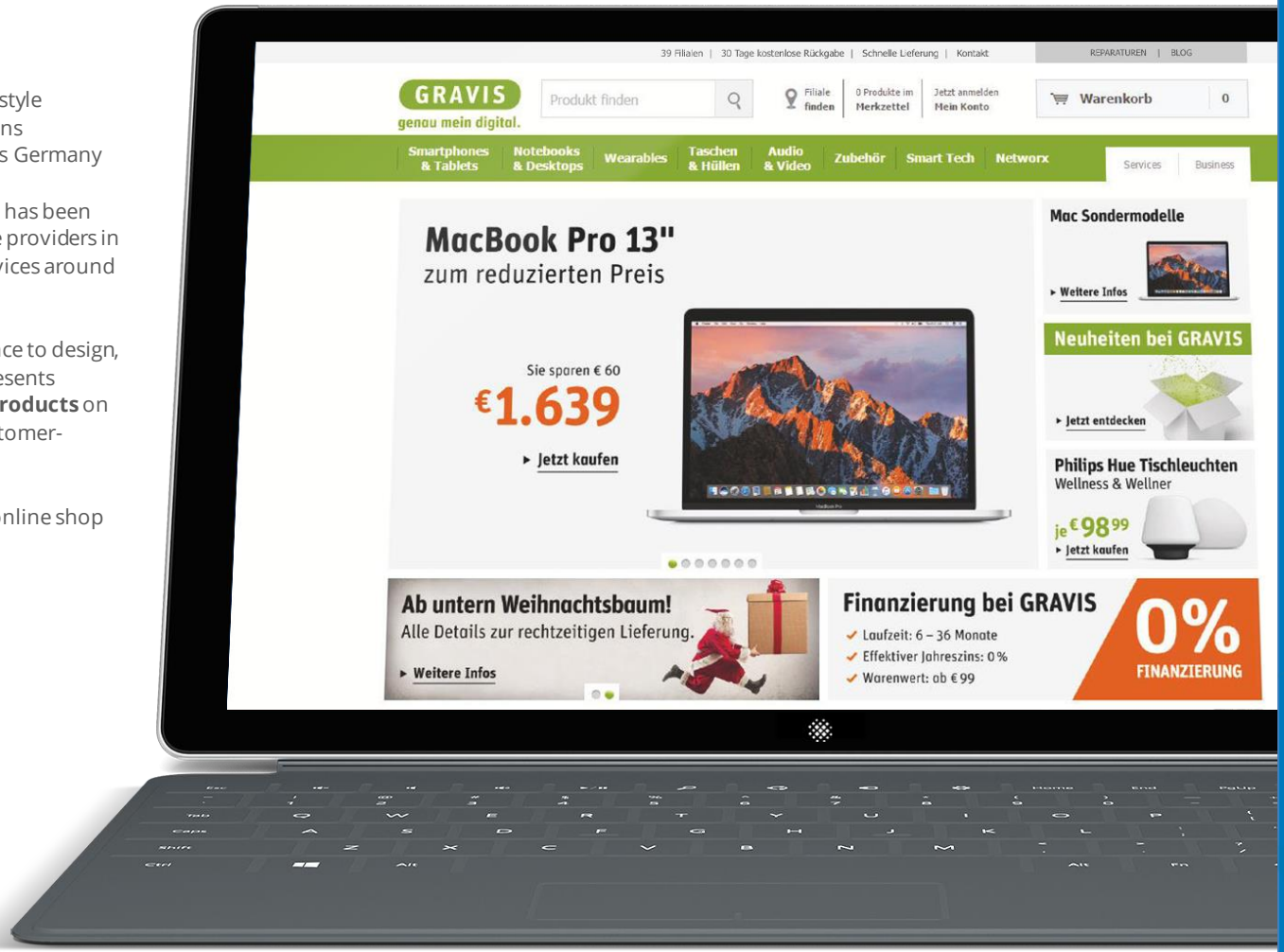
Gravis

- Online shop for a digital lifestyle
- 660 employees at 41 locations
- Currently 39 branches across Germany

For more than 30 years, GRAVIS has been one of the leading Apple service providers in Europe and offers excellent services around the Apple product world.

GRAVIS attaches great importance to design, individuality and quality and presents around **3,000 digital lifestyle products** on offer in a sophisticated and customer-friendly manner.

Around 600,000 users visit the online shop every month.



