

# INTELLIGENT BILL OF MATERIALS MANAGEMENT WITH MINDBREEZE INSPIRE

Efficiency for parts lists in audio electronics

Microphones and other audio electronics products are made up of countless individual parts, and each of these single components is associated with a multitude of documents, plans, images, and many other items in digital form. Manufacturing dependable, high-quality products hinges on having a full overview of all the goods in production as well as all of their individual components.

Efficient and intelligent bill of materials management, coupled with cross-company, cross-site and/or cross-departmental collaboration is essential.

## THE TASK

Internal bill of materials management is one of the cornerstones of product design and manufacturing. Complete documentation in the SAP software provides the most essential basis for the operational database.

Whether for procurement, technical design, or production – having all the information at hand at the right time and in the right context, is complicated by the heterogeneous range of products, the individual parts involved, and the various departments concerned. Mindbreeze InSpire was utilized as an innovative application to optimize the supply of essential information and the flow of knowledge within the company.

## THE SOLUTION

Mindbreeze InSpire makes efficient company-wide information access a reality. The solution encompasses all external and internal data sources, including a file system as well as information from the SAP application.

Mindbreeze InSpire generates extensive 360-degree views of specific topics based on the individual access rights. With these views, employees receive personalized and context-specific information about particular products (microphones, headphones), individual parts (screws, coils, memory cards), countries (country-specific restrictions, specifications, and so on), suppliers, sites, and information such as legal requirements and production regulations.

## FACTS

- Search application for intelligent bill of materials management
- Two million different documents
- Efficient navigation across hierarchies and levels
- Clearly structured dashboards provide a basis for decision-making

## IMPLEMENTATION

After a successfully executed proof of concept that saw a number of use cases put into practice, the solution was then fully integrated into the internal IT infrastructure in cooperation with the Mindbreeze team. With a view to the sensitive nature of its information, the company opted for the on-premises version in the form of an appliance.

The available standard connectors were used to connect all relevant data sources and to make them available as a knowledge base.

## TARGET ACHIEVEMENT

Considering the vast number of different products and components, it is crucial to have a clear overview of where the individual parts are used or involved and, most importantly, how and where potential changes to the individual parts will have an impact. SAP is a central system that houses the data relevant to production. The search application provided by Mindbreeze enables engineers to obtain a comprehensive overview of this data (for instance, material, bills of material, documents) linked to contextually relevant information from other data sources.

A range of available search tabs and filters allow the user to narrow down the results and make the search even more efficient. Advanced navigation through the different hierarchies and levels of the bills of material delivers faster and more targeted results, establishing an ideal framework for making business-critical decisions.

The screenshot displays the Mindbreeze search application interface. At the top, the Mindbreeze logo is on the left, and a search bar contains the query "microphone with frequency response > 20 Hz". Navigation tabs include ALL, BOM, Material (selected), SAP Documents, Documents, and Dashboard. The results section shows "5 Results" and a hierarchy: Material Dashboard 360 DXU8-22X > Document Dashboard 360 8003438. A preview of the document "dXU8 22X.pdf" is shown, featuring a list of features, a technical data table, and a diagram of the microphone. A "feedback" button is visible on the right side of the preview window.

**5 Results**

Material Dashboard 360 DXU8-22X

Document Dashboard 360 8003438

Preview dXU8 22X.pdf

- Headphone jack with volume control for monitoring.
- Monitor Mix Control for blending microphone and playback audio.
- Provides +48V phantom power for use with condenser microphones.
- Includes 3 m USB cable and zippered pouch.

The compact universal XLR-to-USB adapter enables you to connect any microphone directly to your computer.

**TECHNICAL DATA**

Frequency Response:	20 to 20,000 Hz +/- 1 dB
Power Requirements:	USB-powered, 500 mA, maximum
Digital Noise Floor:	(20 Hz to 20 kHz, A-weighted)
Minimum MIC GAIN setting:	-81 dB FS
Maximum MIC GAIN setting:	-78 dB FS
Sampling Rate:	up to 48 kHz
Bit Depth:	16 bit
Peak Signal Indicator:	(Tri-color)
OFF:	-30 dB FS
Green:	-30 to -12 dB FS
Yellow:	-12 to 0 dB FS
Red:	>0 (digital converter clipped)
Adjustable Gain Range:	50 dB
Headphone Output:	3.5 mm (1/8 inch)

Transducer Type: Dynamic  
Polar Pattern: Cardioid  
Frequency Response: 50 Hz - 15 kHz  
Sensitivity (1 kHz): -54,5 dBV/Pa / 1,88 mV/Pa  
Weight: 298 g

Clear preview of individual documents