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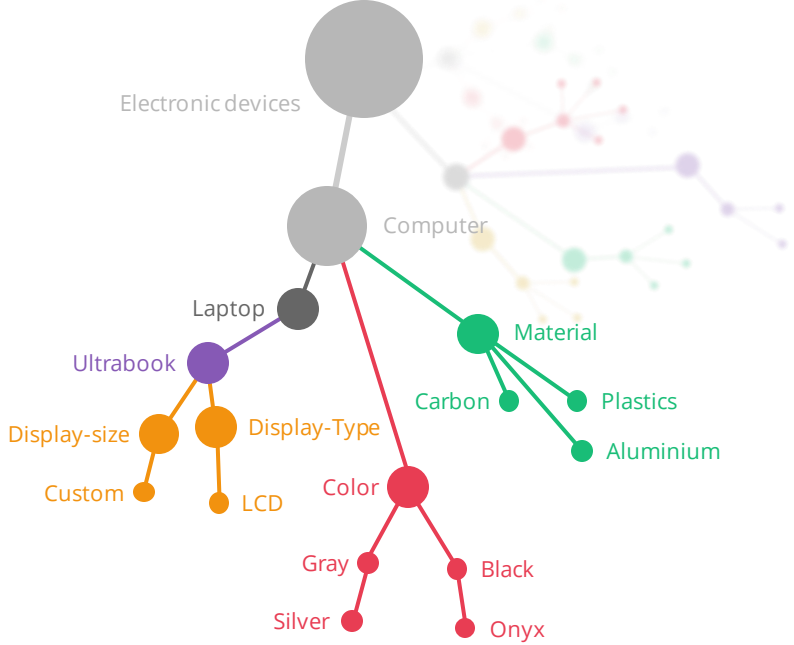
The advantages of our search

The Site Search 360 search organizes your data in an ontology, a special data structure to make product data and knowledge understandable for machines. Your data sets are standardized and given logical relationships. In contrast to one-dimensional full-text searches, each node of the ontology contains a **set of metadata, synonyms, corrections and translations**.

- **Precise results through semantic engine**
- **High performance for a great user experience**
- **Extensive filtering and sorting**
- **Semantic definition of landing pages / result pages**
- **Search with natural language**
- **Intelligent product ranking**
- **Low maintenance required thanks to Search as a Service**



Full text search vs. Ontology

small cheap Alu-**Notebook**

Stylish **Notebook**

Aluminium

10-inch-screen

299,99 €

The full text search relies on fixed keywords and does not process 75% of the request.

cheap small Alu-Notebook

Notebook

Aluminium

10-inch-screen — small

299,99 € — cheap

The ontology can map logical relations and completely resolve the search query.

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Overall issues of online shops with product search

1. A lack of precision in the search results leads to high bounce rates
2. Not all relevant products are consistently included in search results
3. Only a few filter options as attributes are inconsistently maintained
4. Slow and sluggish search function
5. Poorly converging but common searches
6. Lack of resources for manual maintenance of search queries
7. Not optimized ranking
8. High costs of the existing search solution
9. Slow product updates
10. Insufficient data quality and product maintenance that is too time-consuming

Challenges

The previous Gravis search solution was not able to optimally map simple search queries from users. Simple searches for category names and their synonyms led to mixed results. Search queries in the long tail, e.g. consisting of category names and associated product features, led to less than optimal results, which meant real losses for GRAVIS in terms of conversion and sales.

Despite the search license costs, unnecessarily high, manual input was required for the maintenance and care of the search function - and yet not all incorrect results could be optimized manually.

Inconsistent product attributes allowed only a few filter options and led to an inadequate multi-faceted search.

Therefore, a quick and uncomplicated integration of the SX product search without burdening their own IT was desired.

Implementation

Our product ontology has been developed since 2012 and the area of consumer electronics is particularly well covered. The Gravis product data was read in, classified and enriched with the product ontology. To achieve optimal results right from the start, Site Search 360 processed existing query logs for optimization before they went live.

Since GRAVIS wanted a particularly fast and resource-saving integration, the Site Search 360 JavaScript plugin was used for the integration, during which our team configured all templates. GRAVIS only had to embed a line of JavaScript code in the template to bring the new search online.

In addition to the incredible performance gain, there were now user-friendly, semantic search URLs in the form https://gravis.de/s-smartphone-with-wide-display

Through Site Search 360 control panel, GRAVIS can very easily integrate teaser graphics and influence the search with the mapping editor without having to use precious IT resources.

And what's more: thanks to our Search as a Service, Gravis always has the Site Search 360 support team on hand when the search needs to be improved. Via our ticketing system, they can report questions to Site Search 360 support directly from their homepage.

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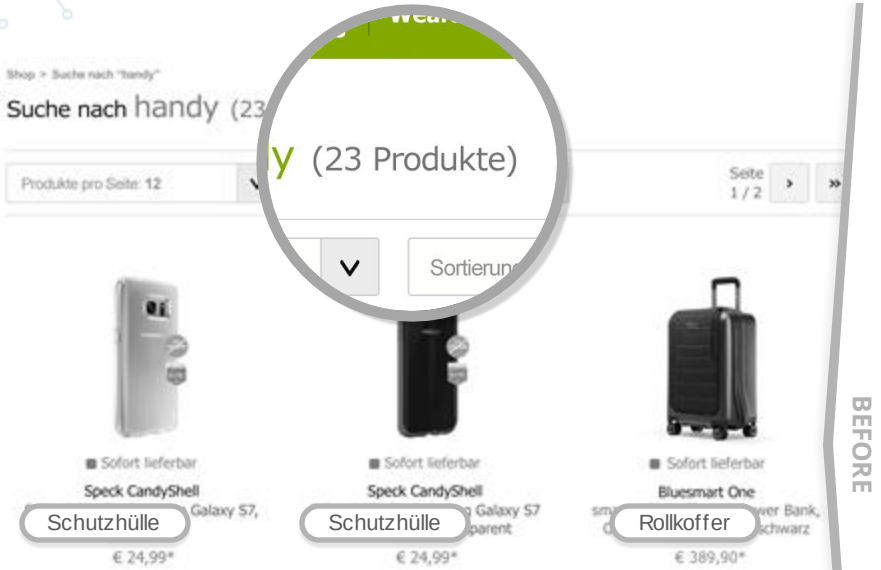
Results • **Synonym**

Handy (mobile phone)



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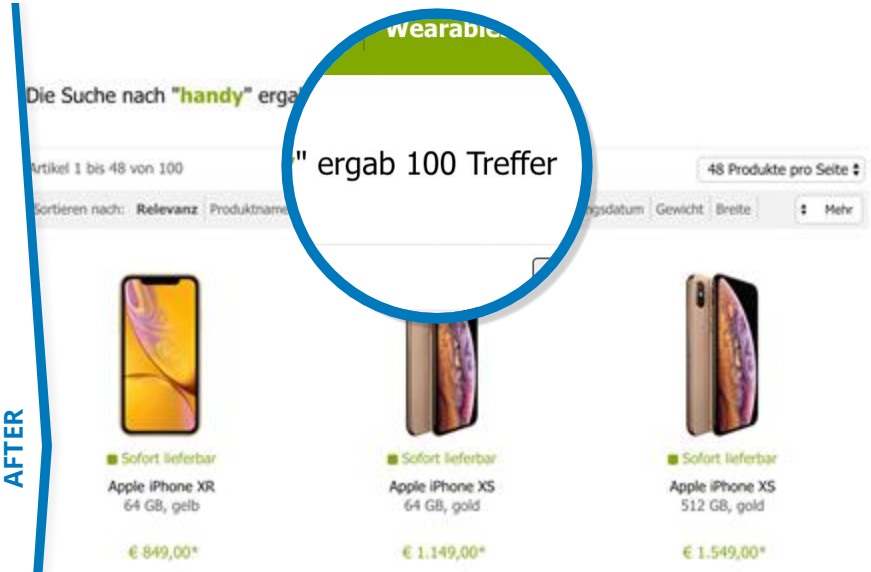

Products remain hidden

The former search solution cannot determine w hich product corresponds to the colloquial search term “mobile phone”. It just searches the full descriptive text for that exact term. How ever, the 23 products displayed are not cell phones, their descriptions just happen to contain the search term somew here.

A large part of the product range remains hidden from the interested buyer.

Increase in recall and precision

Without needing additional configuration the Site Search 360 search can answer the query with much more precision: it assimilates the synonym “mobile phone” to “smartphone” and displays 100 suitable products that would previously have been hidden.

This is where our product ontology shows its strength, as it already contains thousands of terms and their synonyms for the product world of the shop.

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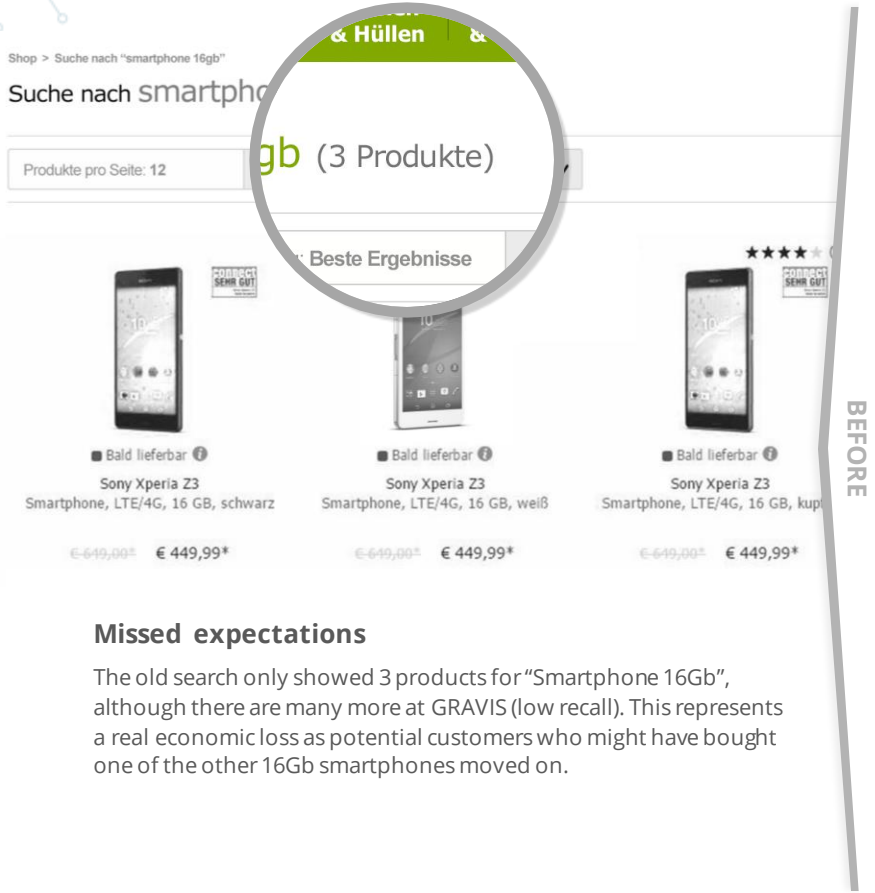
Results • **Property recognition**



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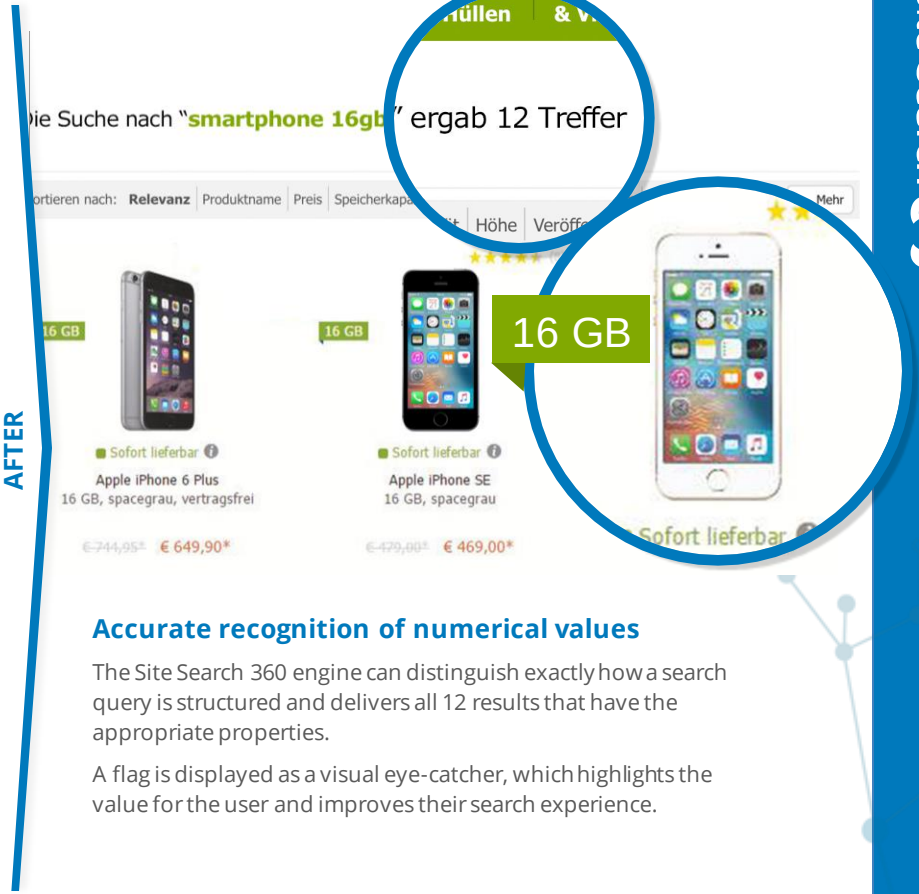

Missed expectations

The old search only showed 3 products for "Smartphone 16Gb", although there are many more at GRAVIS (low recall). This represents a real economic loss as potential customers who might have bought one of the other 16Gb smartphones moved on.

Accurate recognition of numerical values

The Site Search 360 engine can distinguish exactly how a search query is structured and delivers all 12 results that have the appropriate properties.

A flag is displayed as a visual eye-catcher, which highlights the value for the user and improves their search experience.

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Results • **Stopwords**

Charging cable for **iPhone**

BEFORE

Sofort lieferbar

Elgato Eve Motion
kabelloser Bewegungssensor, für iPhone/iPad, Bluetooth

€ 49,99*

Sofort lieferbar

SPIN remote
Universal-Fernbedienung für Infrarot-/Smart-Home-Geräte

€ 99,99*

Sofort lieferbar

Withings Body & Go Bur
Körperanalysewaage u
Aktivitätstracker, schw

~~€ 188,90*~~ € 168,90

AFTER

Aufladekabel — Ladekabel

iPhone — Lightning Anschluss

★★★★★ (2)

Bald lieferbar

Apple Lightning auf USB-C Kabel
1m, weiß

~~€ 28,99*~~ € 24,99*

★★★★★ (5)

Sofort lieferbar

Networx Lightning Kabel
USB auf Lightning, 0,5 m, schwarz

€ 15,99*

Sofort lieferbar

Networx Lightning
USB auf Lightning, 2,0 r

€ 21,99*

Full text search only

The old search solution tries to find relevant results for "charging cable for iPhone", but fails.

Accessory requests can easily be mapped

Stopwords such as "for" are recognized by Site Search 360, treated specially and not simply discarded or used for full-text searches.

Our search automatically recognizes that the user is looking for a specific accessory for a particular product line and only shows matching results.

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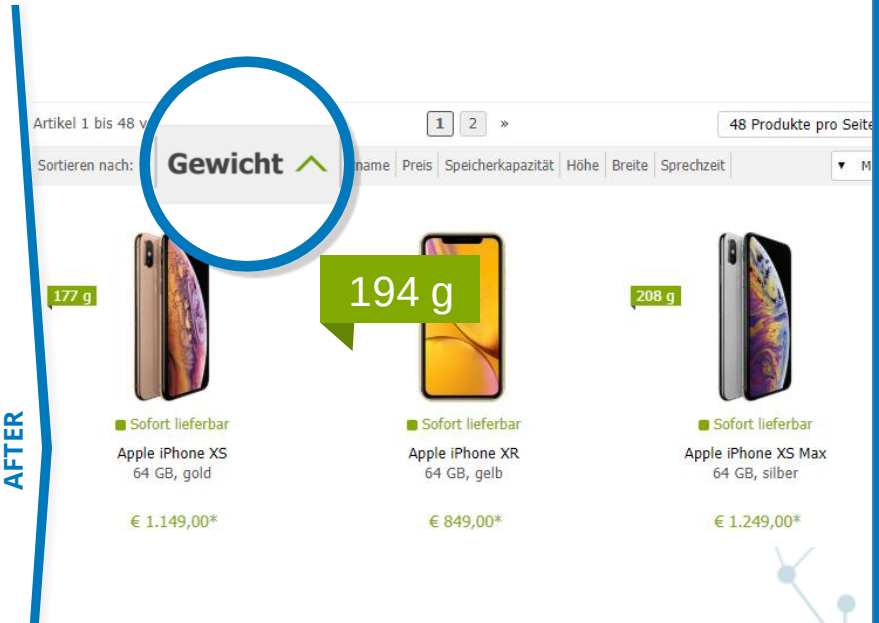
Results • **Implicit requests**

BEFORE

AFTER



No resolution

The old search solution cannot resolve the numerical reference to “light”. In addition, it does not return a single smartphone on the first results' page.

Implicit requests can be resolved

With the ontology, Site Search 360 extracts the numerical information of all product attributes and even normalizes them automatically to comparable values. Search queries can be narrowed down. Sorting and filters can be preconfigured to match the search query. A **flag** again helps with highlighting specific results.

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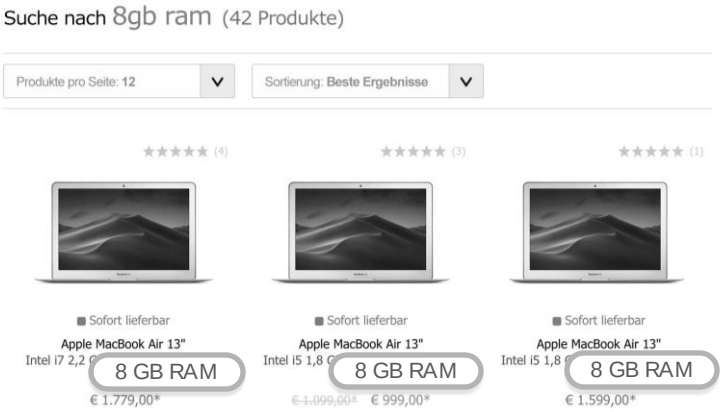
Results • **Classification**



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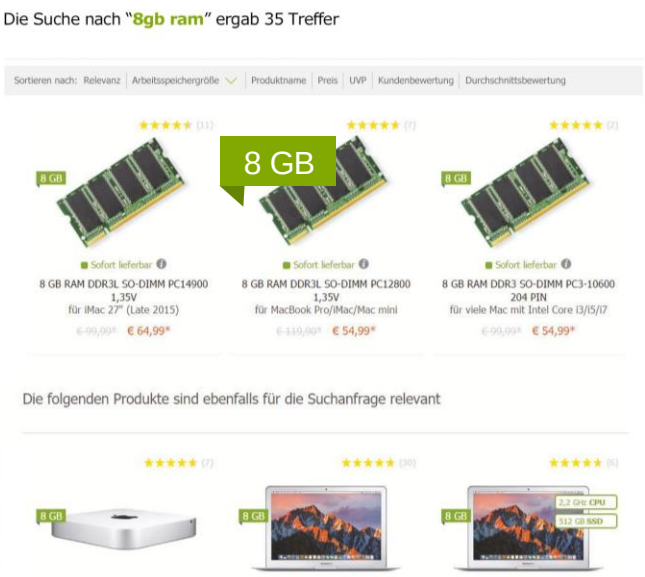

Low precision

For "8gb RAM", the old search cannot recognize that the user is asking for separate main memory modules. Unsuitable products are displayed (low precision), which simply contain the searched words in the entered order in the description.

Exact classification through disambiguation

The Site Search 360 engine can distinguish exactly how a search query is structured and what the user is looking for. All three available 8GB RAM modules are found for the "8GB RAM" query - only then does Site Search 360 offer further products with 8GB RAM.

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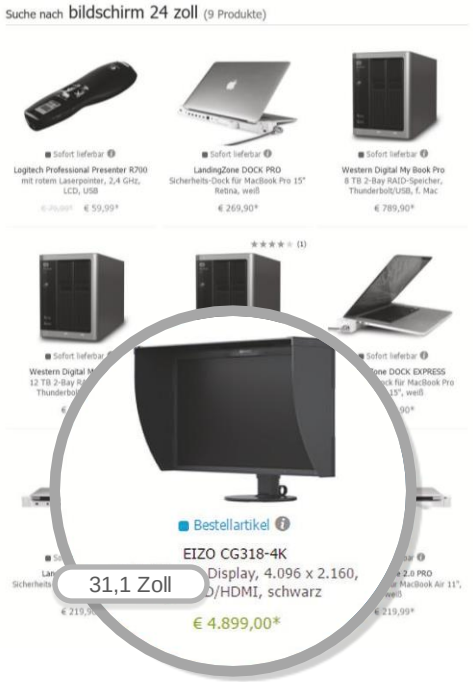
Results • **Quantity**



BEFORE

AFTER

bildschirm 24 zoll (24-inch screen)

Wrong result

For the query “24 inch screen” the old search can only find 9 products, 8 of which are completely wrong - only one is a screen, but in the wrong size.

Controlled blurring leads to wider pool of results

The semantic product search recognizes the intention of the specific "screen diagonal" and limits the filter directly to the appropriate value range. All 24-inch models that the shop stocks are displayed first, and only then a few more screens that are around the requested value.

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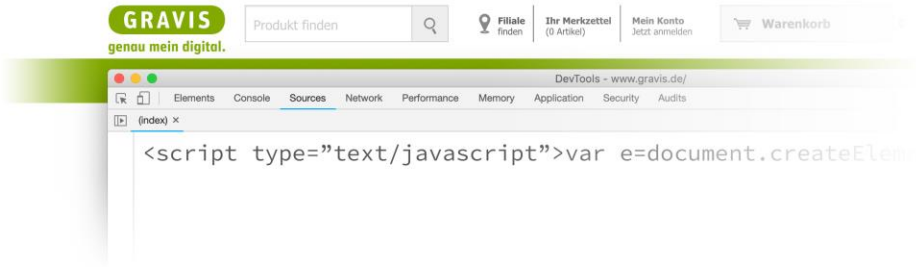
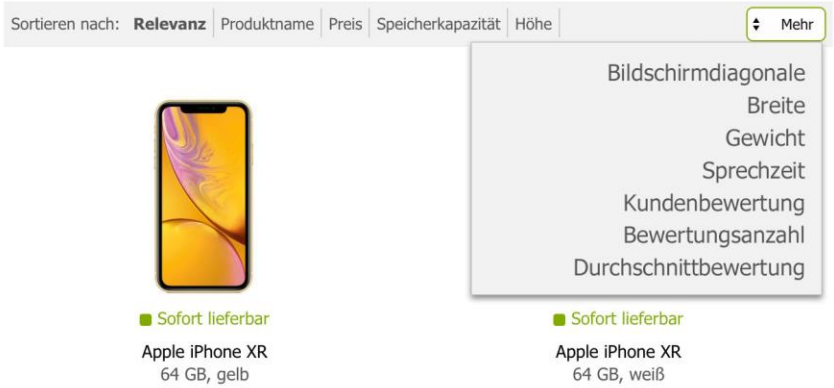
Integration

Simply via JavaScript

The search was already integrated with just one line of JavaScript code in the Gravis shop template. The entire configuration effort was taken over by the Site Search 360 team.





New functions **Sorting**

New functions, such as the extensive Site Search 360 sorting options, were available on gravis.de immediately after installation.

The Site Search 360 product search offers a sorting option for each numerical value extracted from the product data.

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New functions **Filters**

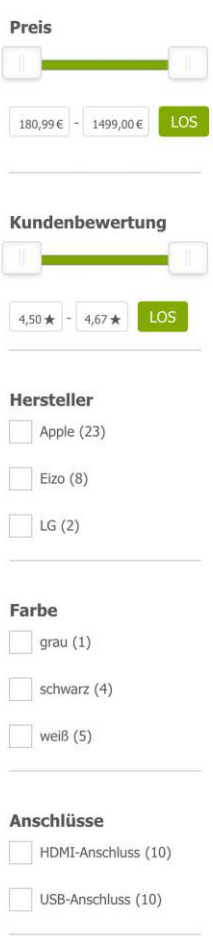
Direct added value

Without having to manually maintain attributes, new extensive filter options were available immediately after installing the Site Search 360 JavaScript plugin.

It is also possible to display filters based on the product attributes that have been maintained up to now.

In addition to the attributes already maintained such as color and manufacturer, further properties could be obtained from the description texts through the automatic extraction process of the Site Search 360 ontology.

Important filters such as *display type* or *connection types* could be offered automatically through the integration of the JavaScript plug-in.



New functions **Auto-suggestions**

User guidance

The Site Search 360 product search includes an auto-complete function that shows suitable search suggestions as you type.

This context-sensitive guide for the user is divided into search suggestions, category, product and brand suggestions. The number and exact content of the suggestions can be configured for each area.

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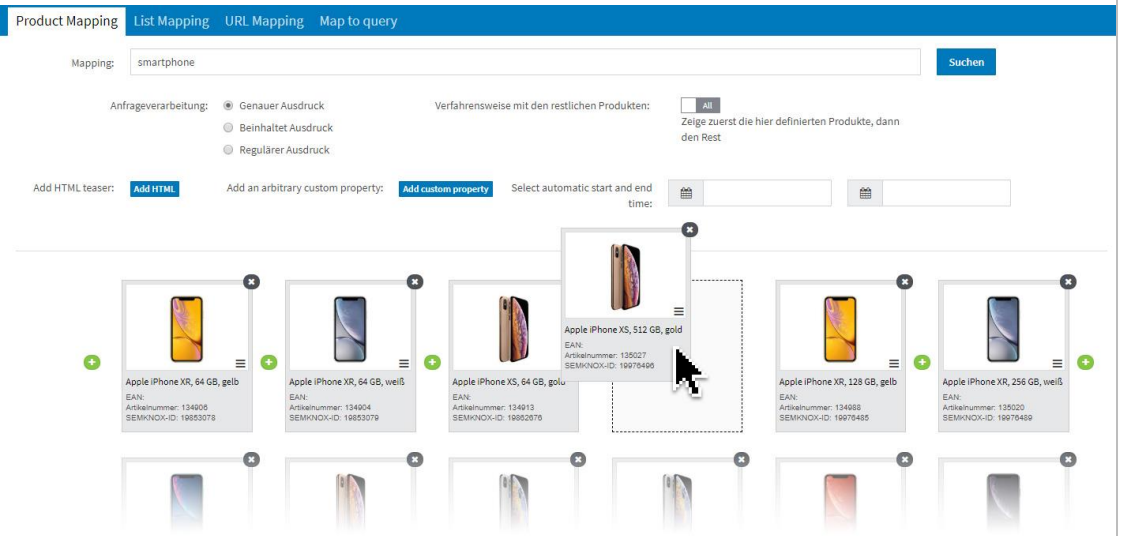
Controlled results

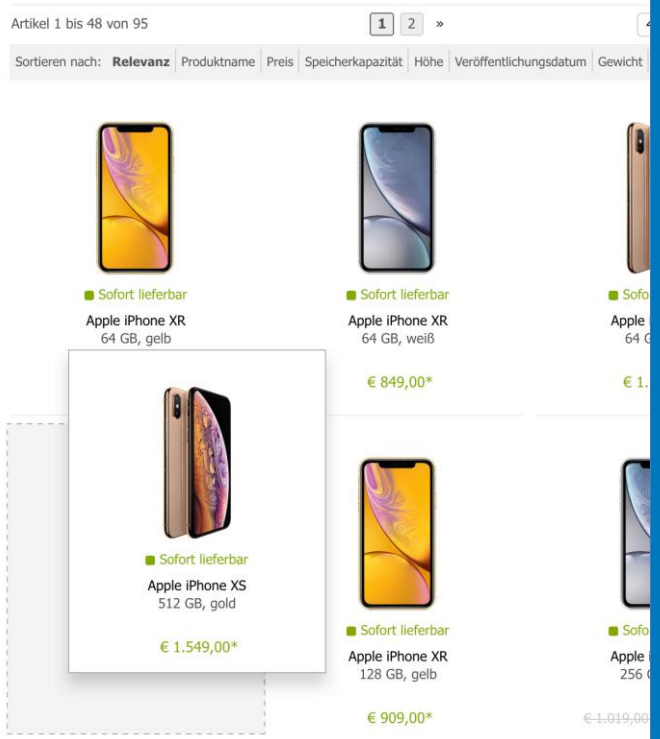
Gravis wanted to provide customized results pages for its high-quality offers, so we implemented it.



Mapping Editor

With the mapping editor available directly from Site Search 360 control panel, you can use drag & drop to define exactly which product should appear in which position.

This is possible for a **single search query, a partial query and entire regular expressions**. Redirects to URLs can also be set or search queries can be rewritten internally.



On the website , the output adapts to the configuration when the defined search query is made.

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Summary

By implementing the Site Search 360 semantic product search, the customer requests formulated in a search query can be understood and analyzed much more precisely.
In addition to great results, the speed of the search also leads to an increase in customer satisfaction and in the conversion rate.

„Quality is important to our customers, which is why we want to reflect this in our online shop.

The Site Search 360 product search could only be integrated with minimal effort. The search speed and the good results convinced us from the start.“

– HENRIK VOSS, ABTEILUNGSLEITER ECOMMERCE & MARKETING

More customers

In addition to gravis.de, the following customers also benefit from our semantic product search.

CASIO

ZIEGLER Mehr Wert für draußen.

GEFRO

FOTOKOCH any picture

GRAVIS

Tierarzt24.de

koffer24.de

KODI

Site Search 360°